

Are ESG Ratings Informative About Companies' Socially Responsible Behaviors Abroad? Evidence from the Russian Invasion of Ukraine*

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1. Introduction

On February 24th, 2022, Russia invaded Ukraine. The invasion sparked global public outrage and marked a turning point in the globalized economic system and a shift in geopolitical risks, with Western leaders immediately condemning Russia's aggression.⁶ Even before this invasion in Ukraine, Russia's corruption, poor corporate governance, and disregard for human rights were widely documented and well-known. The World Bank consistently ranked Russia very poorly on its six worldwide governance indicators (Kaufmann, Kraay, & Mastruzzi, 2010), while Russia ranks as the 44th most corrupt country in the world, making it significantly more corrupt than China (114th) and Saudi Arabia (128th).⁷ Regardless, many Western firms pursued operations in Russia, with several of them scrambling to distance themselves from this rogue country after the invasion. Others remained silent.

This study exploits the Russian invasion of Ukraine as a revelation of the usefulness of Environmental, Social, and Governance ("ESG") ratings to assess actual responsible corporate behavior. Extending Demers, Hendrikse, Joos, & Lev (2022), we collect data on European Stoxx 600 firms' Russian exposure, pre-invasion Russia-related disclosures, post-invasion corporate response, ESG scores, and several market and financial variables. We focus our analysis on Stoxx 600 firms for three reasons. First, given the geographic proximity to Ukraine and the strong public outcry in Europe, European firms are likely to suffer more reputational damage from their economic relations with Russia. Second, the Stoxx 600 index represents an economically meaningful set of firms, covering large, mid, and small cap firms across 17 European countries, which together represent over 90% of the total European continent's market capitalization. Third, Russia was the EU's fifth largest trading partner in 2021, representing 5.8% of the EU's total trade, while the European Union was Russia's primary export market (European Commission, 2022).

Exploiting the context of the Russian invasion of Ukraine as a global turning point and shift in geopolitical risks, we investigate to what extent highly rated ESG firms are truly more caring about the societal impact of their operations. In our first set of analyses, we ask whether highly rated ESG firms are less likely to operate in Russia in the first place, and, to the extent that they

⁶ For example, Blackrock's Larry Fink urges companies to diversify geographic exposure (O'Hara, 2022).

⁷ Retrieved from: <https://www.transparency.org/en/cpi/2021/index/rus>, June 25th, 2022.

are operating in Russia, whether highly rated ESG firms are more likely to substantially inform investors and stakeholders about such activities. Our analyses show that neither is the case. Using data from 7 different ESG ratings providers, both separately and combined into one average ESG score to mitigate measurement error (Berg, Kölbel, & Rigobon, 2022), we document that none of the ESG ratings providers assigned *lower* ESG scores to the subset of Stoxx 600 firms with Russian sales or assets. Strikingly, at least two ratings providers, as well as all ratings providers combined, assigned incrementally *higher* ESG scores to Stoxx 600 firms operating in Russia compared to their European peer firms with no Russian operations, even after controlling for firm financials, country of headquarters, and industry. Some argue that operating in Russia may be beneficial to the Russian population, with firms using their voice, policies, and power to instill change. Are more socially responsible firms then more actively and fully informing investors and non-investor stakeholders about their Russian dealings? We establish that, after controlling for firm size, annual and sustainability (“CSR”) report length, the number of business segments, and several other determinants of disclosure, ESG scores offer no incremental power in explaining the extent and usefulness of Russia-related disclosures in corporate pre-invasion filings. These results indicate that, at best, allegedly more socially responsible firms were not less likely to be operating in Russia, nor more likely to be incrementally transparent about these activities compared to their less socially responsible counterparts.

We next investigate whether highly rated ESG firms exhibit real socially responsible behavior in response to this geopolitical shock: Are firms scored more highly by ESG ratings agencies more likely and quicker to distance themselves from Russia in response to the atrocities being committed since February 24th? Using Factiva searches, post-invasion corporate filings, corporate announcements, and the Yale SOM Russia list (Sonnenfeld et al., 2022), we identify the “real” actions that firms undertake in response to the invasion. Our findings are twofold. First, we find that more highly rated ESG firms are not more likely to withdraw or suspend their operations in Russia. Second, using duration analysis, we find that, across all 7 ratings providers, ESG, Social, and Human Rights scores are insignificant determinants of the speed with which firms announce the suspension or withdrawal of their operations from Russia. When socially responsible businesses face a real ESG test, social responsibility as inferred from ESG ratings turns out to be illusory.

