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DOI: 10.1111/eufm.12490

ORIGINAL ARTICLE

EUROPEAN FINANCIAL MANAGEMENT WILEY

'Take Back Control': The implications of Brexit uncertainty on investor perception of ESG reputational events

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Abstract

This study examines the impact of Brexit on investor reactions to Environmental, Social and Governance (ESG) events in UK companies. Post-Brexit, investors show reduced sensitivity to ESG incidents, suggesting relaxed corporate accountability for ESG disasters. We observe varied investor responses to different ESG events, with most having less financial influence after Brexit. This research informs regulators, stakeholders and policymakers in the post-Brexit era, emphasising the need for strong ESG regulations and communication in influencing investor behaviour. It contributes to understanding the relationship between regulatory changes, corporate reputation and investor reactions post-Brexit.

Conlon acknowledges the support of Science Foundation Ireland under Grant Number 16/SPP/3347 and 13/RC/2106 and 17/SP/5447. The authors would like to acknowledge the constructive support and guidance provided by seminar participants at the Sustainable Financial Innovation Centre Annual Conference 2023, 25–26 November 2023; University of Birmingham Dubai, Dubai International Academic City P.O. Box 341799, Dubai, UAE. In particular, the authors would like to thank all conference participants, Prof. Hisham Farag (University of Birmingham), Prof. Douglas Cumming (Florida Atlantic University), Prof. Sofia Johan (Florida Atlantic University), Dr. Habiba Al-Shaer (Newcastle University) and our anonymous referee during the review process for all of the helpful feedback provided.

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Funding information
Science Foundation Ireland, Grant/Award Numbers: 13/RC/2106, 16/SPP/3347, 17/SP/5447

KEYWORDS
Brexit, corporate accountability, environment, ESG, governance, reputational events, society

JEL CLASSIFICATION
F36, G14, G32, G38, M14

1 | INTRODUCTION

The United Kingdom's decision to exit the European Union (colloquially referred to as Brexit) has sparked a period of significant political, economic and regulatory transformation, the ramifications of which extend into numerous facets of the business sector. This study addresses an under-explored aspect of Brexit's impact, specifically focusing on how investor responses to Environmental, Social and Governance (ESG)-related reputational events have been shaped within the post-Brexit context. As an integral part of corporate evaluation, ESG factors increasingly influence investment decisions and market dynamics. Thus, understanding how the market response to ESG events changes subsequent to a seismic regulatory shift such as Brexit holds substantial importance for academic and policy-making contexts. In doing so, our research illuminates the nuanced interplay between regulatory shifts, corporate reputation, investor behaviour and market responses, yielding vital insights into the post-Brexit financial landscape.

The Brexit referendum was held on 23 June 2016 to decide whether the United Kingdom should leave or remain in the European Union. The leave campaign focused on sovereignty, immigration and purported cost savings from not contributing to the EU budget. The 'Remain' campaign warned about potential economic impacts and loss of influence in international affairs. The result was 51.9% in favour of leaving versus 48.1% for remaining, with a turnout of 72.2%. Following the referendum, Prime Minister David Cameron, who campaigned for 'remain', resigned and was replaced by Theresa May in July 2016. May invoked Article 50 of the Lisbon Treaty on 29 March 2017, formally starting the Brexit process with a 2-year deadline to negotiate withdrawal terms. Negotiations with the EU began thereafter, focusing on key issues such as the rights of EU citizens in the United Kingdom and vice versa, the 'divorcee bill' (the level of financial settlement the UK would make to the EU) and the Northern Ireland border issue. A withdrawal agreement was reached in November 2018, but it was widely criticised within the United Kingdom and was voted down three times in the House of Commons. Theresa May resigned thereafter due to the impasse, and Boris Johnson took office as Prime Minister in July 2019.

Following the eventual ratification of the withdrawal agreement, the United Kingdom formally left the EU on 31 January 2020. However, this was followed by a 'transition period' until 31 December 2020, when the United Kingdom and EU negotiated the terms of their future relationship, including trade, security and governance arrangements. The transition period was a phase of de facto membership. The UK remained in the EU customs union and single market while no longer being part of its political structures. This period was marked by intense and complex negotiations, political shifts and uncertainty that had significant implications for various sectors, including how investors reacted to ESG-related reputational events in corporations, as our study explores. Specifically, a substantial period of regulatory ambiguity

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ensued following the decision to implement Brexit. For example, under Section 3 of the UK European Union (Withdrawal) Act 2018 (EUWA), direct EU legislation (so far as it was operative immediately before 31 December 2020) formed part of domestic UK law. The operative disclosure obligations under the EU Sustainable Finance Disclosure Regulation[1] (SFDR) was enacted on 10 March 2021. The disclosure obligations in the Taxonomy Regulation did not apply until 2022 (for climate-related environmental objectives) and 2023 (for other environmental objectives). As a result, none of these operative disclosure obligations become EU-retained law in the United Kingdom after 1 January 2021. Further, the EU Non-Financial Reporting Directive[2] (NFRD) requires large companies to publish regular reports on their activities' social and environmental impacts. Post-Brexit, these regulations and directives have not been directly applicable to the United Kingdom. Many British companies still have the option to adhere to these international regulations voluntarily, especially those with business operations in the EU; however, it remains unclear as to how many are ensuring adherence to an acceptable legislative standard compared to those in other, more strictly regulated countries that adhere entirely to such regulation.[3] However, despite such positive signalling by the United Kingdom, a substantial period of regulatory uncertainty existed, through which corporate malpractice and misdemeanours relating to ESG appeared to operate in broad official international regulatory ambiguity dependent on internal corporate ethical standards.

Employing the novel RepRisk database that collates and quantifies the severity, novelty and reach of ESG-related reputational disasters, the following research sets out to establish how investor response to ESG-related reputational events for British firms differs during the three key stages surrounding the decision to exit the European Union. The three stages are identified to be: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020 and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020. We further focus on how the removal of EU regulations and increased economic uncertainty during the Brexit

[1]The European Union has established a disclosure framework known as the Sustainable Finance Disclosure Regulation (SFDR) to enhance transparency. This regulation mandates the reporting of sustainability data by financial market participants, aiding investors who wish to contribute to sustainable objectives by making informed investment decisions. In addition, the SFDR facilitates assessing how sustainability risks are integrated into investment decision-making. This framework thus aligns with the EU's overarching goal of mobilising private capital to facilitate the transition towards a carbon-neutral economy. The European Commission is currently reviewing this regulation extensively to address aspects such as the clarity of its legal implications, its practicality, and its effectiveness in combatting green-washing.

[2]The NFRD is part of the EU's strategy to encourage corporate social responsibility. In addition to the usual annual management report, it requires public disclosure documents on the following nonfinancial information: environmental matters, social and employee issues, antibribery and anticorruption issues, diversity and respect for human rights. The disclosure asks companies to outline what their risks are with regard to these issues, the resulting policies that the company has adopted to mitigate these risks, and the outcome of these policies. These detailed reporting requirements are annual public reporting obligations. With regard to how nonfinancial information should be disclosed, companies can adopt a variety of benchmarks to help them complete the disclosure process; for example, this may be a mix of national, international and EU guidelines.

[3]The UK has attempted to improve and develop domestic regulations regarding ESG in a manner similar to the EU. In the longer term, the specific details of the UK's ESG regulatory landscape will depend largely on the final formal agreements reached between the United Kingdom and the EU and domestic policy decisions taken by the UK government.

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transition influenced investor responses to severe ESG incidents. Through the use of RepRisk data, we are able to examine whether such effects were influenced by the severity, media reach and novelty of such negative ESG events. Our key ambition within the following research is to focus on the substantive impact of Brexit on investor behaviour in response to ESG-related reputational events and, specifically, the implications for perceived corporate accountability in post-Brexit Britain. These research questions provide a comprehensive structure for exploring the intricate dynamics between Brexit, investor behaviour and ESG-related corporate reputational events.

Our research robustly identifies a significant alteration in investor responses to corporate reputational events, particularly concerning ESG aspects, within the distinct context of the UK's exit from the European Union (Brexit). Crucially, the research presents compelling evidence that investors have become less responsive to negative ESG-related events post-Brexit. This trend persists across different types of ESG incidents, albeit with variance in the degree of response attenuation. Specifically, our analysis reveals less pronounced and less persistent market reactions to high-severity ESG incidents, a reduced effect of information source reach, and a diminished impact of ESG issue novelty post-Brexit. Furthermore, we document reduced investor responses to reputationally damaging incidents, such as fraud, anticompetitive practices, local pollution, misleading communication and tax evasion in the post-Brexit phase. This underscores a perceived regulatory leniency towards British corporations. Notably, this pattern of investor behaviour implies potentially significant repercussions for corporate accountability and regulatory oversight within the post-Brexit British financial landscape. The academic significance of this study lies in its novel exploration of the interplay between political events, regulatory shifts and investor behaviour, contextualised within the unprecedented scenario of Brexit.

This research underscores the critical policy and regulatory implications of post-Brexit investor behaviour towards ESG-related reputational events. Notably, we observe increased investor leniency towards corporate malpractices in the post-Brexit era, largely attributed to the perceived regulatory easing following the UK's exit from the EU. This revelation signals a potential risk to financial market stability, warranting immediate policy interventions. Our results thus advocate for stringent ESG regulatory standards and enforcement mechanisms to maintain investor trust and market stability. Moreover, given the significant impact of reputational events like fraud, pollution and tax evasion, it is imperative to establish robust oversight and punitive measures to deter such practices. The research also emphasises the role of transparent communication in managing investor sentiment, suggesting enhanced disclosure requirements and transparency standards. These findings provide essential guideposts for policymakers and regulators as they navigate the challenging landscape of post-Brexit Britain.

The remainder of the paper is structured as follows: the previous literature and theories that guide the development of our research are summarised in Section 2. Section 3 presents a thorough explanation of the wide variety of data used in such analysis while presenting a concise overview of the methodologies used. Section 4 specifically investigates the influence of reputationally damaging events upon British companies while further analysing how Brexit has acted as a primary explanatory factor towards observed differentials of response within the results. A further brief discussion of the theoretical and policy-based implications of the presented results is provided in Section 5, while Section 6 concludes.

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2 | PREVIOUS LITERATURE

Government policies underpin the institutional framework and environment in which companies operate. Political uncertainty, capturing the potential for changes in government policy, leads to impact uncertainty, corresponding to the effect on the private sector (Pastor & Veronesi, 2012). Investors are compensated for political uncertainty with a risk premium, a consequence of a reduction in the implicit government protection against large losses (Pástor & Veronesi, 2013). Political risk is found to be priced in the cross-section of stocks, with a significant decrease in stock prices indicated during periods of greater political uncertainty, driven by an increased discount rate (Liu et al., 2017). At a firm level, policy uncertainty has been shown to influence investment, mergers and acquisitions activity and to dampen IPO origination (Bonaime et al., 2018; Çolak et al., 2017; Jens, 2017).

While examples of political uncertainty abound, the promise in 2013 by David Cameron, then Prime Minister of the United Kingdom, to hold a referendum on British membership of the EU in the event that the Conservative Party won the next election is particularly notable, resulting in almost a decade of considerable policy instability. This uncertainty was acutely evident in the stock market (Hudson et al., 2020), with the FTSE 100 stock index sharply impacted, highlighted by returns of −3.9% on the day the referendum outcome to leave the EU was announced. Considerable heterogeneity in stock returns is evident, however, with the worst corporate performance evident for firms with large exposure to the United Kingdom and EU (Davies & Studnicka, 2018). Firms with more international activities are found to have had lower Brexit exposure, while high-growth firms are more affected (Hill et al., 2019). Furthermore, Gu and Hibbert (2021) provide evidence that, in addition to equity markets, the political risk associated with Brexit is priced in commodity, currency and government bond markets.

In addition to direct effects on company stock returns, Brexit had many other implications for business. Cumming and Zahra (2016) suggest some consequences regarding uncertainty's impact on international business, finance and entrepreneurship. Much of this uncertainty surrounds the implications for relations with the EU in the post-Brexit period, especially in terms of the structure of any trade deal (Sampson, 2017). Post-Brexit deregulation, and the so-called deregulation premium, is often cited as one of the likely benefits of exiting the EU (Wright et al., 2016). Still, UK product and labour markets are already among the least regulated in the OECD (Sampson, 2017). One of the challenges for business would be the considerable uncertainty surrounding the regulatory environment in the post-Brexit period. Under the European Union (Withdrawal) Act 2018 (EUWA), direct EU legislation up to 31 December 2020 forms part of domestic UK law (Hameed, 2022). EU legislation passed after this point, such as critical ESG-related statutes, including the sustainable finance disclosures regulations and taxonomy regulations, have not become EU-retained law in the United Kingdom.

In this study, we assess whether any differential stock market reaction to negative ESG-related event disclosures is evident in the periods surrounding Brexit. Helping to motivate our study, Capelle-Blancard and Petit (2019) document a share price drop in response to negative ESG announcements (but no change for positive events). Adverse ESG-related media coverage has also been shown to impact corporate reputation, manifesting as a negative effect on firm value (Wong & Zhang, 2022). Examining the types of market-relevant information (Serafeim & Yoon, 2022) report the central importance of financially important ESG news, with a larger reaction for positive news, which receives greater media coverage. Considering the components

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of ESG, environmental violation events have been shown to impact corporate reputation, especially among firms with a history of unfavourable behaviour (Zou et al., 2015). Carretta et al. (2011) assess the impact of corporate governance news on stock market returns, inferring a predominantly negative effect from ownership news.

During periods of policy uncertainty, firms may focus more on their corporate social responsibility (CSR) strategy (Peng et al., 2023). CSR performance may act as a form of insurance, helping to build trust among investors that can pay off when negative information is revealed (Albuquerque et al., 2019). In support of this idea, Lins et al. (2017) provide evidence that firms with greater prefinancial crisis CSR metrics had larger financial returns during the crisis. Considering the 2017 announcement by then President Donald Trump that the United States was to exit the Paris Agreement, Klaus et al. (2022) establish that this withdrawal, rather than disrupting the corporate move towards greenhouse gas reduction (GHG), actually resulted in improved environmental performance. A combination of social pressures and costly prior decarbonisation investments resulted in carbon-intensive companies maintaining their course even after this announcement. This renewed focus on CSR in periods of policy uncertainty has particular relevance in the case of the United Kingdom, where we observe considerable policy instability both before and after the Brexit vote.

As highlighted, the introduction of imminent EU ESG-related legislation was deferred by the EUWA. Firms may have perceived this as positive news, given the pervasive links between ESG measures, company financial performance and stock returns (Khan, 2019). Avoiding EU requirements for greater ESG disclosure might temper investors' ability to discern highly rated ESG companies, which have been shown to have lower expected returns (Khan, 2019). Pástor et al. (2021) developed a model where green assets have low expected returns but outperform when positive shocks hit the ESG factor. While the introduction of mandatory ESG-related nonfinancial disclosures has been shown to impact stock returns negatively (Grewal et al., 2019), UK companies may be subject to a different, or even weaker, disclosure environment post-Brexit, perhaps fracturing this relationship.

3 | DATA AND METHODOLOGY

3.1 | Data

Data based on reputational events regarding the analysed financial institutions is obtained from the RepRisk database,[4] which has been used in research to date that has focused on transparency, corporate social responsibility and investigation of ESG-focused issues, among other areas. Data are presented along with a number of related characteristics,

[4]RepRisk is a global leader and pioneer in data science, specialising in premium ESG and business conduct risk research and quantitative solutions. Since 2006, RepRisk has been leveraging the combination of AI and machine learning with human intelligence to translate big data into actionable research, analytics and risk metrics. With daily-updated data synthesised in 23 languages using a rules-based methodology, RepRisk systematically flags and monitors material ESG risks and violations of international standards that can have reputational, compliance and financial impacts on a company. The RepRisk ESG Risk Platform is the world's largest database of its kind, covering 200,000+ public and private companies and 50,000+ infrastructure projects of all sizes in every sector and market. Leading organisations around the world rely on RepRisk as their key due diligence solution to prevent and mitigate ESG and business conduct risks related to their operations, business relationships and investments.

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presenting specific analysis as to the severity, novelty, and reach of the reputational event. Within the RepRisk database, each risk incident is analysed according to three parameters: (1) Severity constitutes the harshness of the risk incident or criticism. The severity is determined as a function of three dimensions: first, what are the consequences of the risk incident (e.g., with respect to health and safety: no further consequences, injury, death); second, what is the extent of the impact (e.g., one person, a group of people, a large number of people); and third, was the risk incident caused by an accident, by negligence, or intent, or even in a systematic way. There are three levels of severity: low severity, medium severity and high severity; (2) Reach of the information source (influence based on readership/circulation as well as by its importance in a specific country), according to RepRisk's own rating. All sources are pre-classified by reach: limited reach, medium reach and high reach. Limited reach sources include local media, smaller NGOs, local governmental bodies and social media. Medium-reach sources include most national and regional media, international NGOs and state, national and international governmental bodies. The few truly global media outlets are high-reach sources and (3) novelty (newness) of the issues addressed for the company and/or project, that is, whether it is the first time a company/project is exposed to a specific ESG issue in a specific location.

RepRisk data are obtained between 1 January 2007 and 31 December 2022, resulting in 19,586 observations. The frequencies of the occurrence of the included ESG events are presented in Figure 1. Some events are identified as a combination of ESG-related, with a further category denoted as cross-cutting,[5] including 8677 environmentally-based, 9679 socially-based and 8018 governance-based reputational events. Further, 10,872 events are denoted to be cross-cutting in nature. Associated RRI scores[6] for each analysed corporation is presented in Table 1 and Figure 2, where initial evidence suggests a slight improvement of reputational conditions during the progression of Brexit as evidenced through reduced corporate RRI scores, but without any statistical support.

Data relating to the share prices of each British company associated with each RepRisk event is obtained from Thomson Reuters Eikon and represents the period between 1 January 2006 and 31 May 2023, resulting in 4550 observations. Using stock market data outside of that available on RepRisk allows for our selected methodological process to quantify differential behaviour for events that occur in the earliest and latest periods within our analysed reputational events. In total, 893 British corporations are identified to have experienced such ESG-related reputational events, spanning all sectors of the London Stock Exchange.[7]

[5]Defined as a risk incident, or ESG event, relating to at least two pillars relating to environmental, social, or governance simultaneously.

[6]The RepRisk Index (RRI), developed by RepRisk, is an advanced algorithm designed to measure and track a company's or project's exposure to reputational risks related to Environmental, Social and Governance (ESG) issues. This tool is valuable for conducting an initial evaluation of ESG risks linked to investments or business associations. It enables the comparison of a company's risk exposure against its peers and monitors risk trends over time. The calculation of RRI considers the extent of information sources, as well as the frequency, timing and content of ESG risk incidents, focusing on the severity and novelty of the issues. Notably, the RRI's sensitivity to risk incidents does not rely on their order of occurrence. It highlights companies or projects that are either newly exposed to risks or have historically had less exposure, meaning that entities with extensive past exposure show less sensitivity to new risk incidents. Further information is available here.

[7]Only ISINs of British corporations publicly traded on the date of each respective RepRisk event are included. Only primary quoted stocks are collected and collated.

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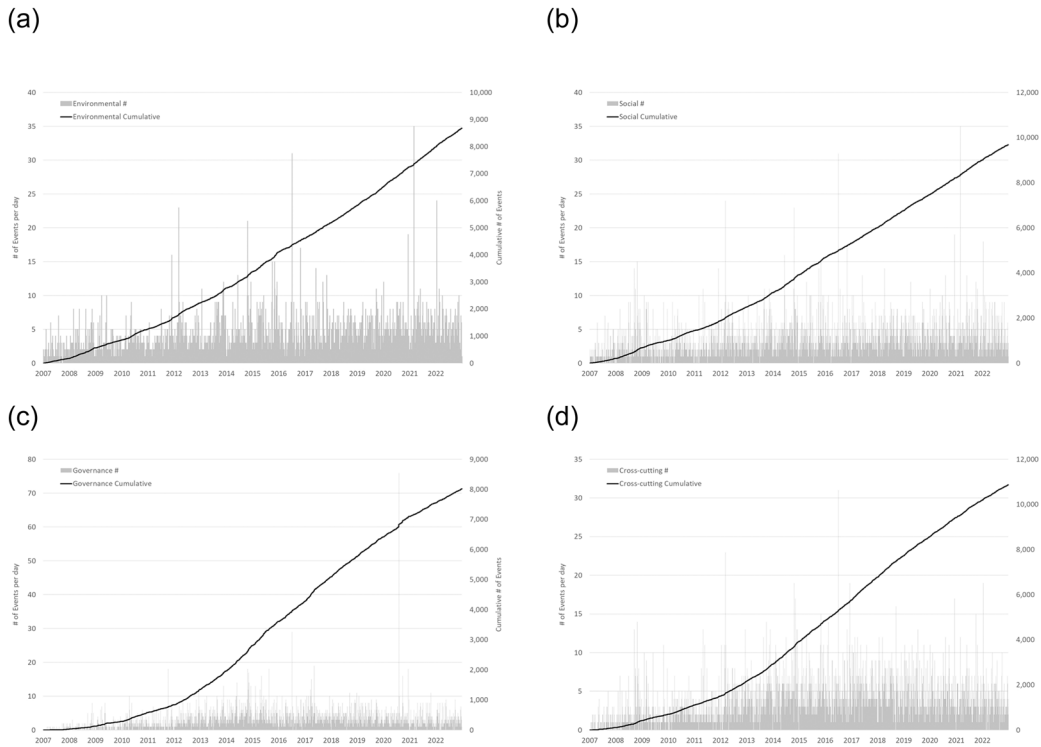

FIGURE 1 Frequency of Environmental, Social and Governance (ESG)-related events (2007 through 2022). (a) Environmentally-based reputationally-damaging events. (b) Socially-based reputationally-damaging events. (c) Governance-based reputationally-damaging events. (d) Cross-cutting-based reputationally-damaging events. Data based on reputational events regarding the analysed financial institutions is obtained from the RepRisk database. RepRisk is a global leader and pioneer in data science, specialising in premium ESG and business conduct risk research and quantitative solutions. Since 2006, RepRisk has been leveraging the combination of AI and machine learning with human intelligence to translate big data into actionable research, analytics and risk metrics. With daily-updated data synthesised in 23 languages using a rules-based methodology, RepRisk systematically flags and monitors material ESG risks and violations of international standards that can have reputational, compliance and financial impacts on a company. RepRisk data is obtained between 1 January 2007 and 31 December 2022, resulting in 19,586 observations. Some events are identified as a combination of ESG-related, with a further category denoted as cross-cutting, which is defined as a risk incident, or ESG event, relating to at least two pillars relating to environmental, social or governance simultaneously. Overall, we include 8677 environmentally-based, 9679 socially-based and 8018 governance-based reputational events. Further, 10,872 events are denoted to be cross-cutting in nature.

3.2 | Methodological approach

Investigating the differential effects of ESG events upon British corporate returns due to Brexit, we first match events identified from the RepRisk database with each identified ISIN code. We next calculate the natural logarithm of returns as $R_{i,t} = ln\frac{P_{i,t}}{P_{i,t-1}}$. It is well-documented in the literature that the standard tests to measure the effect of a specific event on stock prices must be modified due to heteroskedasticity (Bollerslev, 1986; Engle, 1982). Therefore, we consider various options within the Generalised Autoregressive Conditional Heteroskedastic (GARCH)

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TABLE 1 Summary statistics based on Average RRI-estimated corporate reputational disaster as separated by Brexit phases

This table reports the average RepRisk Index (RRI) scores for each corporation around the Brexit transition period. The RRI, developed by RepRisk, is an advanced algorithm designed to measure and track a company's or project's exposure to reputational risks related to Environmental, Social and Governance (ESG) issues. This tool is valuable for conducting an initial evaluation of ESG risks linked to investments or business associations. It enables the comparison of a company's risk exposure against its peers and monitors risk trends over time. The calculation of RRI considers the extent of information sources, as well as the frequency, timing and content of ESG risk incidents, focusing on the severity and novelty of the issues. Notably, the RRI's sensitivity to risk incidents does not rely on their order of occurrence. It highlights companies or projects that are either newly exposed to risks or have historically had less exposure, meaning that entities with extensive past exposure show less sensitivity to new risk incidents. Further information is available here.

						Percentile											
	Mean	**Var**	**Skew**	**Kurt**	**Min**	**1.0%**	**2.5%**	**5.0%**	**10.0%**	**25.0%**	**50.0%**	**75.0%**	**90.0%**	**95.0%**	**97.5%**	**99.0%**	**Max**
Pre-Brexit	14.507	108.541	1.353	3.215	0.003	0.071	0.316	0.808	2.087	7.014	13.932	19.573	25.158	32.385	44.858	53.334	64.436
Post-Brexit Vote	14.005	101.748	1.226	2.661	0.008	0.066	0.306	0.759	1.944	6.294	13.246	19.298	24.889	31.325	39.777	51.193	57.844
Post-Brexit	13.358	83.810	1.119	2.683	0.003	0.071	0.288	0.718	1.774	6.342	12.481	18.777	22.982	26.487	35.855	48.047	58.112

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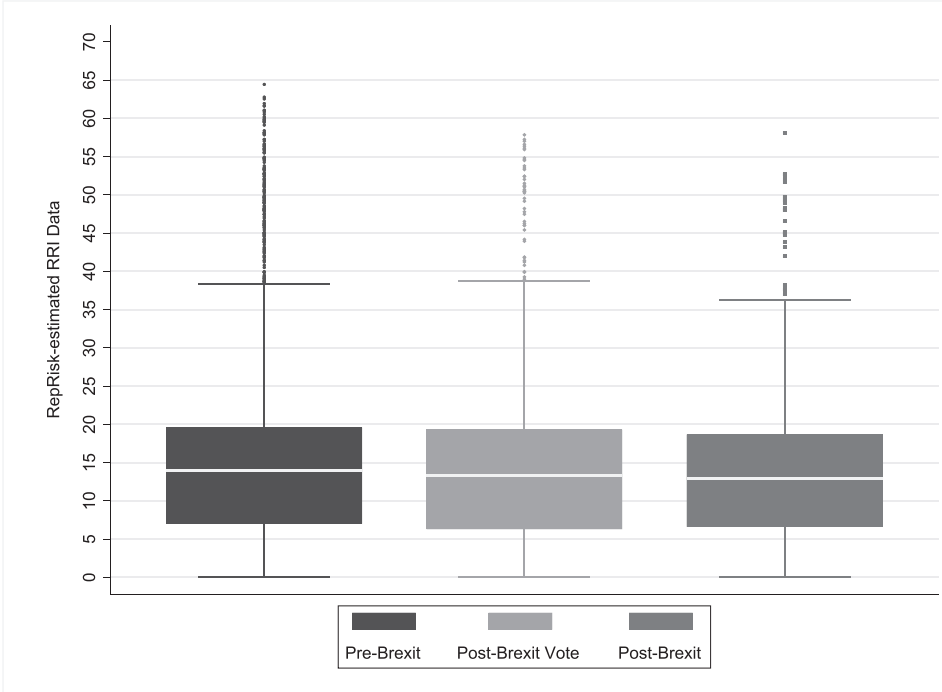

FIGURE 2 Average RepRisk Index (RRI)-estimated corporate reputational disaster as separated by Brexit phases. The figures presented illustrate the average RRI scores for each corporation around the Brexit transition period. The RRI, developed by RepRisk, is an advanced algorithm designed to measure and track a company's or project's exposure to reputational risks related to Environmental, Social and Governance (ESG) issues. This tool is valuable for conducting an initial evaluation of ESG risks linked to investments or business associations. It enables the comparison of a company's risk exposure against its peers and monitors risk trends over time. The calculation of RRI considers the extent of information sources, as well as the frequency, timing and content of ESG risk incidents, focusing on the severity and novelty of the issues. Notably, the RRI's sensitivity to risk incidents does not rely on their order of occurrence. It highlights companies or projects that are either newly exposed to risks or have historically had less exposure, meaning that entities with extensive past exposure show less sensitivity to new risk incidents. Further information is available here.

family models to understand the influence of ESG events best. We employ an exponential generalised autoregressive conditional heteroscedasticity (EGARCH) model developed by Nelson (1991) to specify the conditional variance (h_t) of the innovations.[8] The EGARCH model has the advantage of ensuring the positivity of estimated conditional variance without any parameter restrictions, in contrast to the alternative GARCH specifications. It also imposes fewer parameter restrictions to guarantee the stationarity of the conditional variance. We focus

[8]EGARCH exploits information contained in realised measures of volatility while providing a flexible leverage function that accounts for return-volatility dependence. While remaining in a GARCH-like modelling framework and estimation convenience, the model allows independent return and volatility shock. This dual shock nature leaves room for establishing a variance risk premium. In our selection, other competitive models included EGARCH, TGARCH, Asymmetric Power ARCH (APARCH), Component GARCH (CGARCH) and the Asymmetric Component GARCH (ACGARCH). The optimal model is chosen according to three information criteria, namely the Akaike (AIC), Bayesian (BIC) and Hannan-Quinn (HQ).