In our final set of analyses, we focus on the capital market consequences of firms' Russian exposure, Russia-related disclosures, and ESG performance. How are investors reacting to the invasion and are they considering firms' Russia exposure, to what extent are pre-invasion disclosures informative, and did ESG scores shield investors from the market carnage following the invasion? We follow Deng, Leippold, Wagner, & Wang (2022) in identifying three key periods surrounding the invasion: *BuildUp*, the period leading up to the war, *Outbreak*, the immediate period after the war, and *Continuation*, when public attention to the war decreased. After controlling for a host of market-based measures of risk, firm financials, and the information environment of the firm, our first result is that Russian exposure is significantly negatively related to returns during the *Outbreak* period. More interestingly, however, disclosing about Russian activities turned out to be costly, with more transparent firms experiencing significantly more negative returns during each of the *BuildUp*, *Outbreak*, and *Continuation* periods, even after controlling for the economic materiality of firms' exposures. Lastly, ESG scores offered no protection after the outbreak of the war, with ESG scores negatively or insignificantly affecting returns during each of the *Outbreak* and *Continuation* periods. Economically speaking, a one standard deviation increase in Russian exposure, disclosure, and Refinitiv ESG score is respectively associated with an additional 32%, 19%, and 20% decrease over the mean daily returns of -1.07% during the *Outbreak* period.

Our results add to a growing literature on the usefulness of ESG scores and the correlation between purported signals of socially responsible business and actual corporate behavior (Raghunandan & Rajgopal, 2021; Kim & Yoon, 2022), to a literature investigating ESG as a share price resilience factor in times of crisis (Lins, Servaes, & Tamayo, 2017; Albuquerque, Koskinen, Yang, & Zhang, 2020; Demers, Hendrikse, Joos, & Lev, 2021) and to recent studies investigating the economic consequences of the Russian invasion of Ukraine (Sonnenfeld et al, 2022; Deng et al., 2022; Lu & Huang, 2022). We add to these studies by undertaking a comprehensive analysis of the usefulness of ESG ratings in assessing the actual ESG performance and risks of an economically meaningful set of firms operating in countries most likely exposed to the Russian invasion. We show that more highly rated firms do not "walk the talk" and that investors in more socially responsible firms were not better informed about firms' Russian operations nor better protected against the fallout of the invasion. Our results are robust to using data from 7 different ESG ratings providers.

This article proceeds as follows: Section 2 discusses data and methodology, Section 3 presents empirical results, and we discuss the practical implications of our findings in Section 4.

2. Data and methodology

We collect data on Russian activities, pre-invasion Russia-related disclosures, ESG scores, and several market and financial variables for all Stoxx 600 firms. To construct the dataset, we first determine whether and to what extent each firm is directly exposed to Russia. Given that many firms are not transparent about the specifics of their activities in particular countries, we take a comprehensive approach by searching 1) pre- and post-invasion annual and quarterly filings, 2) corporate website/social media disclosures, 3) Factiva for [“firm name” AND (Russia* OR Ukrain*)], and 4) the Yale SOM list (Sonnenfeld et al., 2022). While we cannot preclude the possibility that some firms with comparatively small Russian activities fly under the radar, our approach identifies all firms for which Russian exposure is material, those with immaterial activities that voluntarily disclosed their Russian exposure, and those firms that did not disclose voluntarily but were identified by insiders, journalists, or through crowdsourcing as having Russian activities. In short, we have cast a wide and comprehensive net to identify firms with Russian exposure.

Our study relies on four core variables. First, using Factiva searches, the Yale SOM list, and post-invasion corporate disclosures, we collect the extent of Russian exposure as a percentage of total sales, assets, net income, and/or employees. Specifically, we define a firm’s *RussiaExposure* as the largest of their percentage of direct Russia-related sales, assets, net income, or employees.⁸ Second, we rely on the same sources to identify the corporate response to the invasion. We define *WithdrawSuspend* as an indicator taking the value of one for firms taking meaningful action through the suspension or divestment of Russian activities and *DaysWithdrawSuspend* as the number of days from the start of the invasion until the firm announced meaningful action. Third, we search pre-invasion sustainability and annual reports for Russia-related keyword hits.⁹ We define *RussiaDisclosure* as zero if there are no pre-invasion

⁸ We take the maximum percentage of the activity measures because firms have an incentive to understate the extent to which they are involved in Russia. Our results are not sensitive to instead using the mean of Russia-related sales, assets, net income, and employees.

⁹ Russia-related keyword hits are: russia*, ruble*, belarus*, CIS, and “commonwealth of independent states”.

disclosures, one if Russian activities are only disclosed through the list of consolidated subsidiaries, two if there are further qualitative disclosures, three if there are explicit quantitative disclosures relating to Russian sales, assets, taxes paid, employees, or net income, and four if there is full disclosure.¹⁰ Fourth, we collect data on firms' ESG performance and risk scores from Refinitiv EIKON, Bloomberg, Sustainalytics, MSCI, RobecoSAM, ISS, CDP, and we also calculate a normalized firm-specific average of the 7 ESG scores (*AverageESG*). Our analyses include a host of firm and filing characteristics, Fama-French and other market-based factors, and each continuous control variable is winsorized at the 1st and 99th percentile and defined in further detail in Appendix 1.

Table 1 presents descriptive statistics for our sample firms. The average Stoxx 600 firm has a *RussiaExposure* of 1.6%, mentions an average (median) of 10 (2) Russia-related keywords in its pre-invasion annual and sustainability reports, and has a Refinitiv ESG score of 69 (73). About 30% of Stoxx 600 firms had divested or suspended their operations in Russia as of June 10th (*WithdrawSuspend*)¹¹, and it took these firms an average of 19 (12) days to do so. Our sample firms have average (median) sales of \$18 (\$6) billion, cash holdings of 13% (10%) of total assets, and ROA of 7.5% (6.5%). Out of several ESG reporting standards, GRI standards are the most heavily referenced in pre-invasion filings, with an average of 52 (13) GRI-related keyword hits. We investigate below whether the GRI "double-materiality" perspective translates into meaningfully more informative disclosures to stakeholders about firms' Russian exposures.

Not all Stoxx firms and countries are equally exposed to Russia. The map in Figure 1 shows the average firm's Russian exposure based on country of headquarters. Russian exposure is roughly proportional to the geographic proximity of the firm's headquarters country, with firms from Finland, Poland, Austria, Denmark, and Italy facing the largest average *RussiaExposure*, while Portuguese, Belgian, British, and Spanish firms are comparatively less exposed. The radar chart in Figure 2 further shows normalized average Russian exposure and disclosure for each GICS sector. Firms operating in the consumer staples, consumer

¹⁰ We define full disclosure as whether a financial statement user can reasonably grasp the full extent and implications of Russian activities. Our results are not sensitive to instead using the number of Russia-related keyword hits, or the total word count of sentences mentioning any of the Russia-related keywords.

¹¹ We tracked corporate response until June 10th, giving firms over 100 days since the start of the invasion on February 24th to divest or suspend their Russian operations.

discretionary, energy, and materials industries are those most exposed, whereas financial firms and communication services are those least exposed. Transparency about Russian activities is highest for energy firms, while exposed firms operating in the consumer staples, discretionary, and materials industries are much less forthcoming about their Russian activities.

3. Empirical Results

3.1 ESG Scores, Pre-Invasion Russian Exposure, and Disclosure

To assess whether highly rated ESG firms are truly more caring about the societal impact of their operations, we start our analyses by investigating whether allegedly more socially responsible firms are less likely to operate in Russia in the first place. Figure 3 compares ESG scores from 7 different rating providers for firms with and without Russian exposure. The results are clear: None of the ESG rating providers assigned meaningfully *lower* ESG scores to firms with Russian exposure, while five ratings providers assigned substantially *higher* ESG scores to the group of firms with Russian activities. Even more strikingly, and regardless of Russia's dire track record on social and human rights issues, Figure 3 shows that Refinitiv assigned over 15% higher Social, and almost 30% higher Human Right scores to Stoxx 600 firms operating in Russia.

There are two caveats to such an analysis. First, ESG scores are highly correlated with firm size, resource availability, and sustainability disclosures (Drempetic, Klein, & Zwergel, 2020), while larger firms with more resources likely also have more geographically dispersed operations. Our inferences may thus be altered if controlling for these omitted variables. Second, the correlation between ESG scores from different ratings providers is just 0.54 (Berg et al., 2022), and the wisdom of several ESG rating providers combined may be more informative to the assessment of firms' ESG performance and risk. To address these concerns, we estimate multivariate logistic regressions to assess whether ESG scores (and alternatively, each of Social and Human Rights scores) are associated with firms' propensities to operate in Russia. Table 2 shows that, after controlling for a host of firm characteristics, including firm size, cash holdings, profitability, as well as the length of corporate annual and sustainability reports, the extent of alignment with sustainability standards, and industry and headquarter country fixed effects, Refinitiv's ESG, Social, and Human Right scores, as well as CDP's Integrated Performance

score and an average score that combines data from all ratings providers (*AverageESG*), are all *incrementally higher* for firms with Russian operations. These analyses thus indicate that neither of the 7 ESG ratings providers, not even when relying on the more specific Social or Human Right scores, captured the corruption, human rights, or corporate governance issues that stem from operations in Russia, despite the fact that country-level data related to corruption and human rights abuses are widely and publicly available (e.g Kaufmann et al., 2010).¹²