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specifically on the return differential of each company through the use of an EGARCH(1,1) methodology, which was selected after developing a number of goodness-of-fit testing procedures. We utilise the mean equation of the EGARCH(1,1) methodology as displayed in Equation (1).

$$r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t, \tag{1}$$

while we express the variance equation of our EGARCH(1,1) model as follows:

$$\ln\left(h_t^2\right) = \omega + \alpha\varepsilon_{t-1} + \gamma\left(|\varepsilon_{t-1}| - E\left(|\varepsilon_{t-1}|\right)\right) + \beta \ln\left(h_{t-1}^2\right), \tag{2}$$

the term d_t in Equation (1) represents a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. Equation (1), r_{t-1} represents the lagged value of the observed corporate returns, while m_t represents the returns of the domestic market index, the FTSE 100 Index, through which systematic risk effects are incorporated within the methodological structure. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of up to 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. Each number refers to the specific trading days relative to each identified event. Specifically, the periods [0, +20], [0, +40] and [0, +60] are used to reflect return differentials for the periods 1, 2 and 3 months after each identified event, reflecting the persistence of returns in the aftermath of each event. For events that take place after the market closes at the end of the trading week, T_0 refers to the following trading date on which trading first takes place. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Methodological structures are then repeated based on the characteristics being analysed as to whether the results have been influenced by incident severity, reach and novelty. Results are separated and modelled using an OLS-based structure that is separated into three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020 and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

4 | RESULTS

Results based on the analysed EGARCH-estimated windows of the investigation surrounding British RepRisk events are presented in Figure 3. In the top panel, all 243,607 significant completed methodological processes at a minimum level of significance of 10% of the 274,204 total EGARCH models completed are presented, relating directly to each of the windows surrounding each reputational event. A breadth of market response is identified; therefore, in the lower panel, we repeat this graphical presentation while excluding outliers beyond that of

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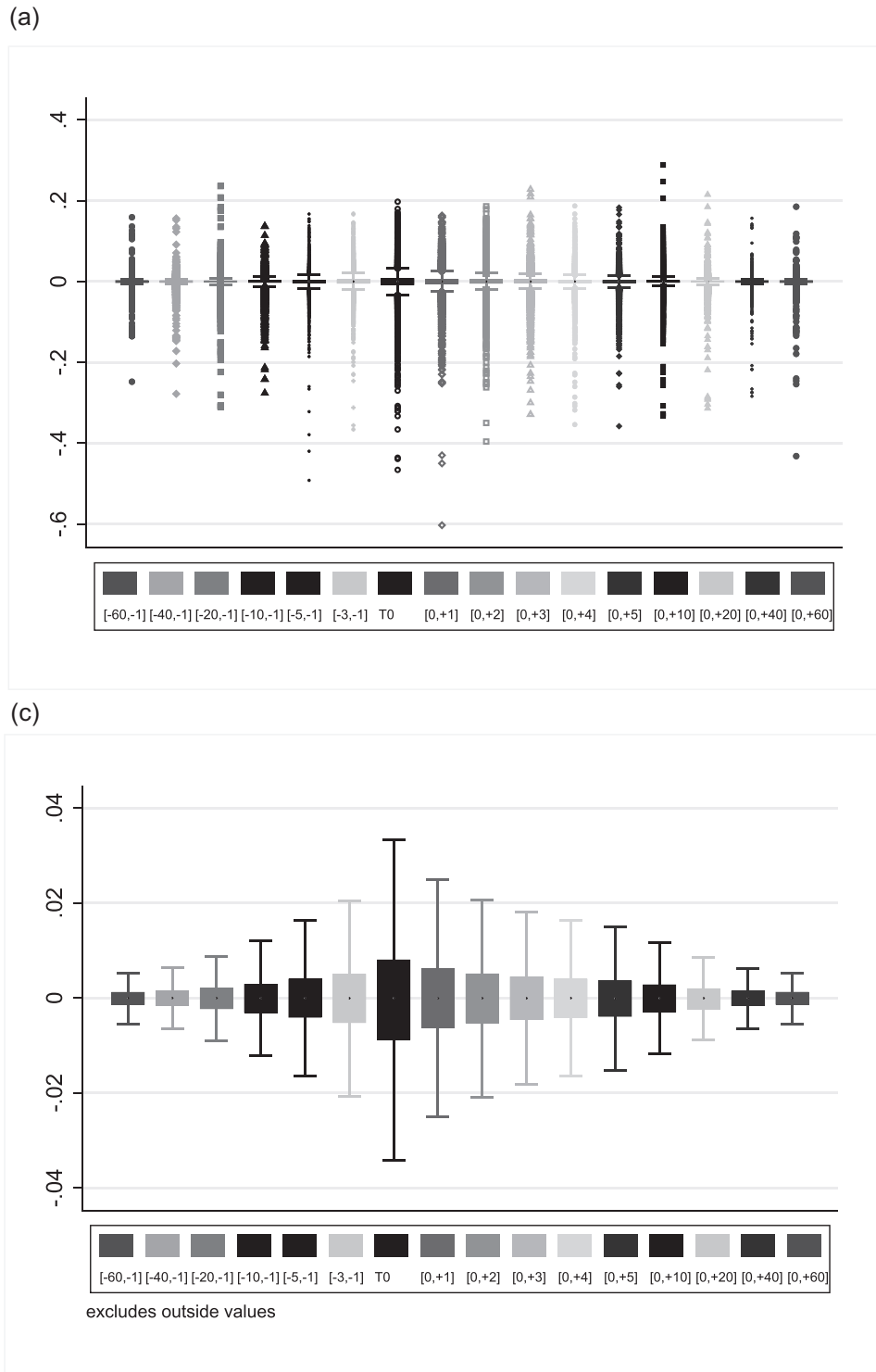

FIGURE 3 (See caption on next page).

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the minima and maxima for each analysed event window, presenting more clarity with regard to the breadth of market response, particularly surrounding the date of the event T_0. It is observed that in the weeks before each event, the breadth of market return increases substantially before sharply exceeding the range between minimum and maximum exceeds ±2%, through to date T_0 where the same range elevates beyond ±3.5%. Results are found to dissipate thereafter before returning to levels consistent with the window [−10,−1] representative of 2 weeks before the events, in between window [0, +10] and [0, +20].

Summary statistics relating to the EGARCH methodologies, irrespective of the type of reputational event, are presented in Table 2, separated by the three periods surrounding the Brexit vote of June 2016 and the formal implementation of Brexit in February 2020. In all analysed cases, sharply lower abnormal returns are identified in window [0, +1], accompanied by increased standard deviation and variance, indicating that the market response was immediately observable from the date on which local and international media released news surrounding a negative reputational event relating to ESG performance. This performance differential is repeated when considering the various percentiles of analysis, particularly that of the 1% and 99% percentiles. These results indicate that there existed a strong level of efficiency when the effects of such negative news were reflected in financial market valuation.

In Figure 4, we observe the differential response to ESG-related reputational events for British firms, as separated by low severity (RepRisk ranking of one) and medium to high severity (RepRisk ranking of two and three).[9] Severity, otherwise related to the harshness of the risk incident or criticism, is, in this context, determined as a function of three dimensions: first, what are the consequences of the risk incident; second what is the extent of the impact and third, was the risk incident caused by an accident, by negligence, or intent, or even in a systematic way. There are three levels of severity: low severity, medium severity and high severity. Comparing the differential behaviour between low and high severity, there are quite discernible differentials observed. In each of the three periods examined, evidence of more sustained persistence in the aftermath of the analysed events, with far more outliers associated

FIGURE 3 Overall financial market response to reputational disaster. (a) All estimated results. (b) All estimated results, outliers omitted. To identify the financial market response differentials of British companies to Environmental, Social and Governance events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events.

[9]Graphical representation of the differential response based on the varying levels of severity, reach and novelty, with outliers omitted to provide a more narrow focus upon the range of the data, are presented in Supporting Information S1: Figures A1 through A3.

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TABLE 2 Summary statistics of EGARCH(1,1) estimated return differentials due to RepRisk-identified events.

This table reports the summary statistics based on the estimated return differentials for analysed corporate reputational events identified using the RepRisk database. Results pertain to British-based corporations, where results are separated as the period before the pre-Brexit vote (13 July 2016), then the period after the formal Brexit vote, but before the formal Brexit on 31 January 2020, with the final period analysed as that after the formal implementation of Brexit. We utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. r_{t-1} represents the lagged value of the observed corporate returns. m_t represents the returns of the FTSE index and represents the interaction between the selected company returns and the corresponding domestic market index. To adequately and robustly assess the time period surrounding each event, we measure abnormal returns using multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. Each number refers to the specific trading days relative to each identified event. Specifically, the periods [0, +20], [0, +40] and [0, +60] are used to reflect return differentials for the periods 1, 2 and 3 months after each identified event, reflecting the persistence of both returns and volatility in the aftermath of each event.

Period						Percentiles								
(days)	Mean	Std. dev.	Var	Skew	Kurt	1%	5%	10%	25%	50%	75%	90%	95%	99%
Pre-Brexit Vote, 24 June 2016														
[−20, −1]	−0.0007	0.0094	0.0001	−2.3240	110.0219	−0.0280	−0.0090	−0.0055	−0.0023	−0.0001	0.0018	0.0042	0.0068	0.0181
[−10, −1]	−0.0009	0.0126	0.0002	−6.7158	115.7839	−0.0366	−0.0121	−0.0072	−0.0031	−0.0001	0.0026	0.0061	0.0100	0.0244
[−5, −1]	−0.0007	0.0160	0.0003	−6.8823	183.0485	−0.0459	−0.0158	−0.0097	−0.0041	−0.0001	0.0037	0.0086	0.0136	0.0348
[0, +1]	−0.0010	0.0214	0.0005	−4.1478	71.5102	−0.0682	−0.0241	−0.0149	−0.0061	−0.0002	0.0057	0.0138	0.0218	0.0538
[0, +5]	−0.0007	0.0139	0.0002	−3.1584	64.9749	−0.0430	−0.0147	−0.0091	−0.0037	−0.0002	0.0033	0.0078	0.0124	0.0348
[0, +10]	−0.0005	0.0122	0.0001	0.1981	145.4947	−0.0341	−0.0115	−0.0067	−0.0029	−0.0001	0.0025	0.0059	0.0091	0.0249
[0, +20]	−0.0006	0.0089	0.0001	−0.7116	101.2328	−0.0265	−0.0087	−0.0053	−0.0022	−0.0001	0.0018	0.0042	0.0065	0.0160
[0, +40]	−0.0005	0.0067	0.0000	1.4913	133.5798	−0.0203	−0.0066	−0.0038	−0.0016	−0.0001	0.0013	0.0029	0.0045	0.0103
[0, +60]	−0.0004	0.0056	0.0000	−0.0432	114.0269	−0.0152	−0.0053	−0.0033	−0.0014	−0.0001	0.0011	0.0023	0.0037	0.0095

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TABLE 2 (Continued)

Period (days)	Mean	Std. dev.	Var	Skew	Kurt	Percentiles 1%	5%	10%	25%	50%	75%	90%	95%	99%
Post-Brexit Vote, Pre Formal Brexit Implementation														
[−20, −1]	−0.0003	0.0114	0.0001	−5.6016	295.6861	−0.0244	−0.0075	−0.0048	−0.0020	0.0000	0.0021	0.0047	0.0072	0.0190
[−10, −1]	−0.0009	0.0098	0.0001	−2.3204	48.8805	−0.0296	−0.0104	−0.0063	−0.0029	−0.0001	0.0028	0.0066	0.0098	0.0244
[−5, −1]	−0.0007	0.0151	0.0002	−9.4521	244.5906	−0.0410	−0.0140	−0.0091	−0.0038	0.0000	0.0038	0.0091	0.0142	0.0362
[0, +1]	−0.0009	0.0195	0.0004	−8.6290	236.0945	−0.0523	−0.0204	−0.0131	−0.0057	−0.0001	0.0053	0.0131	0.0200	0.0436
[0, +5]	−0.0007	0.0144	0.0002	−6.0303	146.5484	−0.0354	−0.0122	−0.0085	−0.0037	0.0000	0.0034	0.0081	0.0123	0.0325
[0, +10]	−0.0005	0.0117	0.0001	−8.8303	218.8569	−0.0288	−0.0095	−0.0064	−0.0027	0.0000	0.0027	0.0063	0.0097	0.0238
[0, +20]	−0.0006	0.0109	0.0001	−8.9600	313.5041	−0.0229	−0.0076	−0.0048	−0.0022	0.0000	0.0019	0.0045	0.0070	0.0185
[0, +40]	−0.0005	0.0082	0.0001	−12.1775	361.8720	−0.0171	−0.0057	−0.0036	−0.0016	−0.0001	0.0014	0.0032	0.0048	0.0122
[0, +60]	−0.0004	0.0060	0.0000	−8.9947	300.2255	−0.0149	−0.0049	−0.0031	−0.0014	−0.0001	0.0012	0.0026	0.0039	0.0089
Post Formal Brexit Implementation, 31 February 2020														
[−20, −1]	−0.0005	0.0129	0.0002	−7.7362	165.5956	−0.0376	−0.0108	−0.0068	−0.0029	0.0001	0.0030	0.0064	0.0095	0.0262
[−10, −1]	−0.0009	0.0139	0.0002	−2.0319	34.2654	−0.0500	−0.0155	−0.0097	−0.0037	0.0001	0.0040	0.0085	0.0129	0.0376
[−5, −1]	−0.0007	0.0165	0.0003	0.4228	22.5161	−0.0542	−0.0204	−0.0128	−0.0050	0.0000	0.0053	0.0121	0.0190	0.0459
[0, +1]	−0.0010	0.0225	0.0005	−1.4301	18.6619	−0.0691	−0.0303	−0.0195	−0.0080	0.0001	0.0081	0.0193	0.0302	0.0575
[0, +5]	−0.0007	0.0160	0.0003	−0.7732	25.7695	−0.0488	−0.0181	−0.0120	−0.0050	0.0000	0.0048	0.0114	0.0182	0.0462
[0, +10]	−0.0005	0.0149	0.0002	−6.5085	133.7800	−0.0394	−0.0141	−0.0092	−0.0039	0.0000	0.0037	0.0087	0.0134	0.0353
[0, +20]	−0.0006	0.0140	0.0002	−10.1185	209.3080	−0.0305	−0.0108	−0.0067	−0.0029	0.0001	0.0029	0.0065	0.0100	0.0269
[0, +40]	−0.0005	0.0130	0.0002	−12.1020	250.4224	−0.0217	−0.0074	−0.0048	−0.0020	0.0001	0.0022	0.0048	0.0071	0.0197
[0, +60]	−0.0004	0.0141	0.0002	−13.7999	357.2182	−0.0217	−0.0059	−0.0038	−0.0016	0.0001	0.0019	0.0039	0.0060	0.0141

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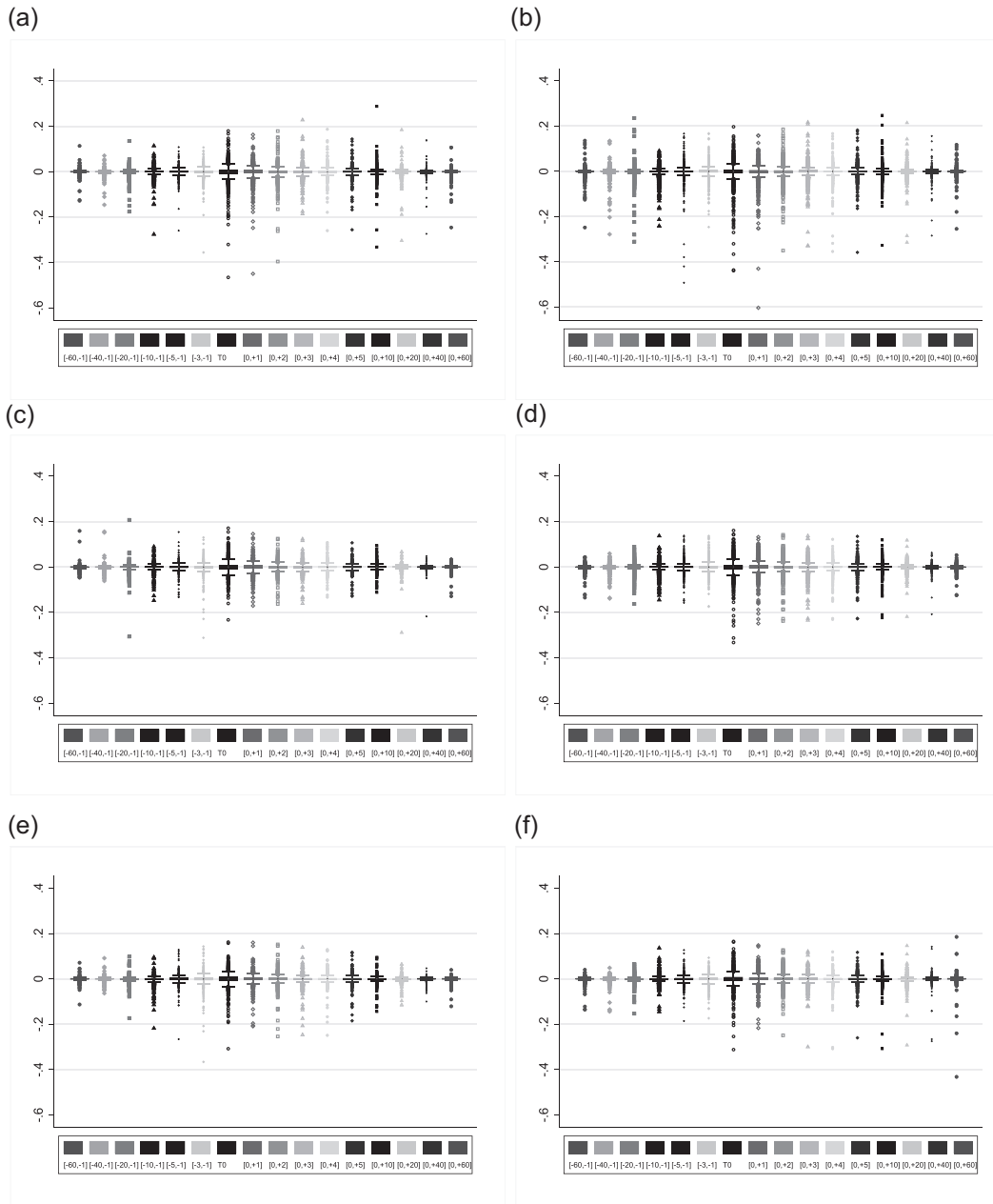

FIGURE 4 (See caption on next page).