In our next set of analyses, we assess whether ESG scores offer any incremental power in explaining the usefulness and extent of firms' transparency about their Russian dealings. Are more highly rated ESG firms more fully informing investors and other stakeholders about their Russian exposure and the resulting risks? Table 3 shows that firms with higher ESG scores do not have higher *RussiaDisclosure*.¹³ Instead, the materiality of Russian exposure (*RussiaExposure*), the length of the annual and CSR report (*ARCSRWordCount*), as well as firm size are each significantly positively related to *RussiaDisclosure*. The results also show that variables capturing the extent of the firm's reporting alignment with any of the GRI, SASB, TCFD, CDP, or Integrated Reporting standards are all insignificant determinants of *RussiaDisclosure*. While operating in a country that is well-known for its human rights and other social issues raises (double-) materiality concerns, firms using GRI's double-materiality or SASB's financial materiality standards were not incrementally transparent.

3.2 Firm Response to the Invasion

Since the start of the invasion, the Russian army has committed numerous atrocious crimes against humanity. From the Bucha massacre, to the indiscriminate mass shelling of civilian buildings, to the deportation of Ukrainian nationals, each shows an utter disregard for human rights and dignity, taking place right in the "backyard" of our European sample firms' country of headquarters and primary locations of operation. This puts socially responsible business to the test: Are allegedly more responsible firms faster and more likely to take meaningful action in response to these atrocities?

¹² In untabulated analyses, we find that these inferences are unchanged when using a continuous variable *RussiaExposure* instead as the dependent variable in our linear regressions.

¹³ To mitigate concerns surrounding the measurement of the *RussiaDisclosure* variable, we instead estimate linear regressions with the number of Russia-related keyword hits (*RussiaHits*) as the dependent variable. Our inferences are unchanged.

Table 4 and 5 show the results from estimating logistic regressions with an indicator taking the value of one if a firm was identified as having suspended or divested their Russian operations, and of Cox proportional hazard models estimating the determinants of the speed with which firms are announcing such actions. Next to the financial and filing controls included in the previous analyses, this set of results controls for firms' prior year market-based performance (*Momentum*). The results show that both the decision as to withdraw or suspend Russian activities, as well as the speed with which firms announce such decisions, are significantly positively related to a firm's financial position. More specifically, *Size* and *Cash* are significant determinants of both the probability and the speed of withdrawal or suspension, while return on assets is a significant positive determinant of the speed of withdrawal or suspension only. In other words, the results show that larger, more liquid, and more profitable firms are more likely, and also quicker, to meaningfully distance themselves from Russia after February 24th, 2022. However, above and beyond such financial factors, ESG scores are not incrementally informative about either the likelihood, or the speed, of withdrawal or suspension. Focusing on the extent to which firms are aligned with ESG reporting standards, we find that those more closely aligned with SASB standards are faster and more likely to take meaningful action. This finding suggests that SASB adopters more readily identified (and acted upon) the financially material ESG risks associated with their Russia exposure. Overall, these analyses suggest that, when firms are facing a real ESG crisis, financial rather than social considerations are driving meaningful action.

3.3 Capital Market Consequences

In our last set of analyses, we turn to the capital market consequences of firms' Russian exposure, the extent of disclosure of such exposure, and ESG scores. In a first step to assess investor response to the invasion, we construct three long-short portfolios. First, we take long positions in firms with Russian exposure and short positions in firms without Russian exposure. Second, we construct firm exposure quartiles, and within each exposure quartile we take long positions in firms that have a *RussiaDisclosure* score > 1 and short positions in firms that have a score of one or zero. In other words, this portfolio goes long in those firms that made at least qualitative disclosures about their Russian activities and short in firms that made no pre-invasion disclosures or only disclosed Russia exposure through the list of consolidated subsidiaries. The

third long-short portfolio takes long positions in firms with top quartile and short positions in firms with bottom quartile ESG scores, based on *AverageESG*.

Figure 4 shows the performance of each of the three portfolios from January 1st to March 31st 2022, where the dotted vertical line represents the outbreak of the war on February 24th. While the hedge returns of each portfolio were positive in the first few weeks of 2022, each of the three portfolios substantially dropped in value after February 24th, with the drop in value of the Russia exposure portfolio being the most pronounced. However, it is noteworthy that, when controlling for Russia exposure, those firms with more pre-invasion *disclosures* generated incrementally lower returns than their counterparts with less disclosure, indicating that more transparency is costly. Moreover, the hedge returns suggest that investing in highly rated ESG companies offered little protection after the outbreak of the war.