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with elevated severity, as would be theoretically expected (Capelle-Blancard & Petit, 2019). Further, when considering differential behaviour across the periods examined, there is a very noticeable breadth of positive and negative outcomes across all investigated windows when considering the period before the Brexit vote of June 2016, where, in the period thereafter, a more narrow range of outcomes is immediately observed. This observation is verified when considering the OLS-based methodological results where the EGARCH-estimated analysis windows are utilised as dependent variables. Estimates are presented in Table 3, where analyses are separated across the period of time before the pre-Brexit vote, between the Brexit vote and its official implementation, and in the period after the formal implementation of Brexit. Before the Brexit vote, significantly depressed returns are identified through the windows [−5, −1] through to [0, +5], taking the lowest values at time [T_0] at −1.92%. However, in the periods thereafter, it is clear that the negative response to the most severe ESG incidents is both smaller in magnitude and of a more narrow time period surrounding the event. In the period after the formal implementation of Brexit, during window [T_0], the negative effect based on the most severe outcomes is estimated to be −0.19%. Therefore, when considering ESG-related reputationally damaging corporate events for British firms, in the period after the formal referendum where the decision was made to exit the European Union, investors are found to reduce their negative sentiment relating to the severity of ESG-related reputational events. As described in Section 2, this may be attributed to firms increasing their ESG focus during periods of increased policy uncertainty, leading to improved outcomes when negative information is unveiled (Peng et al., 2023). Alternatively, after the UK exited the EU, investors may have attributed a lower weighting to adverse outcomes from severe future ESG events due to the potential for a weaker post-Brexit disclosure environment.

Next, we investigate whether the market response as determined by the reach of the information source (i.e., the influence based on readership and circulation as well as by its importance in a specific country) changed during the varying stages relating to Brexit.

FIGURE 4 Financial market response based on the severity of experienced corporate reputational disaster. (a) Low severity, pre-Brexit vote. (b) High severity, pre-Brexit vote. (c) Low severity, post-Brexit vote. (d) High severity, post-Brexit vote. (e) Low severity, post-Brexit. (f) High severity, post-Brexit. To identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020 and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

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TABLE 3 Corporate return differentials as separated by event severity (low severity less high severity).

This table reports the estimated return differentials for analysed corporate reputational events as identified using the RepRisk database and separated based on event severity. Results pertain to British-based corporations, where results are separated as pre-Brexit vote (13 July 2016), then the period after the formal Brexit vote, but before the formal Brexit on 31 January 2020, with the final period analysed as that after the formal implementation of Brexit. As per RepRisk, 'Severity (harshness) of the risk incident or criticism. The severity is determined as a function of three dimensions: first, what are the consequences of the risk incident (e.g., with respect to health and safety: no further consequences, injury, death); second, what is the extent of the impact (e.g., one person, a group of people, a large number of people); and third, was the risk incident caused by an accident, by negligence, or intent or even in a systematic way. There are three levels of severity: low severity, medium severity and high severity'. We utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. r_{t-1} represents the lagged value of the observed corporate returns. m_t represents the returns of the FTSE index, capturing the interaction between the selected company returns and the corresponding domestic market index. To adequately and robustly assess the time period surrounding each event, we measure abnormal returns using multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which the analysed reputational events are found to occur. Each number refers to the specific trading days relative to each identified event. Specifically, the periods [0,+20], [0,+40] and [0,+60] are used to reflect return differentials for the periods 1, 2 and 3 months after each identified event, reflecting the persistence of potential returns differentials in the aftermath of each event. Standard errors are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

Severity	**[−20, −1]**	**[−10, −1]**	**[−5, −1]**	**[−3, −1]**	**[T_0]**	**[0, +1]**	**[0, +5]**	**[0, +10]**	**[0, +20]**	**[0, +40]**	**[0, +60]**
Pre-Brexit Vote	−0.0005	0.0018	−0.0080***	−0.0084***	−0.0192***	−0.0175***	−0.0045***	−0.0030	−0.0021	0.0001	−0.0015
	(0.0025)	(0.0026)	(0.0004)	(0.0004)	(0.0006)	(0.0005)	(0.0003)	(0.0029)	(0.0024)	(0.0020)	(0.0017)
Post Vote, Pre Brexit	−0.0005	−0.0008	−0.0073***	−0.0079***	−0.0134***	−0.0133***	−0.0024	−0.0014	−0.0015	−0.0002	0.0004
	(0.0031)	(0.0035)	(0.0004)	(0.0005)	(0.0008)	(0.0006)	(0.0042)	(0.0034)	(0.0029)	(0.0022)	(0.0018)
Post Formal Brexit	−0.0004	−0.0010*	−0.0003	−0.0014***	−0.0019*	−0.0045***	0.0001	−0.0001	−0.0004	−0.0004	−0.0002
	(0.0003)	(0.0004)	(0.0005)	(0.0006)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)

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All sources are preclassified by reach, that is, limited reach, medium reach and high reach.[10] As presented in Table 4, significant negative effects are identified relating to ESG events in the period before the Brexit vote, irrespective of the event type. In the week before and through the week after each event, risk-adjusted returns are found to be significantly depressed by −0.81% through to −0.42%, with the most significant negative returns observed at window $[T_0]$ of −1.65%. Such effects are found to diminish substantially thereafter, again reaching respective minimum levels at window $[T_0]$ of −0.65% and −0.39% in the period after the Brexit vote and the period after the formal implementation of Brexit, respectively. Such results are further verified in Figure 5, where a substantially elevated breadth of response is identified before the Brexit vote of 2016; however, subsequently, the windows of EGARCH-estimated response differential as separated by reach appear more suppressed.

As per RepRisk, novelty is defined as the 'newness of the issues addressed for the company and/or project, that is, whether it is the first time a company/project is exposed to a specific ESG Issue in a certain location'. In Table 5, we observe that there exists a significant negative relationship between novelty and risk-adjusted returns as a result of ESG-related reputational events. Compared to the above analyses that focus on the severity and reach of such events, the elevated novelty of experienced exposure appears to generate a sharper, less persistent shock. However, similar to earlier results, the most negative estimated significant return is identified at window $[T_0]$, estimated to be −1.48% before the Brexit vote, before reducing significantly to −0.78% and −0.59% in the subsequent periods analysed thereafter. Figure 6 provides further methodological robustness, particularly when considering that the differentials with regard to the breadth of outcomes do not appear to be as pronounced as those observed in earlier analyses.

The differential financial market response to negative reputational events as separated as environmental, social, governance and cross-cutting-based reputational events are presented in Table 6. Environmentally-based and cross-cutting reputational events present the most significant negative investor response in the week before the formal media announcement publicly announcing and identifying the corporate entity responsible. Such advanced response could be construed as a result of informational leaks and rumours that persist, particularly prevalent since the rapid global expansion of ESG-relevant information via many forms of information-sharing social media platforms (Gómez-Carrasco et al., 2021). Socially-based and governance-based reputational events are found to be far more acute in terms of duration, where significant results persist for only a couple of days surrounding the event. When considering the differential investor behaviour and response to such segregated ESG-related events as a result of Brexit, it can be clearly identified that with the exception of cross-cutting events, each of environmentally-, socially- and governance-based events presents evidence of less depressed returns as a result of significant negative ESG-related reputational events. Such results echo those surrounding analyses relating to the severity, reach and novelty of such results, presenting clear evidence that the decision of the United Kingdom to leave the European Union has had a significant influence on the manner through which investors evaluate their response to negative corporate behaviours, particularly that surrounding negative ESG performance. Although motivated by a number of complex factors, such a result might be best explained in a relatively simplistic manner through investor expectation of

[10]Limited reach sources would include local media, smaller NGOs, local governmental bodies and social media. Medium-reach sources include most national and regional media, international NGOs, and state, national and international governmental bodies. High-reach sources are the few truly global media outlets.

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TABLE 4 Corporate return differentials as separated by event reach.

The table reports the return differentials for analysed Environmental, Social and Governance (ESG) events as identified using the RepRisk database and separated based on event reach. As per RepRisk, 'Reach of the information source (influence based on readership/circulation as well as by its importance in a specific country), according to RepRisk's own rating. All sources are preclassified by reach: limited reach, medium reach and high reach. Limited reach sources would include local media, smaller NGOs, local governmental bodies and social media. Medium-reach sources include most national and regional media, international NGOs, and state, national and international governmental bodies. High-reach sources are the few truly global media outlets'. Results pertain to British-based corporations, where results are separated as pre-Brexit vote (13 July 2016); the period after the formal Brexit vote, but before the formal Brexit on 31 January 2020, with the final period analysed as that after the formal implementation of Brexit. We utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. r_{t-1} represents the lagged value of the observed corporate returns. m_t represents the returns of the FTSE index, capturing the interaction between the selected company returns and the corresponding domestic market index. To adequately and robustly assess the time period surrounding each event, we measure abnormal returns using multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +5], [0, +10], [0,+20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which the analysed reputational events are found to occur. Each number refers to the specific trading days relative to each identified event. Specifically, the periods [0, +20], [0, +40] and [0, +60] are used to reflect return differentials for the periods 1, 2 and 3 months after each identified event, reflecting the persistence of potential returns differentials in the aftermath of each event. Standard errors are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

Reach	**[−20, −1]**	**[−10, −1]**	**[−5, −1]**	**[−3, −1]**	**[T_0]**	**[0, +1]**	**[0, +5]**	**[0, +10]**	**[0, +20]**	**[0, +40]**	**[0, +60]**
Pre-Brexit Vote	−0.0019	0.0015	−0.0081***	−0.0150***	−0.0165***	−0.0161***	−0.0042***	0.0005	−0.0001	−0.0001	−0.0003
	(0.0019)	(0.0020)	(0.0003)	(0.0003)	(0.0004)	(0.0004)	(0.0002)	(0.0022)	(0.0018)	(0.0015)	(0.0013)
Post Vote, Pre Brexit	−0.0014	−0.0006	0.0003	−0.0014	−0.0065***	−0.0026***	−0.0037***	−0.0005	−0.0022	−0.0016	0.0012
	(0.0023)	(0.0025)	(0.0031)	(0.0038)	(0.0006)	(0.0004)	(0.0003)	(0.0025)	(0.0021)	(0.0016)	(0.0013)
Post Formal Brexit	−0.0001	−0.0004	−0.0001	−0.0015***	−0.0039***	−0.0037***	−0.0003	0.0003	0.0003	0.0001	0.0002
	(0.0002)	(0.0003)	(0.0004)	(0.0004)	(0.0006)	(0.0005)	(0.0003)	(0.0003)	(0.0003)	(0.0002)	(0.0003)

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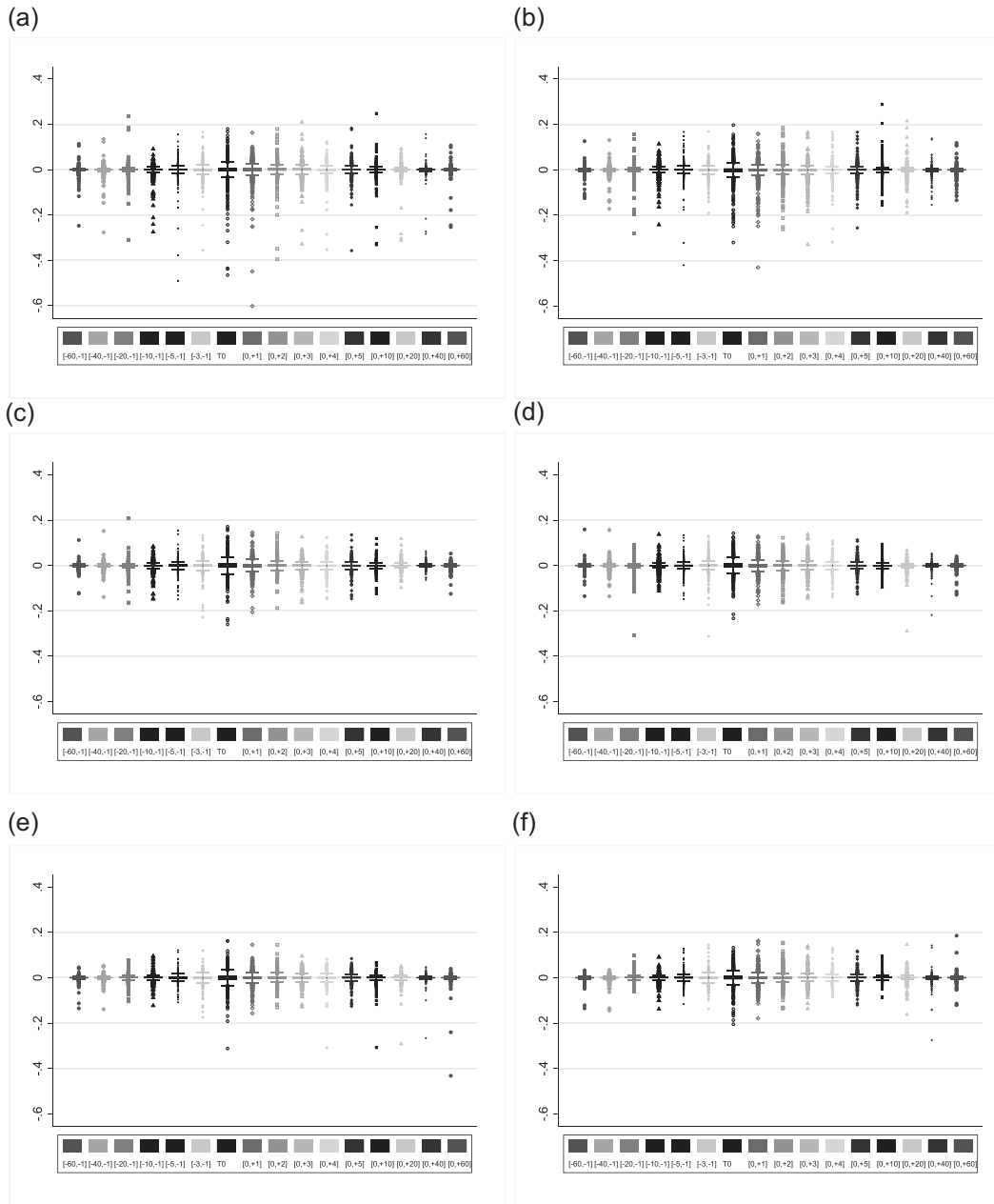

FIGURE 5 (See caption on next page).