To further substantiate the effect of each of the *RussiaExposure*, *RussiaDisclosure*, and ESG scores during various stages of the Russian invasion, we follow Deng et al. (2022) and split our sample into three periods: *BuildUp*, *Outbreak*, and *Continuation*. We define each of the three periods based on public attention to the war using Google Trends data for “Ukraine” keyword searches. Figure 5 shows that the first persistent uptick in attention to Ukraine was in the weekend of February 12th, while attention peaked on February 24th and was back to less than a quarter of the peak attention on March 7th. We therefore start the build-up period on Monday February 14th, the outbreak period on Thursday February 24th, and the continuation period on Monday March 7th.¹⁴

Table 6 presents results of regressing daily raw returns on *RussiaExposure*, *RussiaDisclosure*, several variants of ESG scores, and the interactions of these variables with each of the *BuildUp*, *Outbreak*, and *Continuation* periods.¹⁵ Next to the controls used in prior analyses, these regressions control for market-based measures of risk. The results show that each of *RussiaExposure* and *RussiaDisclosure* is significantly negatively related to daily returns in the *Outbreak* period, while ESG scores are significantly negatively or insignificantly related to

¹⁴ Our inferences are unchanged if rather using the exact same time periods as Deng et al. (2022), who start the definition of each period from a key events perspective.

¹⁵ Our inferences are robust to instead using daily abnormal (market-model adjusted) returns as the dependent variable. In addition, to mitigate multicollinearity concerns, these inferences are robust to instead entering each of the exposure, disclosure, and ESG interactions separately.

returns in this period shortly after the outbreak of the war. In addition, both *RussiaDisclosure* and *ESGScore* are mostly significantly negatively related to returns in the *Continuation* period. Economically speaking, a one standard deviation increase in Russian exposure, disclosure, and ESG scores is respectively associated with an additional 32%, 19%, and 20% decrease over the mean daily returns of -1.07% during the *Outbreak* period.

These results imply that, from a capital markets perspective, the risks of operating in Russia turned out to be material. Investing in firms exposed to Russia is costly for investors, with those investing in more transparent firms facing additional losses. In line with prior findings on ESG during times of crisis (Demers et al., 2021), and early work on the Russian invasion of Ukraine (Deng et al., 2022), we find that ESG scores offered no protection after the outbreak of the war.

4. Implications

We use the Russian invasion of Ukraine as a revelation of the usefulness of ESG ratings to assess actual responsible corporate behavior. Our findings are threefold. First, we find that more highly rated ESG firms were not less likely to operate in Russia nor more likely to meaningfully inform investors about such activities. Second, in response to the Western outrage about the atrocities committed by Russia, many firms scrambled to suspend or divest their Russian operations, but those firms that are alleged to be more socially responsible were neither quicker, nor more likely, to announce such actions. Third, we find that, from an investor perspective, both the materiality of firms' Russian exposure and the extent of disclosure about such exposure negatively impacted returns after the outbreak of the war, while investing in more highly rated ESG firms did not offer any protection.

While we focus on the Russian invasion of Ukraine, ESG performance issues and material risks stemming from firms' international operations and affiliations are not unique to operating in Russia. For example, Volkswagen's largest shareholders are pressuring management to address allegations of human rights abuses in Xinjiang, China (Miller, 2022), while corporate sponsors are facing critical decisions about whether to be affiliated with golf players contributing to Saudi Arabia's "sportswashing", or with the World Cup in Qatar (Agini, 2022; Panja 2022).

As such, our findings have several practical implications. First, we show that ESG rating agencies have failed to adequately incorporate measures of country-level corruption and human rights violations into firm-specific ESG scores (much less their “social” or “human rights” scores), despite the fact that reliable country-specific measures of these anti-social behaviors and associated risks are readily available. Absent the inclusion and proper weighting of such metrics, ESG ratings summary and sub-scores are uninformative about the sustainability performance and material ESG risks stemming from firms’ international operations, even though the latter are important considerations for sustainable investors and other stakeholders.

Second, our findings have implications for policymakers. On February 23rd 2022, just one day before the Russian invasion, the European Commission launched a proposal for the Directive on Corporate Sustainability Due Diligence (“CSDDD”) to foster sustainable and responsible corporate behavior. More specifically, the CSDDD aims to anchor human rights and environmental considerations in firms’ governance and operations across their value chains. Our findings that more highly rated ESG firms did not incrementally inform investors about their Russian exposure in annual or sustainability reports, and that such lack of disclosure may even pay off from an investor perspective, are informative to policymakers and support the need for such regulation. In addition, the newly established ISSB and the US SEC may consider implementing disclosures about ESG performance issues and risks stemming from firms’ international operations.

Taken together, our results indicate that investing in highly rated ESG firms may be an exercise in futility as such firms are neither more likely to exert real socially responsible behavior, nor are their shareholders better protected against the stock market fallout after an important geopolitical shock.

Appendix 1: Variable Definitions

Variable	Definition	Data Source
ARCSRWordCount	The log-transformed word count of the CSR and annual report.	Pre-invasion annual and sustainability reports
AverageESG	The normalized average ESG Score of the 7 rating providers used in the study.	Refinitiv EIKON, Bloomberg Terminal
BTM	BVE / MVE	Worldscope
Cash	Cash / AT	Worldscope
CDPHits	The log-transformed number of CDP hits.	Pre-invasion annual and sustainability reports
ESGScore	Refinitiv EIKON ESG Score, Bloomberg ESG Disclosure Score, MSCI ESG Rating, RobecoSAM Total Sustainability Rank, Sustainalytics ESG Risk, ISS Quality Score, or CDP Integrated Performance Score.	Refinitiv EIKON, Bloomberg Terminal
ExposureDummy	A dummy variable taking the value of one if a firm is identified as having Russian exposure.	Pre- and post-invasion corporate filings and disclosures, Factiva, Yale list
Four Factor Loadings	Loadings on Fama-French MKTRF, SMB, HML, and MOM factors. All factors are for European firms and loadings are obtained by regressing firm-specific returns on Fama-French's four factors using calendar year 2021 as the estimation window.	Kenneth French's website, Datastream
GRIHits	The log-transformed number of GRI keyword hits.	Pre-invasion annual and sustainability reports
IntegratedHits	The log-transformed number of "IIRC" and "integrated report" hits.	Pre-invasion annual and sustainability reports
Leverage	Total debt / AT	Worldscope
Momentum	Raw 2021 buy-and-hold return	Datastream

NSegments	Number of SIC Codes	Worldscope
RawReturn	Daily raw returns for the period January-April 2022.	Datastream
RDIntensity	R&D expenses / AT	Worldscope
ROA	Operating income / AT	Worldscope
RussiaDisclosure	Takes the value of zero if no Russia-related disclosures, 1 if subsidiary disclosure, 2 if qualitative disclosures, 3 if quantitative disclosures, and 4 if full disclosure.	Pre-invasion annual and sustainability reports
RussiaExposure	The largest of the percentage of Russian sales, assets, employees, or net income. Estimated as the industry-size tercile mean exposure if missing. Log-transformed.	Post-invasion filings, Factiva searches
RussiaHits	The log-transformed number of Russia-related keyword hits. Russia-related keywords are: russia*, ruble*, belarus*, CIS, “commonwealth of independent states”.	Pre-invasion annual and sustainability reports
RussiaWordCount	The log-transformed word count of sentences related to Russian activities.	Pre-invasion annual and sustainability reports
SASBHits	The log-transformed number of SASB keyword hits.	Pre-invasion annual and sustainability reports
Size	Log-transformed sales	Worldscope
TCFDHits	The log-transformed number of TCFD keyword hits.	Pre-invasion annual and sustainability reports
WithdrawSuspend	A dummy variable taking the value of one if a firm has suspended its Russian operations or fully withdrawn.	Pre- and post-invasion corporate filings and disclosures, Factiva, Yale list

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Figure 1: Average Firm-level Russia Exposure by Country of Headquarters

Figure 1 shows the average Stoxx 600 firms' *RussiaExposure* for each country of headquarters. *RussiaExposure* is defined as the largest of the firm-specific percentage of Russia-related sales, assets, net income, or employees, and the average is calculated over all Stoxx 600 firms headquartered in each country. Darker blue colors indicate higher average exposure.