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reduced external 'restrictions' and 'regulations' as presented to be a core driver of the decision to support and implement Brexit (Sampson, 2017). This is particularly evidenced when considering the continued reduction of returns upon the formal implementation of Brexit, where investors and market participants appear to consider that corporations proceed in a regulatory vacuum outside of newly introduced global and traditional industry standards until the true regulatory parameters associated with the decision are known. The results of these analyses are visually represented in the boxplots identified in Figures 7–10, respectively, where several clear response differentials are observable.

Further division of analysis as per the specific type of reputational event is presented in Table 7, providing further depth and robustness with regard to the observed differential of investor behaviour as a result of Brexit. Reputationally damaging events relating to fraud are found to present the most depressed investment outcomes at window $[T_0]$, where before the vote to implement Brexit, significant effects were identifiable up to 2 weeks before the event, reaching −2.12% on the date of the release of the reputationally-damaging information. Further pronounced negative outcomes are further identified with regard to reputationally damaging events relating to anticompetitive practices, local pollution, misleading communication and tax evasion. Events relating to impacts on communities, impacts on landscapes and the violation of international standards are less depressed, although each result is identified to be significant.[11]

FIGURE 5 Financial market response based on the reach of experienced corporate reputational disaster. (a) Low Reach, pre-Brexit vote. (b) High Reach, pre-Brexit vote. (c) Low Reach, post-Brexit vote. (d) High Reach, post-Brexit vote. (e) Low Reach, post-Brexit. (f) High Reach, post-Brexit. To identify the financial market response differentials of British companies to ESG events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0,+60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020; and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

[11]In Table 7, select results are presented based on RepRisk events relating to Anti-Competitive Practices, Fraud, Impacts on Communities, Impacts on Landscapes, Local Pollution, Misleading Communication, Tax Evasion and Violation of National Legislation. For brevity of presentation, and as a result of no significant differential due to Brexit being identified, results are not presented relating to events denoted as: Animal Mistreatment, Child Labour, Climate GHG Pollution, Controversial Products & Services, Money-related Discrimination in Employment, Executive Compensation Issues, Forced Labour, Freedom of Association, Human Rights Abuses, Local Participation Issues, Occupational Health, Other ESG Issues, Overuse and Wasting, Poor Employment Conditions, Product Health and Environmental Issues, Social Discrimination, Supply Chain Issues, Tax Optimisation, Violation of International Standards and Waste Issues. These additional results are available from the authors upon request.

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TABLE 5 Corporate return differentials as separated by event novelty.

The table reports the return differentials for analysed Environmental, Social and Governance (ESG) events as identified using the RepRisk database and separated based on event novelty. As per RepRisk, novelty is defined as the 'newness of the issues addressed for the company and/or project, that is, whether it is the first time a company/project is exposed to a specific ESG Issue in a certain location'. Results pertain to British-based corporations, where results are separated as pre-Brexit vote (13 July 2016), then the period after the formal Brexit vote, but before the formal Brexit on 31 January 2020, with the final period analysed as that after the formal implementation of Brexit. We utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. r_{t-1} represents the lagged value of the observed corporate returns. m_t represents the returns of the FTSE index, capturing the interaction between the selected company returns and the corresponding domestic market index. To adequately and robustly assess the time period surrounding each event, we measure abnormal returns using multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which the analysed reputational events are found to occur. Each number refers to the specific trading days relative to each identified event. Specifically, the periods [0, +20], [0, +40] and [0, +60] are used to reflect return differentials for the periods 1, 2 and 3 months after each identified event, reflecting the persistence of potential returns differentials in the aftermath of each event. Standard errors are in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

Novelty	**[−20, −1]**	**[−10, −1]**	**[−5, −1]**	**[−3, −1]**	**[T_0]**	**[0, +1]**	**[0, +5]**	**[0, +10]**	**[0, +20]**	**[0, +40]**	**[0, +60]**
Pre-Brexit Vote	−0.0022	−0.0039	−0.0015	−0.0072***	−0.0148***	−0.0122***	−0.0051	−0.0013	0.0038	0.0014	0.0003
	(0.0028)	(0.0029)	(0.0040)	(0.0004)	(0.0007)	(0.0005)	(0.0035)	(0.0032)	(0.0027)	(0.0022)	(0.0019)
Post Vote, Pre Brexit	−0.0036	−0.0029	−0.0018***	−0.0048***	−0.0078***	−0.0053***	0.0017	−0.0007	−0.0031	0.0006	0.0032
	(0.0034)	(0.0037)	(0.0005)	(0.0006)	(0.0008)	(0.0006)	(0.0045)	(0.0037)	(0.0031)	(0.0024)	(0.0019)
Post Formal Brexit	0.0000	−0.0004	0.0003	−0.0012***	−0.0059***	−0.0072***	−0.0002	−0.0003	−0.0002	−0.0003	0.0001
	(0.0003)	(0.0004)	(0.0005)	(0.0007)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)

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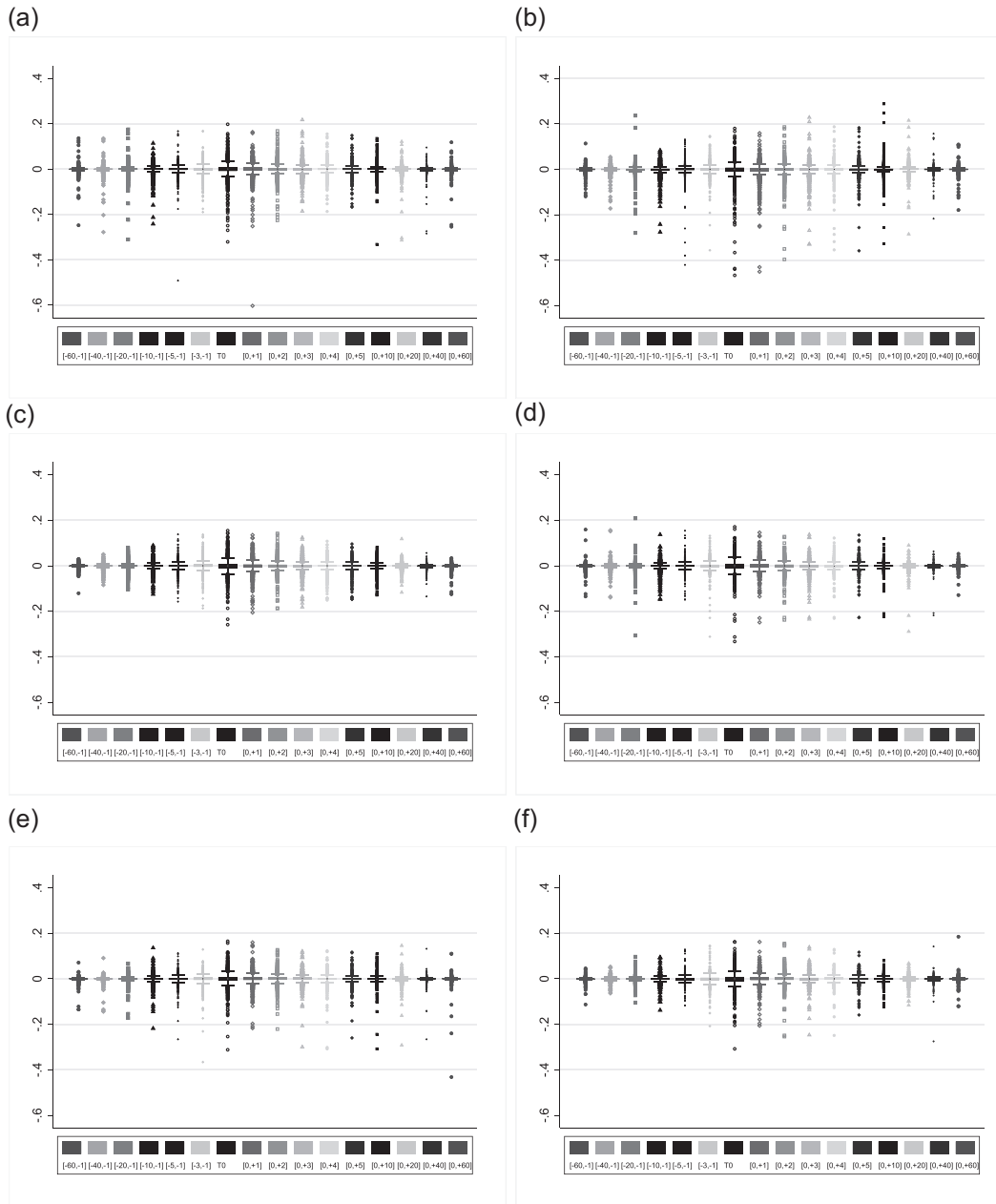

FIGURE 6 (See caption on next page).

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When considering the direct effects of Brexit, it is immediately apparent that although less depressed, significant results are identified in the period after the Brexit vote in 2016 and the formal implementation of Brexit in 2020. After this latter event, there is an absence of significant financial market effects that had previously existed. Only events relating to local pollution were observed to have identified negative market-adjusted returns of −0.31% at the investigated window $[T_0]$.

Company size influences ESG disclosure, to the extent that large firms have more resources to dedicate to improving corporate sustainability (Drempetic et al., 2020). Building on this, in Table 8, the corresponding EGARCH-estimated return differentials are considered as a function of the market capitalisation of firms. An OLS structure is utilised for each corresponding investigation window, using the logarithm of corporate market capitalisation as the variable of interest.[12]

A positive correlation between market capitalisation and estimated return differentials around reputational events is observed, particularly in the immediate pre-event and event windows. This indicates that larger firms, as denoted by their market size, tend to exhibit more favourable return differentials, suggesting a market perception of these firms as more resilient or capable of effectively managing crises. The significance of this correlation diminishes in the longer postevent windows, which may indicate an adjustment in market reactions as the firm's response unfolds and its impact on fundamentals becomes evident. The underlying reasons for this pattern include larger firms' greater access to resources, diversified operations, market confidence due to stability and profitability track records, and reduced information asymmetry due to more rigorous scrutiny.

Further, we examine the differential behaviour before, during and after Brexit, providing a more granular view of how market capitalisation interacts with market reactions in the context

FIGURE 6 Financial market response based on the novelty of experienced corporate reputational disaster. (a) Low Novelty, pre-Brexit vote. (b) High Novelty, pre-Brexit vote. (c) Low Novelty, post-Brexit vote. (d) High Novelty, post-Brexit vote. (e) Low Novelty, post-Brexit. (f) High Novelty, post-Brexit. To identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, We utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020 and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

[12]Other determinants of abnormal returns were also considered and found to be insignificant. Given the previous focus on size as a vital characteristic associated with ESG disclosure, the analysis presented focuses on market capitalisation as a major determinant of abnormal returns.

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TABLE 6 Corporate return differentials as separated by Environmental, Social and Governance (ESG) events.

This table reports to identify the financial market response differentials of British companies to ESG events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the term d_t represents a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. Windows [−60, −1], [−40, −1], [0, +2], [0, +3] and [0, +4] were omitted for brevity of presentation but are available from the authors upon request. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

	[−20, −1]	[−10, −1]	[−5, −1]	[−3, −1]	[T_0]	[0, +1]	[0, +5]	[0, +10]	[0, +20]	[0, +40]	[0, +60]
Environmentally-based Reputational Event											
Pre-Brexit Vote	−0.0006	−0.0053	−0.0063***	−0.0086***	−0.0174***	−0.0182***	0.0012	−0.0013	0.0010	0.0028	0.0018
	(0.0027)	(0.0029)	(0.0004)	(0.0039)	(0.0006)	(0.0052)	(0.0034)	(0.0031)	(0.0027)	(0.0021)	(0.0019)
Post Vote, Pre Brexit	0.0023	−0.0015	−0.0067***	−0.0063***	−0.0096***	−0.0081***	0.0023	−0.0029	−0.0028	−0.0018	−0.0034
	(0.0034)	(0.0037)	(0.0005)	(0.0006)	(0.0008)	(0.0002)	(0.0045)	(0.0036)	(0.0031)	(0.0024)	(0.0019)
Post Formal Brexit	0.0002	0.0002	0.0005	−0.0052***	−0.0106***	−0.0096***	0.0010	0.0007	0.0007	0.0006	0.0001
	(0.0003)	(0.0004)	(0.0005)	(0.0007)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)
Socially-based Reputational Event											
Pre-Brexit Vote	0.0074**	0.0046	−0.0006	−0.0053	−0.0133***	−0.0084	−0.0057	−0.0034	−0.0008	−0.0004	0.0008
	(0.0003)	(0.0028)	(0.0039)	(0.0039)	(0.0006)	(0.0052)	(0.0034)	(0.0031)	(0.0026)	(0.0021)	(0.0019)
Post Vote, Pre Brexit	0.0003	−0.0011	0.0008	0.0014	−0.0064***	−0.0020	0.0021	−0.0005	−0.0010	−0.0007	−0.0001
	(0.0033)	(0.0037)	(0.0045)	(0.0055)	(0.0008)	(0.0062)	(0.0044)	(0.0036)	(0.0030)	(0.0024)	(0.0019)
Post Formal Brexit	−0.0001	−0.0002	−0.0005	−0.0005	−0.0031***	−0.0037***	0.0005	0.0003	0.0004	0.0000	−0.0001
	(0.0003)	(0.0004)	(0.0005)	(0.0006)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)

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TABLE 6 (Continued)

	[−20, −1]	[−10, −1]	[−5, −1]	[−3, −1]	[T_0]	[0, +1]	[0, +5]	[0, +10]	[0, +20]	[0, +40]	[0, +60]
Governance-Based Reputational Event											
Pre-Brexit Vote	−0.0048	−0.0087**	−0.0036	−0.0038	−0.0156***	−0.0099	−0.0038	−0.0007	0.0003	0.0004	−0.0018
	(0.0027)	(0.0003)	(0.0040)	(0.0039)	(0.0007)	(0.0052)	(0.0034)	(0.0032)	(0.0027)	(0.0022)	(0.0019)
Post Vote, Pre Brexit	−0.0039	−0.0019	−0.0002	−0.0027***	−0.0075***	−0.0051***	−0.0001	−0.0023	−0.0048	−0.0021	0.0009
	(0.0034)	(0.0037)	(0.0046)	(0.0006)	(0.0008)	(0.0006)	(0.0045)	(0.0036)	(0.0031)	(0.0024)	(0.0019)
Post Formal Brexit	0.0000	0.0003	0.0003	−0.0025	−0.0102***	−0.0099***	−0.0007	−0.0002	−0.0006	0.0000	0.0000
	(0.0003)	(0.0004)	(0.0005)	(0.0006)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)
Cross-Cutting-Based Reputational Event											
Pre-Brexit Vote	−0.0030	−0.0007	−0.0127***	−0.0123***	−0.0145***	−0.0167***	−0.0029	−0.0004	0.0029	0.0019	0.0022
	(0.0027)	(0.0029)	(0.0004)	(0.0004)	(0.0006)	(0.0005)	(0.0034)	(0.0031)	(0.0027)	(0.0021)	(0.0019)
Post Vote, Pre Brexit	−0.0021	0.0038	−0.0035***	−0.0050***	−0.0137***	−0.0099***	0.0019	0.0027	0.0049	0.0027	0.0048*
	(0.0034)	(0.0037)	(0.0005)	(0.0006)	(0.0008)	(0.0006)	(0.0045)	(0.0036)	(0.0031)	(0.0024)	(0.0019)
Post Formal Brexit	0.0001	−0.0004	0.0001	−0.0058	−0.0071***	−0.0050***	−0.0002	−0.0003	−0.0006	−0.0002	−0.0007
	(0.0003)	(0.0004)	(0.0005)	(0.0064)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)

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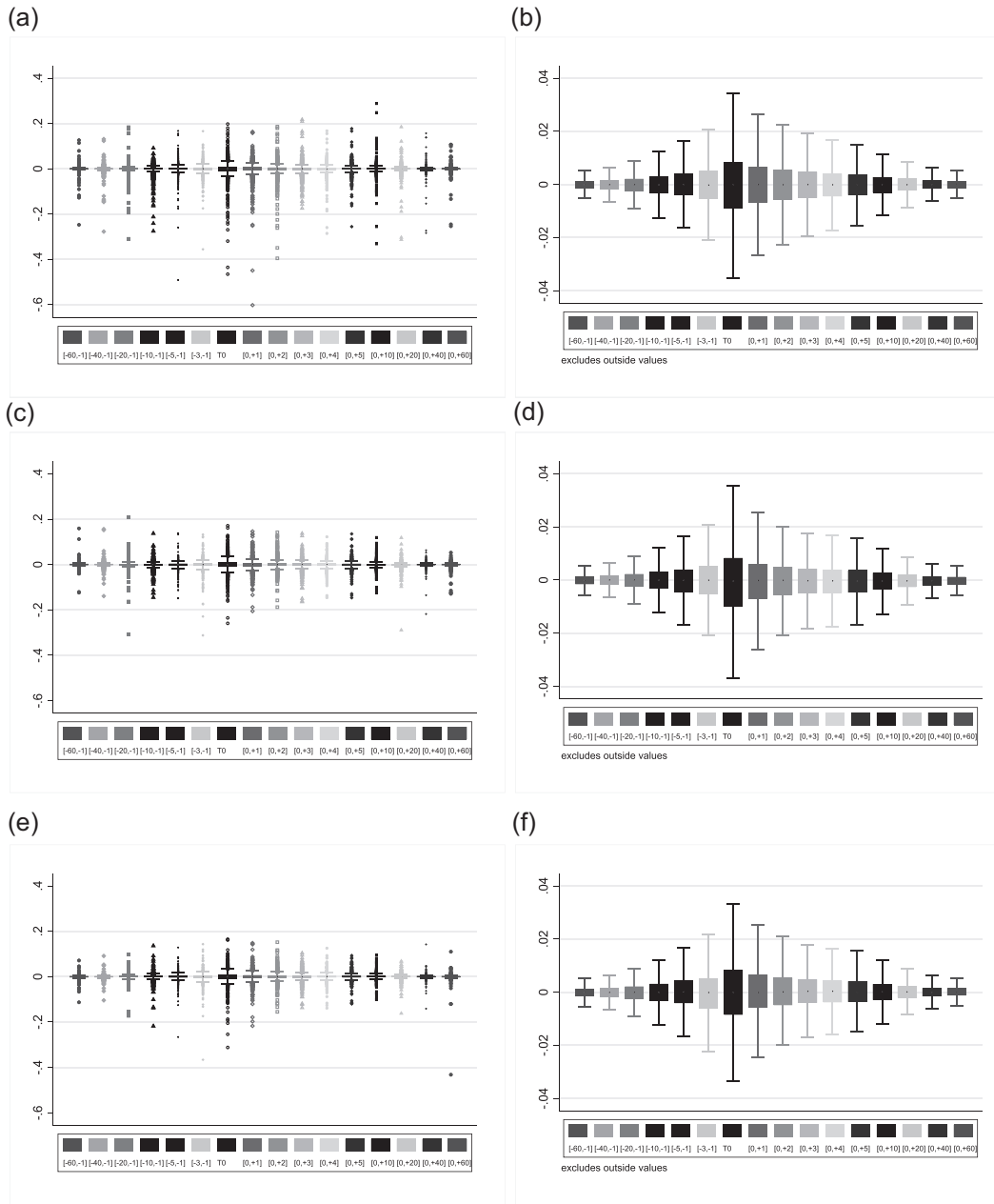

FIGURE 7 (See caption on next page).

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of a major geopolitical event. The data reveals that market capitalisation consistently serves as a positive differentiator in financial market reactions, with larger firms perceived as better equipped to navigate Brexit's uncertainties and potential repercussions. The shifting significance and magnitude of these effects across different phases highlight the evolving nature of market assessments as the Brexit process unfolded, reflecting varying degrees of uncertainty, market sentiment and risk assessment in response to a landmark geopolitical event. Larger firms benefit from their scale, diversity and resource availability, cushioning the impact of reputational shocks. Furthermore, the intercepts from these regressions echo our earlier findings that the market response, even after controlling for company size, has larger magnitude in the pre-Brexit period, than post-Brexit.

These results further validate the finding that investors perceived less corporate impact from ESG events in the post-Brexit period. This may be a consequence of greater focus on ESG during the politically uncertain period before and after the vote for Brexit, leading companies to focus more on ESG matters. This may have led investors to be more forgiving of companies with announced ESG transgressions. An alternative, but not mutually exclusive, explanation is that investors considered corporate accountability in the post-Brexit era to be more significantly lenient on British corporations. This finding will particularly concern stakeholders, policy-makers and regulators when considering the substantial work underpinning the development of a strong corporate ESG development and adherence policy in Britain, only for the perception that reduced accountability and regulation surrounding corporate malpractice would exist in post-Brexit Britain, manifesting in differential return response.

5 | DISCUSSION AND DIRECTIONS FOR FUTURE RESEARCH

We present several novel insights into the differential investor responses to ESG-related reputational events for British firms during three key stages surrounding the decision to exit the European Union. The initial analysis reveals an interesting shift in investor perception

FIGURE 7 Financial market response to environmentally-based reputational disaster. (a) Environmentally-based, pre-Brexit vote, all results. (b) Environmentally-based, pre-Brexit vote, outliers omitted. (c) Environmentally-based, post-Brexit vote, all results. (d) Environmentally-based, post-Brexit vote, outliers omitted. (e) Environmentally-based, post-Brexit, all results. (f) Environmentally-based, post-Brexit, outliers omitted. To identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020 and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

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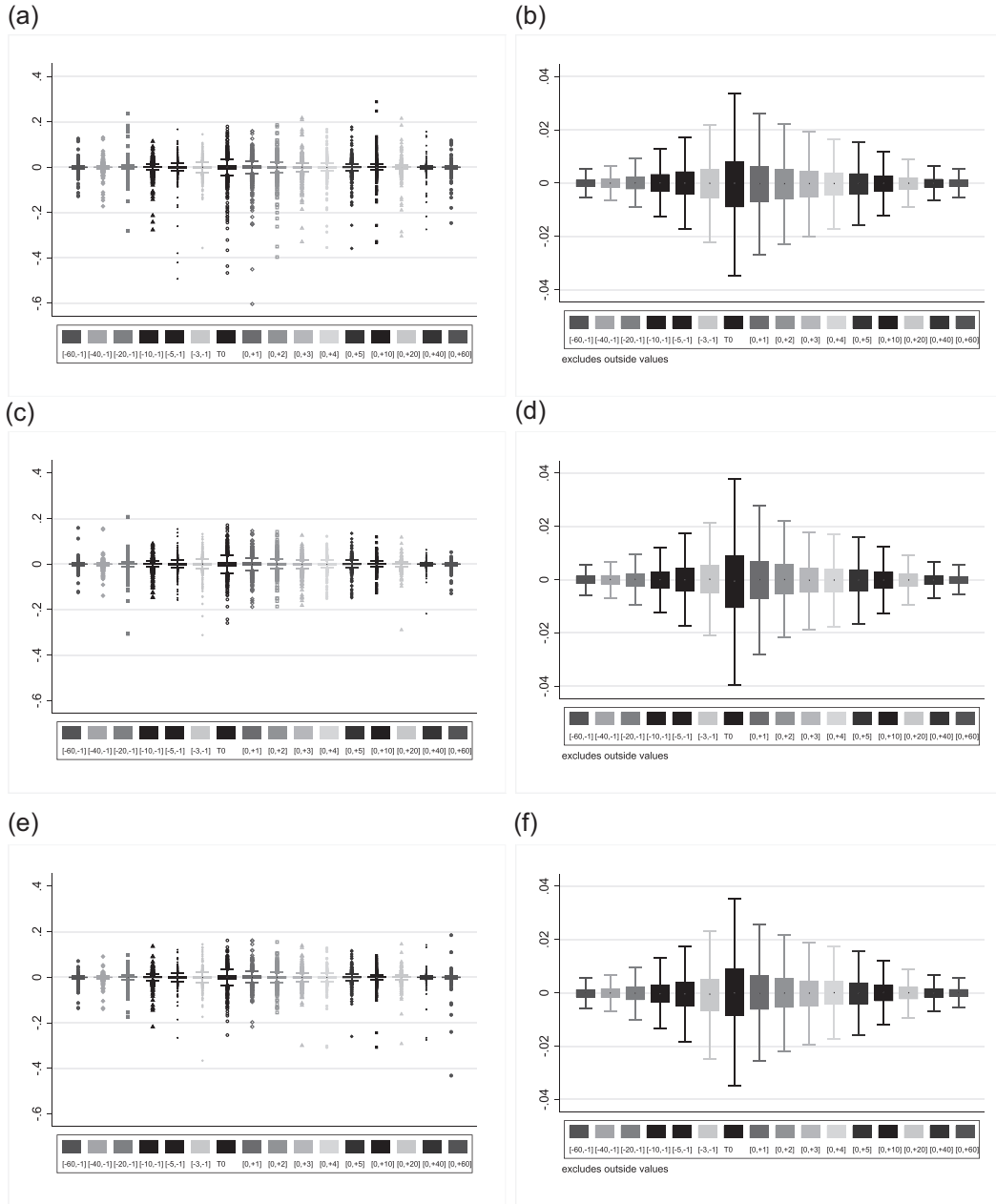

FIGURE 8 (See caption on next page).

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regarding the severity of ESG-related reputational events post-Brexit. This observation can be attributed to multiple factors. First, with the removal of EU regulations, investors may have perceived a reduced regulatory risk for British firms, leading to softer responses to severe ESG incidents. Second, the uncertainty surrounding Britain's economic environment during the Brexit transition might have also positively affected firms' focus on ESG, leading to improved investor sentiment and risk assessment, modifying the market's response to reputational events.

When exploring the reach of information sources in the market response, we note a significant negative effect due to far-reaching ESG disasters before the Brexit vote; however, this effect decreases substantially in the period thereafter. This phenomenon could also be explained as a result of the tumultuous media landscape during the time of Brexit, where information concerning corporate behaviour was likely diluted by a more pressing focus on the Brexit process. As the Brexit narrative occupied a significant share of media attention, news relating to ESG events might have been less impactful, leading to a suppressed investor response. It would appear that in the turmoil surrounding the decision to 'take back control', national accountability was greatly diminished, resulting in potential situations where poor corporate behaviour did not receive fair scrutiny and, in some cases, went unnoticed. The study also reveals an intriguing trend regarding the novelty of ESG-related events. Specifically, we find that the novelty of ESG-related events leads to sharper, less persistent shocks to investor sentiment. However, this effect diminishes post-Brexit. A possible explanation could be that investors became more accustomed to unprecedented events and irregularities in the market due to the unpredictability of Brexit. Quite simply, public expectations could have moderated due to the scandalous political behaviour that became more accepted due to repetition.

Our analysis of the differential investor response to environmental, social, governance and cross-cutting reputational events shows that information leaks and rumours might have had a significant impact on investor sentiment, evidenced by the sharp, significant negative responses in the days before the release of negative ESG-related events. This finding emphasises the role

FIGURE 8 Financial market response to the socially based reputational disaster. (a) Socially-based, pre-Brexit vote, all results. (b) Socially-based, pre-Brexit vote, outliers omitted. (c) Socially-based, post-Brexit vote, all results. (d) Socially-based, post-Brexit vote, outliers omitted. (e) Socially-based, post-Brexit, all results. (f) Socially-based, post-Brexit, outliers omitted. To identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020; and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

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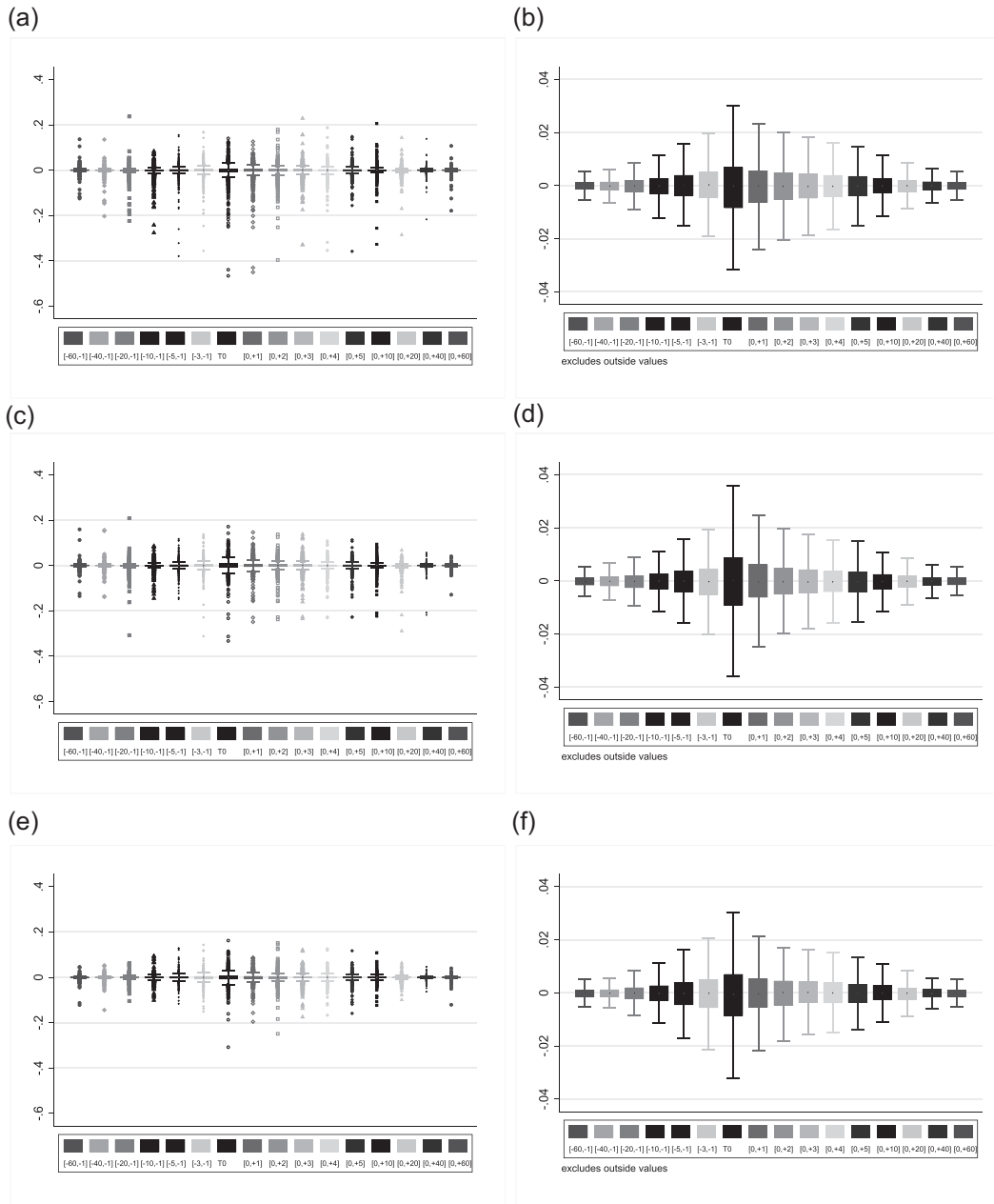

FIGURE 9 (See caption on next page).

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of transparent and timely communication in managing investor expectations, particularly in an environment fraught with uncertainty, such as Brexit.