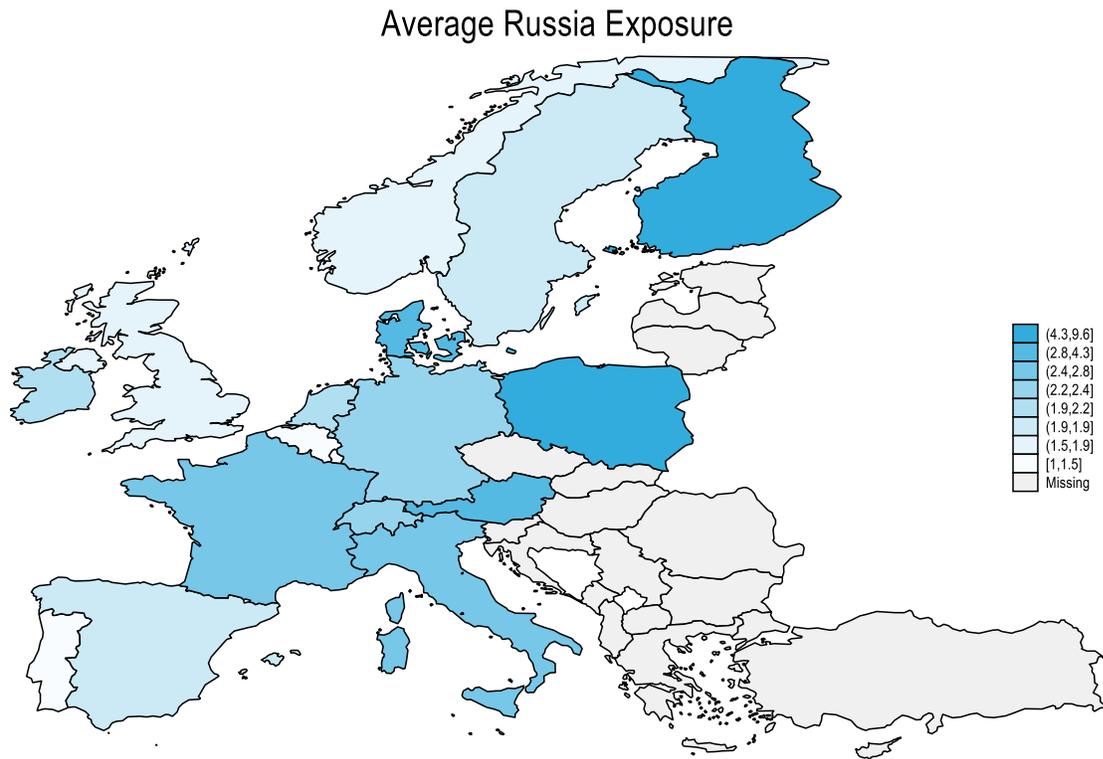


Figure 2: Russia Exposure and Pre-Invasion Disclosures by Industry

Figure 2 shows the average *RussiaExposure* and *RussiaDisclosure* by GICS sector. *RussiaExposure* is defined as the largest of the firm-specific percentage of Russia-related sales, assets, net income, or employees. *RussiaDisclosure* is coded as 0 if no disclosure, 1 if mention of Russian subsidiary, 2 if qualitative disclosures, 3 if quantitative disclosures, and 4 if full disclosure. In Figure 2, *RussiaExposure* and *RussiaDisclosure* are normalized, where the red line represents the normalized average industry exposure and the blue line represents the normalized average industry disclosure for the firms identified as having exposure.