One possible interpretation of our results indicates leniency in investor sentiment towards corporate accountability in post-Brexit Britain. This could be a byproduct of the perceived easing of regulatory restrictions in the aftermath of Brexit, leading to a general under-reaction to reputational events. This finding suggests a need for policymakers to reinforce the importance of corporate ESG responsibilities in maintaining investor confidence and overall market stability in post-Brexit Britain. This research particularly emphasises the intricate relationship between political, economic and regulatory environments and their collective impact on investor behaviour. As Britain navigates its post-Brexit landscape, understanding these investor behaviours will be crucial in devising effective regulatory frameworks and maintaining market stability.

The findings of our study have substantial policy implications, particularly for regulators and lawmakers in the United Kingdom navigating the post-Brexit landscape. Our results underscore the critical importance of establishing clear, transparent and rigorous ESG regulatory standards for corporations, as these standards not only shape firm behaviour but also significantly influence investor responses. One particularly concerning result in this research is the observed leniency towards corporate accountability in post-Brexit Britain, likely due to the perceived easing of regulations following the UK's departure from the EU. This leniency may pose risks to the stability of financial markets in the long term, as it may reduce part of the disincentives that moderate lax corporate ESG practices. Policymakers should, therefore, consider implementing stringent ESG regulatory standards and rigorous enforcement mechanisms to ensure corporate adherence and to maintain investor trust.

Moreover, the pronounced negative financial outcomes identified for reputationally damaging events, such as fraud, anticompetitive practices, local pollution, misleading communication and tax evasion, highlight the need for robust oversight and punitive measures for corporate malfeasance. Policymakers must ensure that such practices are adequately

FIGURE 9 Financial market response to governance-based reputational disaster. (a) Governance-based, pre-Brexit vote, all results. (b) Governance-based, pre-Brexit vote, outliers omitted. (c) Governance-based, post-Brexit vote, all results. (d) Governance-based, post-Brexit vote, outliers omitted. (e) Governance-based, post-Brexit, all results. (f) Governance-based, post-Brexit, outliers omitted. To identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020 and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

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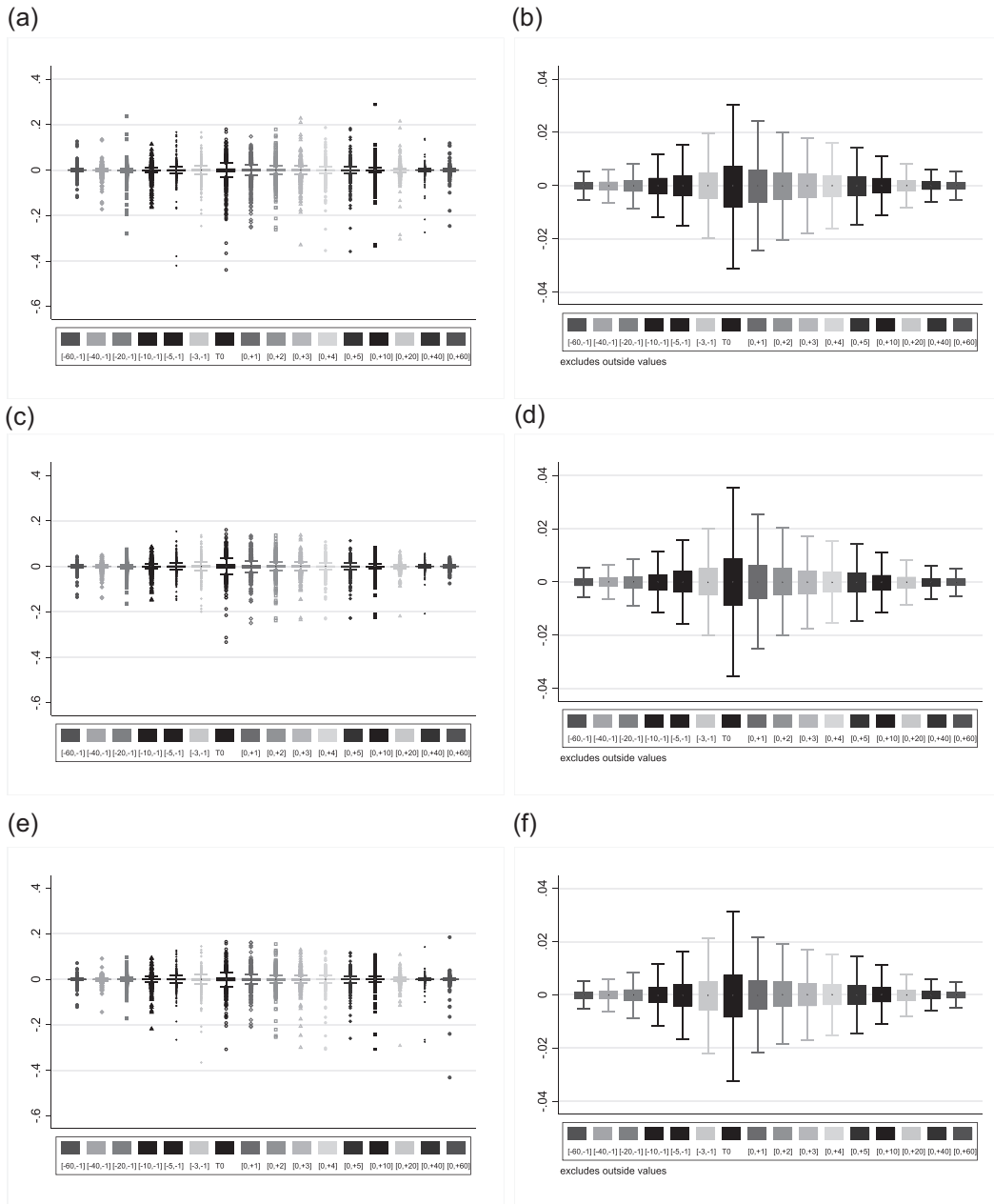

FIGURE 10 (See caption on next page).

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penalised to deter their occurrence and reinforce a culture of corporate responsibility and integrity. While somewhat reassuring that disseminating ESG-related information significantly impacts investor responses, policymakers should encourage transparency and timely communication to foster an efficient market response. Enhanced disclosure requirements and transparency standards could be effective tools for achieving this. Additionally, considering the significant impact of rumours and information leaks, regulators may need to monitor information channels more closely and implement measures to prevent misinformation or untimely information leakage.

The findings of our study open several promising avenues for future research. Given our observation of a shift in investor behaviour in response to reputational events post-Brexit, it would be interesting to examine the differential investor responses across various sectors. Are certain sectors more immune to the effects of ESG-related reputation events than others? If so, what factors drive these sector-specific differences? Future research could also delve into the role of investor heterogeneity in response to ESG events. For instance, it would be insightful to examine whether institutional investors react differently than individual investors to ESG disclosures, particularly in the post-Brexit era. Similarly, studying the influence of foreign versus domestic investors on the UK's ESG landscape could provide useful insights into the dynamics of cross-border investment in the new regulatory environment. Further, it would be interesting to focus on company-specific information to uncover whether specific results can be attributed to corporate characteristics or whether dynamic stock price response to the various stages associated with Brexit can be attributed to the proportion of international business that British companies carry out. Finally, it would also be interesting to understand better how the response differs for global corporations with only part of their respective global operations in Britain.

FIGURE 10 Financial market response to cross-cutting-based reputational disaster. (a) Cross-cutting-based, pre-Brexit vote, all results. (b) Cross-cutting-based, pre-Brexit vote, outliers omitted. (c) Cross-cutting-based, post-Brexit vote, all results. (d) Cross-cutting-based, post-Brexit vote, outliers omitted. (e) Cross-cutting-based, post-Brexit, all results. (f) Cross-cutting-based, post-Brexit, outliers omitted. To identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the abnormal return differential is estimated using the term d_t, a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−60, −1], [−40, −1], [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +2], [0, +3], [0, +4], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. In total, 274,204 EGARCH methodologies are analysed, considering 14 windows of analysis surrounding the 19,586 analysed events. Results are separated based on three periods of analysis: (i) the period before the formal Brexit vote on 23 June 2016; (ii) the period after the Brexit vote from 24 June 2016 through to the day before the formal implementation of Brexit on 31 January 2020; and (iii) the period after the formal implementation of Brexit which was implemented at 23:00 (GMT) on 31 January 2020, therefore considered to be best represented as 1 February 2020.

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TABLE 7 Select types of corporate return differentials before and after Brexit.

This table reports to identify the financial market response differentials of British companies to Environmental, Social and Governance (ESG) events as a result of Brexit, we utilise the mean equation of the EGARCH(1,1) methodology $r_t = a_0 + b_1 r_{t-1} + b_2 m_t + b_3 m_{t-1} + b_4 d_t + \varepsilon_t$, where the term d_t represents a dummy variable that takes a value of unity during the analysed window surrounding each respective reputational event. To adequately and robustly assess the time period surrounding each event, we measure return differentials as a result of reputational disaster across multiple estimation windows of 3 months after each identified event across a variety of different event windows, including [−20, −1], [−10, −1], [−5, −1], [0, +1], [0, +5], [0, +10], [0, +20], [0, +40] and [0, +60], to test the pricing response both before and after the dates on which significant reputational events are found to occur. Windows [−60, −1], [−40, −1], [0, +2], [0, +3] and [0, +4] were omitted for brevity of presentation but are available from the authors upon request. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

	[−20, −1]	**[−10, −1]**	**[−5, −1]**	**[−3, −1]**	**[T_0]**	**[0, +1]**	**[0, +5]**	**[0, +10]**	**[0, +20]**	**[0, +40]**	**[0, +60]**
Anticompetitive practices											
Pre-Brexit Vote	0.0029	−0.0046	−0.0167***	−0.0135***	−0.0165***	−0.0144***	−0.0070	−0.0056	−0.0023	−0.0046	−0.0047
	(0.0057)	(0.0060)	(0.0008)	(0.0008)	(0.0014)	(0.0011)	(0.0072)	(0.0066)	(0.0056)	(0.0045)	(0.0039)
Post Vote, Pre Brexit	0.0036	−0.0016*	−0.0142	−0.0111	−0.0128***	−0.0125***	0.0006	−0.0043	0.0048	0.0021	0.0026
	(0.0067)	(0.0007)	(0.0091)	(0.0111)	(0.0016)	(0.0013)	(0.0089)	(0.0073)	(0.0062)	(0.0048)	(0.0039)
Post Formal Brexit	0.0000	0.0001	0.0007	0.0001	−0.0034	−0.0015	−0.0007	−0.0005	−0.0005	−0.0001	−0.0003
	(0.0007)	(0.0009)	(0.0011)	(0.0014)	(0.0019)	(0.0014)	(0.0011)	(0.0009)	(0.0008)	(0.0007)	(0.0008)
Fraud											
Pre-Brexit Vote	−0.0001	−0.0148***	−0.0083***	−0.0095***	−0.0212***	−0.0135***	−0.0024	0.0021	0.0018	0.0006	−0.0012
	(0.0041)	(0.0004)	(0.0006)	(0.0006)	(0.0010)	(0.0008)	(0.0052)	(0.0047)	(0.0040)	(0.0032)	(0.0028)
Post Vote, Pre Brexit	−0.0050	−0.0069	−0.0140*	−0.0072***	−0.0138***	−0.0144***	−0.0072	−0.0018	−0.0019	−0.0022	0.0004
	(0.0048)	(0.0053)	(0.0065)	(0.0008)	(0.0012)	(0.0009)	(0.0064)	(0.0052)	(0.0044)	(0.0034)	(0.0028)
Post Formal Brexit	−0.0004	−0.0007	−0.0006	−0.0006	−0.0017	−0.0012	−0.0008	−0.0001	−0.0004	0.0001	0.0001
	(0.0005)	(0.0006)	(0.0007)	(0.0009)	(0.0013)	(0.0010)	(0.0007)	(0.0006)	(0.0005)	(0.0005)	(0.0006)

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TABLE 7 (Continued)

	[−20, −1]	[−10, −1]	[−5, −1]	[−3, −1]	[T_0]	[0, +1]	[0, +5]	[0, +10]	[0, +20]	[0, +40]	[0, +60]
Impacts on Communities											
Pre-Brexit Vote	0.0079**	−0.0001	0.0049	−0.0019***	−0.0069***	−0.0042***	−0.0017	0.0016	0.0002	0.0029	0.0021
	(0.0003)	(0.0031)	(0.0043)	(0.0004)	(0.0007)	(0.0006)	(0.0037)	(0.0034)	(0.0029)	(0.0023)	(0.0020)
Post Vote, Pre Brexit	−0.0006	−0.0001	−0.0026	0.0002	−0.0033	−0.0041	−0.0063	−0.0018	−0.0026	−0.0010	−0.0008
	(0.0037)	(0.0041)	(0.0051)	(0.0062)	(0.0091)	(0.0070)	(0.0049)	(0.0040)	(0.0034)	(0.0026)	(0.0021)
Post Formal Brexit	0.0003	0.0005	0.0001	−0.0007	−0.0003	−0.0005	0.0009	0.0007	0.0007	0.0008*	0.0000
	(0.0004)	(0.0005)	(0.0006)	(0.0007)	(0.0010)	(0.0008)	(0.0006)	(0.0005)	(0.0004)	(0.0003)	(0.0004)
Impact on Landscapes											
Pre-Brexit Vote	−0.0006	−0.0048	−0.0004	−0.0091***	−0.0057***	−0.0059***	−0.0029***	−0.0062	−0.0018	0.0028	0.0008
	(0.0029)	(0.0030)	(0.0042)	(0.0004)	(0.0007)	(0.0006)	(0.0004)	(0.0033)	(0.0028)	(0.0023)	(0.0020)
Post Vote, Pre Brexit	−0.0009	−0.0031	−0.0099*	−0.0067***	−0.0070***	−0.0098***	0.0031	−0.0008	−0.0037	0.0007	0.0009
	(0.0036)	(0.0040)	(0.0049)	(0.0006)	(0.0009)	(0.0068)	(0.0048)	(0.0039)	(0.0033)	(0.0026)	(0.0021)
Post Formal Brexit	0.0002	0.0002	0.0007	0.0003	−0.0013	−0.0011	0.0009	0.0006	0.0005	0.0005	−0.0002
	(0.0004)	(0.0005)	(0.0006)	(0.0007)	(0.0010)	(0.0008)	(0.0006)	(0.0005)	(0.0004)	(0.0004)	(0.0004)
Local Pollution											
Pre-Brexit Vote	−0.0004	−0.0077*	−0.0054	−0.0088***	−0.0131***	−0.0074***	0.0035	−0.0015	0.0001	0.0030	0.0042
	(0.0034)	(0.0004)	(0.0049)	(0.0005)	(0.0008)	(0.0006)	(0.0042)	(0.0039)	(0.0033)	(0.0026)	(0.0023)
Post Vote, Pre Brexit	−0.0034	−0.0032	−0.0087	−0.0094***	−0.0092***	−0.0081***	0.0096	0.0020	0.0032	0.0054	0.0042
	(0.0041)	(0.0046)	(0.0006)	(0.0007)	(0.0001)	(0.0008)	(0.0055)	(0.0045)	(0.0038)	(0.0029)	(0.0024)
Post Formal Brexit	−0.0003	0.0000	−0.0001	−0.0003	−0.0031**	−0.0010	0.0009	0.0010	0.0008	0.0007	−0.0002
	(0.0004)	(0.0005)	(0.0007)	(0.0008)	(0.0012)	(0.0009)	(0.0006)	(0.0006)	(0.0005)	(0.0004)	(0.0005)

(Continues)

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TABLE 7 (Continued)

	[−20, −1]	[−10, −1]	[−5, −1]	[−3, −1]	[T_0]	[0, +1]	[0, +5]	[0, +10]	[0, +20]	[0, +40]	[0, +60]
Misleading Communication											
Pre-Brexit Vote	0.0025	−0.0017	−0.0044***	−0.0075***	−0.0152***	−0.0051***	−0.0065	−0.0036	0.0015	0.0017	0.0016
	(0.0046)	(0.0048)	(0.0007)	(0.0007)	(0.0011)	(0.0009)	(0.0058)	(0.0053)	(0.0045)	(0.0036)	(0.0032)
Post Vote, Pre Brexit	0.0060	−0.0043	−0.0078***	−0.0116***	−0.0088***	−0.0126***	0.0005	−0.0090	−0.0056	−0.0014	0.0004
	(0.0058)	(0.0064)	(0.0008)	(0.0010)	(0.0014)	(0.0011)	(0.0076)	(0.0062)	(0.0053)	(0.0041)	(0.0033)
Post Formal Brexit	0.0010	0.0010	0.0007	0.0016	0.0001	0.0004	0.0013	0.0006	0.0002	0.0003	0.0001
	(0.0006)	(0.0008)	(0.0009)	(0.0012)	(0.0016)	(0.0012)	(0.0009)	(0.0008)	(0.0007)	(0.0006)	(0.0007)
Tax Evasion											
Pre-Brexit Vote	−0.0013	−0.0028	−0.0039	−0.0083**	−0.0137***	−0.0031	0.0037	−0.0018	−0.0016	−0.0008	0.0006
	(0.0078)	(0.0082)	(0.0113)	(0.0011)	(0.0019)	(0.0149)	(0.0098)	(0.0089)	(0.0076)	(0.0061)	(0.0053)
Post Vote, Pre Brexit	0.0023	−0.0047	−0.0081	−0.0051	−0.0028	−0.0061	−0.0006	−0.0006	0.0066	−0.0010	0.0005
	(0.0106)	(0.0117)	(0.0144)	(0.0175)	(0.0258)	(0.0198)	(0.0141)	(0.0115)	(0.0097)	(0.0075)	(0.0060)
Post Formal Brexit	0.0004	0.0005	0.0007	0.0013	0.0015	−0.0012	0.0000	0.0003	0.0000	0.0004	0.0002
	(0.0009)	(0.0012)	(0.0015)	(0.0018)	(0.0026)	(0.0019)	(0.0014)	(0.0012)	(0.0011)	(0.0010)	(0.0011)
Violation of International Standards											
Pre-Brexit Vote	−0.0038	−0.0039	−0.0055***	−0.0063***	−0.0083***	−0.0072***	−0.0042	−0.0030	0.0014	−0.0010	−0.0003
	(0.0028)	(0.0030)	(0.0004)	(0.0004)	(0.0007)	(0.0005)	(0.0035)	(0.0032)	(0.0027)	(0.0022)	(0.0019)
Post Vote, Pre Brexit	−0.0026	0.0040	−0.0010	−0.0073***	−0.0075***	−0.0084***	−0.0052	−0.0024	0.0034	0.0012	0.0020
	(0.0034)	(0.0038)	(0.0046)	(0.0006)	(0.0008)	(0.0006)	(0.0045)	(0.0037)	(0.0031)	(0.0024)	(0.0019)
Post Formal Brexit	−0.0002	−0.0006	−0.0001	−0.0006	−0.0017	−0.0009	−0.0005	−0.0003	−0.0007	−0.0003	−0.0008
	(0.0003)	(0.0004)	(0.0005)	(0.0007)	(0.0009)	(0.0007)	(0.0005)	(0.0004)	(0.0004)	(0.0003)	(0.0004)

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TABLE 8 Interaction between market capitalisation and estimated return differentials.

This table reports analysis examines the effect of company size on the estimated return differentials in the overall period, pre-Brexit and in two post-Brexit periods. A regression analysis is performed, where the return differentials are the dependent variables and market capitalisation is the variable of interest. Windows [−60, −1], [−40, −1], [0, +2], [0, +3] and [0, +4] were also omitted for brevity of presentation but are available from the authors upon request. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

	[−20, −1]	[−10, −1]	[−5, −1]	[−3, −1]	[T_0]	[0, +1]	[0, +5]	[0, +10]	[0, +20]	[0, +40]	[0, +60]
Total Period											
Constant	−0.0006***	−0.0008***	−0.0008***	−0.0010***	−0.0007**	−0.0007*	−0.0011*	−0.0009**	−0.0005*	−0.0004*	−0.0006***
	(0.0001)	(0.0001)	(0.0002)	(0.0002)	(0.0003)	(0.0003)	(0.0005)	(0.0003)	(0.0002)	(0.0002)	(0.0001)
Mkt Cap	0.0319***	0.0292***	0.0299***	0.0334***	0.0654***	0.0538***	0.0246***	0.0019	0.0043	0.0105**	0.0043
	(0.0051)	(0.0057)	(0.0074)	(0.0082)	(0.0127)	(0.0099)	(0.0068)	(0.0060)	(0.0051)	(0.0042)	(0.0040)
Pre-Brexit Vote											
Constant	−0.0003*	−0.0006**	−0.0012**	−0.0016***	−0.0019***	−0.0015***	−0.0005*	−0.0003	−0.0002	−0.0002	−0.0001
	(0.0002)	(0.0002)	(0.0004)	(0.0003)	(0.0003)	(0.0003)	(0.0002)	(0.0002)	(0.0002)	(0.0001)	(0.0001)
Mkt Cap	0.0312***	0.0267**	0.0217	0.0331*	0.0468*	0.0552***	0.0197	0.0071	0.0113	0.0206***	0.0118**
	(0.0069)	(0.0092)	(0.0117)	(0.0129)	(0.0201)	(0.0157)	(0.0101)	(0.0089)	(0.0065)	(0.0049)	(0.0041)
Post Vote, Pre Brexit											
Constant	−0.0010***	−0.0013***	−0.0008*	−0.0008*	−0.0011*	−0.0015***	−0.0017***	−0.0016***	−0.0012***	−0.0002	−0.0001
	(0.0002)	((0.0002)	(((0.0004)	(0.0003)	(0.0004)	(0.0004)	(0.0003)	(0.0002)	(0.0002)	(0.0002)	((0.0001)
Mkt Cap	0.0274**	0.0341***	0.0484***	0.0423**	0.0696***	0.0547***	0.0396***	0.0239*	0.0126	0.0109	0.0138**
	(0.0092)	(0.0079)	(0.0122)	(0.0129)	(0.0185)	(0.0158)	(0.0116)	(0.0095)	(0.0088)	(0.0066)	(0.0048)

(Continues)

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TABLE 8 (Continued)

	[−20, −1]	[−10, −1]	[−5, −1]	[−3, −1]	[T_0]	[0, +1]	[0, +5]	[0, +10]	[0, +20]	[0, +40]	[0, +60]
Post Formal Brexit											
Constant	−0.0004***	−0.0004**	−0.0009**	−0.0007	−0.0011	−0.0013**	−0.0004	0.0000	−0.0003	−0.0003	−0.0005
	(0.0001)	(0.0001)	(0.0003)	(0.0004)	(0.0006)	(0.0005)	(0.0003)	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Mkt Cap	0.0424***	0.0314*	0.0251	0.0268	0.0945***	0.0568**	0.0172	−0.0346*	−0.0175	−0.0058	−0.0206
	(0.0121)	(0.0130)	(0.0155)	(0.0180)	(0.0286)	(0.0209)	(0.0149)	(0.0139)	(0.0131)	(0.0123)	(0.0132)

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6 | CONCLUDING COMMENTS

This study explored the impact of Brexit on investor responses to corporate reputational events in the United Kingdom, focusing on ESG-related incidents. We find robust evidence that investor reactions to reputational events, particularly those related to ESG issues, have changed in the post-Brexit environment. Our results suggest that while negative reputational events triggered significant investor responses before Brexit, these responses have become less pronounced after the formal implementation of Brexit. This finding holds true across various types of reputational events, although the degree of response differential varies by event type.

Our research presents robust empirical evidence delineating the intricate relationship between reputational events concerning ESG factors and market response, contextualised within the unique scenario of the United Kingdom's decision to exit the European Union. The study unveils several key insights and noteworthy conclusions pivotal to understanding investor behaviour, corporate accountability and the broader financial landscape in a post-Brexit environment. The analyses identify a temporal shift in investor responses to ESG-related reputational events post-Brexit, denoting a marked reduction in the magnitude of negative valuations relating to ESG-related reputational events. Earnings deteriorate sharply in the immediate aftermath of such incidents, underlining an efficient market response. However, this effect dissipates post-Brexit, suggesting that investors have adapted their behaviour to the evolving regulatory and economic landscape. The severity, reach and novelty of ESG incidents and their accompanying market response present further intriguing findings. We found more sustained persistence and heightened breadth of market response for higher severity incidents pre-Brexit. Post-Brexit, the market response to severe incidents became both less pronounced and shorter in duration. Similarly, the effect of the reach of information sources and the novelty of ESG issues significantly waned post-Brexit.

Further, our study identifies differential investor responses to environmental, social, governance and cross-cutting reputational events, where evidence of less depressed returns post-Brexit are identified with the exception of cross-cutting events, or those events denoted to have occurred as a result of multiple elements of ESG occurring simultaneously. This finding suggests a shift in investor perceptions towards less severe penalties for negative ESG performance in a post-Brexit environment. Further, our results indicate reduced market response to reputational damaging events such as fraud, anticompetitive practices, local pollution, misleading communication and tax evasion in the aftermath of Brexit. After formally implementing Brexit, most of these events ceased to exert a significant financial market effect. This exception was local pollution, which negatively influenced the internationally adjusted returns.

Our study identifies the substantive impact of Brexit on investor behaviour in response to ESG-related reputational events. The observed shifts in market response imply a perceived leniency towards British corporations in the post-Brexit era, most likely due to the many regulatory and legislative unknowns that existed thereafter. This has significant implications for stakeholders, policymakers and regulators, particularly considering the substantial effort invested in developing robust ESG adherence policies. This calls for a deeper introspection into how corporate accountability and regulation surrounding ESG performance can be ensured in a post-Brexit Britain, thereby bridging the gap between corporate malpractice and corporate accountability. Further, these findings offer insights into the dynamic interplay between regulatory changes, corporate reputation and investor behaviour. In particular, they shed light on how major regulatory shifts, such as Brexit, can alter the financial implications of corporate

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reputational events. Moreover, our results raise important questions about the perceived leniency of corporate accountability in post-Brexit Britain, highlighting potential concerns for stakeholders, policymakers and regulators alike.

ACKNOWLEDGEMENTS

Open access funding provided by IReL.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from RepRisk (https://www.reprisk.com). Restrictions apply to the availability of these data, which were used under license for this study.

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REFERENCES

Albuquerque, R., Koskinen, Y., & Zhang, C. (2019). Corporate social responsibility and firm risk: Theory and empirical evidence. *Management Science*, *65*(10), 4451–4469.

Bollerslev, T. (1986). Generalized autoregressive conditional heteroskedasticity. *Journal of Econometrics*, *31*(3), 307–327.

Bonaime, A., Gulen, H., & Ion, M. (2018). Does policy uncertainty affect mergers and acquisitions? *Journal of Financial Economics*, *129*(3), 531–558.

Capelle-Blancard, G., & Petit, A. (2019). Every little helps? ESG news and stock market reaction. *Journal of Business Ethics*, *157*, 543–565.

Carretta, A., Farina, V., Martelli, D., Fiordelisi, F., & Schwizer, P. (2011). The impact of corporate governance press news on stock market returns. *European Financial Management*, *17*(1), 100–119.

Çolak, G., Durnev, A., & Qian, Y. (2017). Political uncertainty and IPO activity: Evidence from US gubernatorial elections. *Journal of Financial and Quantitative Analysis*, *52*(6), 2523–2564.

Cumming, D. J., & Zahra, S. A. (2016). International business and entrepreneurship implications of Brexit. *British Journal of Management*, *27*(4), 687–692.

Davies, R. B., & Studnicka, Z. (2018). The heterogeneous impact of Brexit: Early indications from the FTSE. *European Economic Review*, *110*, 1–17.

Drempetic, S., Klein, C., & Zwergel, B. (2020). The influence of firm size on the ESG score: Corporate sustainability ratings under review. *Journal of Business Ethics*, *167*, 333–360.

Engle, R. F. (1982). Autoregressive conditional heteroscedasticity with estimates of the variance of United Kingdom inflation. *Econometrica: Journal of the Econometric Society*, *50*(4), 987–1007.

Gómez-Carrasco, P., Guillamon-Saorin, E., & GarciaOsma, B. (2021). Stakeholders versus firm communication in social media: The case of Twitter and corporate social responsibility information. *European Accounting Review*, *30*(1), 31–62.

Grewal, J., Riedl, E. J., & Serafeim, G. (2019). Market reaction to mandatory nonfinancial disclosure. *Management Science*, *65*(7), 3061–3084.

Gu, C., & Hibbert, A. M. (2021). Expectations and financial markets: Lessons from Brexit. *Financial Review*, *56*(2), 279–299.

Hameed, A. (2022). UK withdrawal from the EU: Supremacy, indirect effect and retained EU law. *Modern Law Review*, *85*(3), 726–754.

Hill, P., Korczak, A., & Korczak, P. (2019). Political uncertainty exposure of individual companies: The case of the Brexit referendum. *Journal of Banking & Finance*, *100*, 58–76.

Hudson, R., Urquhart, A., & Zhang, H. (2020). Political uncertainty and sentiment: Evidence from the impact of Brexit on financial markets. *European Economic Review*, *129*, 103523.

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

Khan, M. (2019). Corporate governance, ESG, and stock returns around the world. *Financial Analysts Journal*, *75*(4), 103–123.

Klaus, J. P., Nishi, H., Peabody, S. D., & Reichert, C. (2022). CSR activity in response to the Paris Agreement exit. *European Financial Management*. In press. https://doi.org/10.1111/eufm.12368

Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance*, *72*(4), 1785–1824.

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.

Nelson, D. B. (1991). Conditional heteroskedasticity in asset returns: A new approach. *Econometrica: Journal of the Econometric Society*, *59*(2), 347–370.

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

Pastor, L., & Veronesi, P. (2012). Uncertainty about government policy and stock prices. *The Journal of Finance*, *67*(4), 1219–1264.

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

Peng, D., Colak, G., & Shen, J. (2023). Lean against the wind: The effect of policy uncertainty on a firm's corporate social responsibility strategy. *Journal of Corporate Finance*, *79*, 102376.

Sampson, T. (2017). Brexit: The economics of international disintegration. *Journal of Economic Perspectives*, *31*(4), 163–184.

Serafeim, G., & Yoon, A. (2022). Which corporate ESG news does the market react to? *Financial Analysts Journal*, *78*(1), 59–78.

Wong, J. B., & Zhang, Q. (2022). Stock market reactions to adverse ESG disclosure via media channels. *The British Accounting Review*, *54*(1), 101045.

Wright, M., Wilson, N., Gilligan, J., Bacon, N., & Amess, K. (2016). Brexit, private equity and management. *British Journal of Management*, *27*(4), 682–686.

Zou, H., Zeng, R., Zeng, S., & Shi, J. J. (2015). How do environmental violation events harm corporate reputation? *Business Strategy and the Environment*, *24*(8), 836–854.

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How to cite this article: Akyildirim, E., Conlon, T., Corbet, S., & Oxley, L. (2024). 'Take Back Control': The implications of Brexit uncertainty on investor perception of ESG reputational events. *European Financial Management*, 1–43. https://doi.org/10.1111/eufm.12490

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