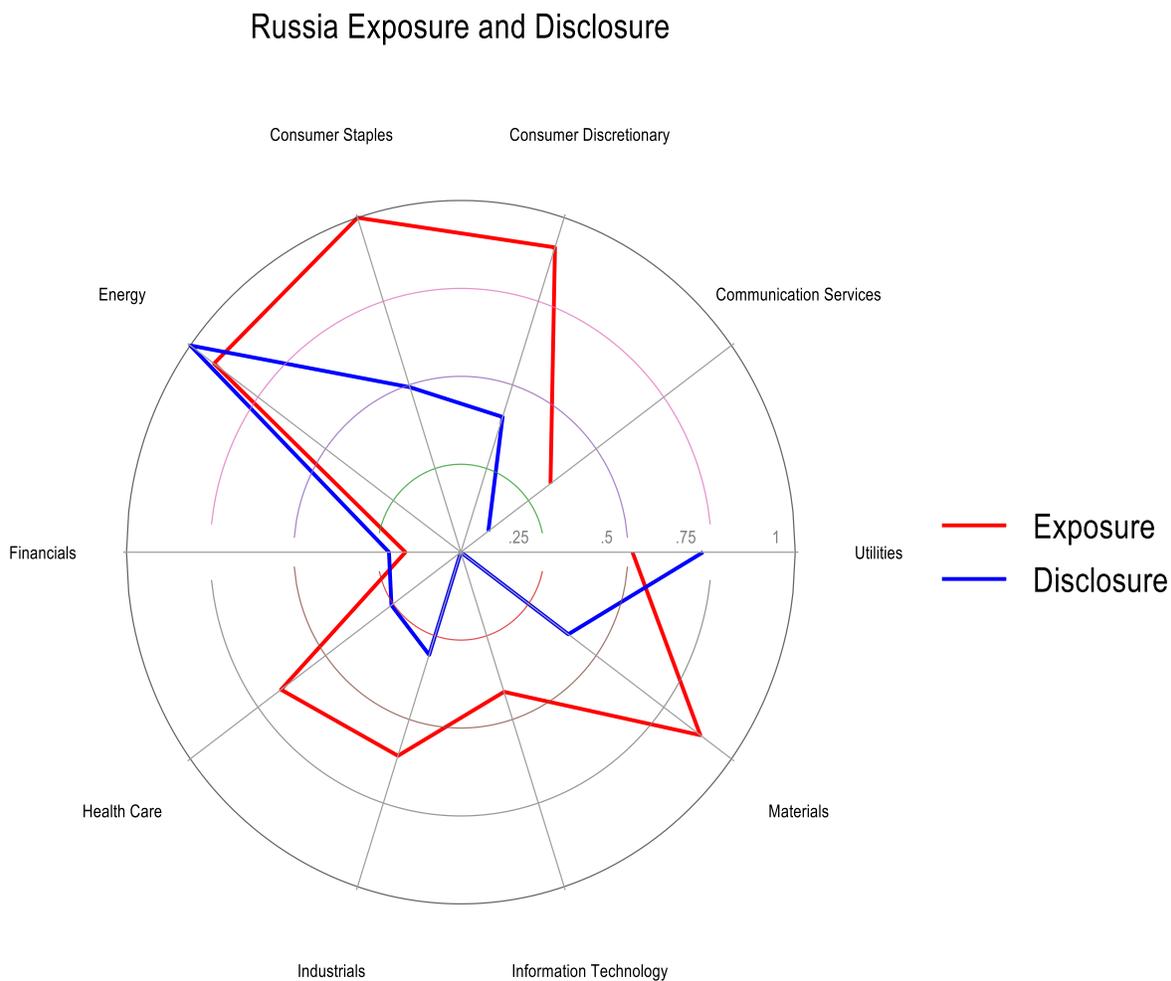


Figure 3: ESG Scores Comparison Exposure vs No Exposure

Figure 3 shows average normalized ESG scores for firms identified as having direct Russia exposure (Orange) and firms identified as not having direct Russia exposure (Blue) for each of the ESG scores and subcomponents used in our analyses.

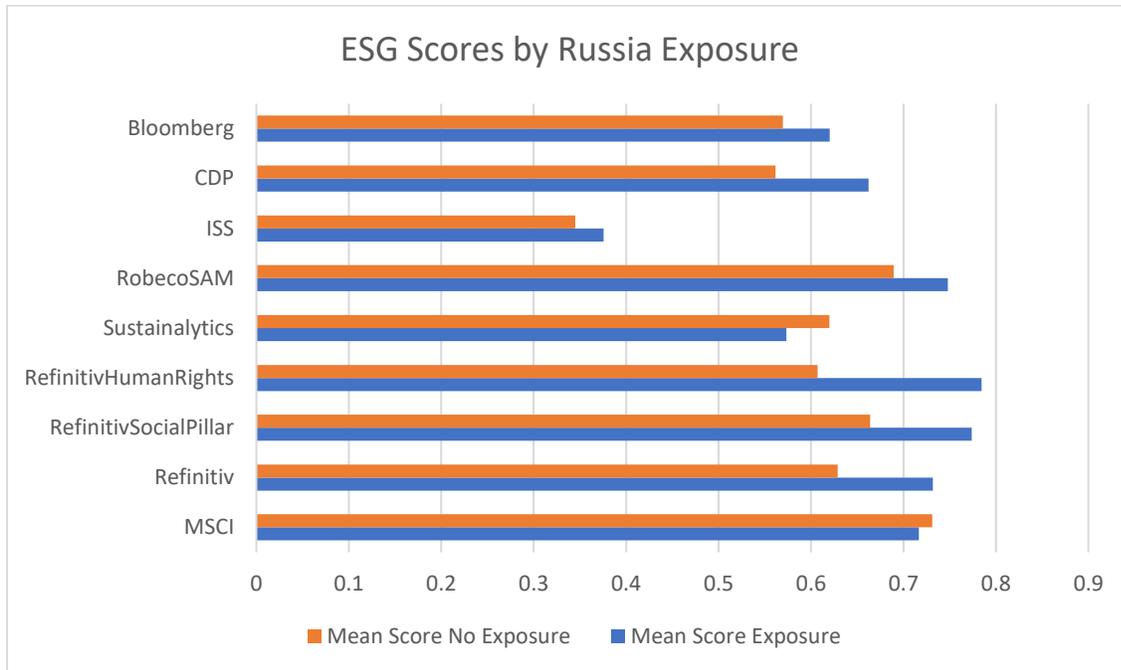


Figure 4: Hedge Returns Exposure, Disclosure, and ESG

Figure 4 presents raw hedge returns for long-short strategies based on ESG, Russia-related disclosures, and Russian exposure. The blue line represents long-short returns of going long in top quartile ESG firms and short in bottom quartile ESG firms based on *AverageESG*. The orange line represents returns of going long in firms with Russian exposure and short in firms without Russian exposure, and the green line represents returns of going long in firms with *RussiaDisclosure* > 1 within *RussiaExposure* quartiles and short in firms with *RussiaDisclosure* ≤ 1 within the same *RussiaExposure* quartile (no disclosure or only mandatory consolidated subsidiary disclosure).

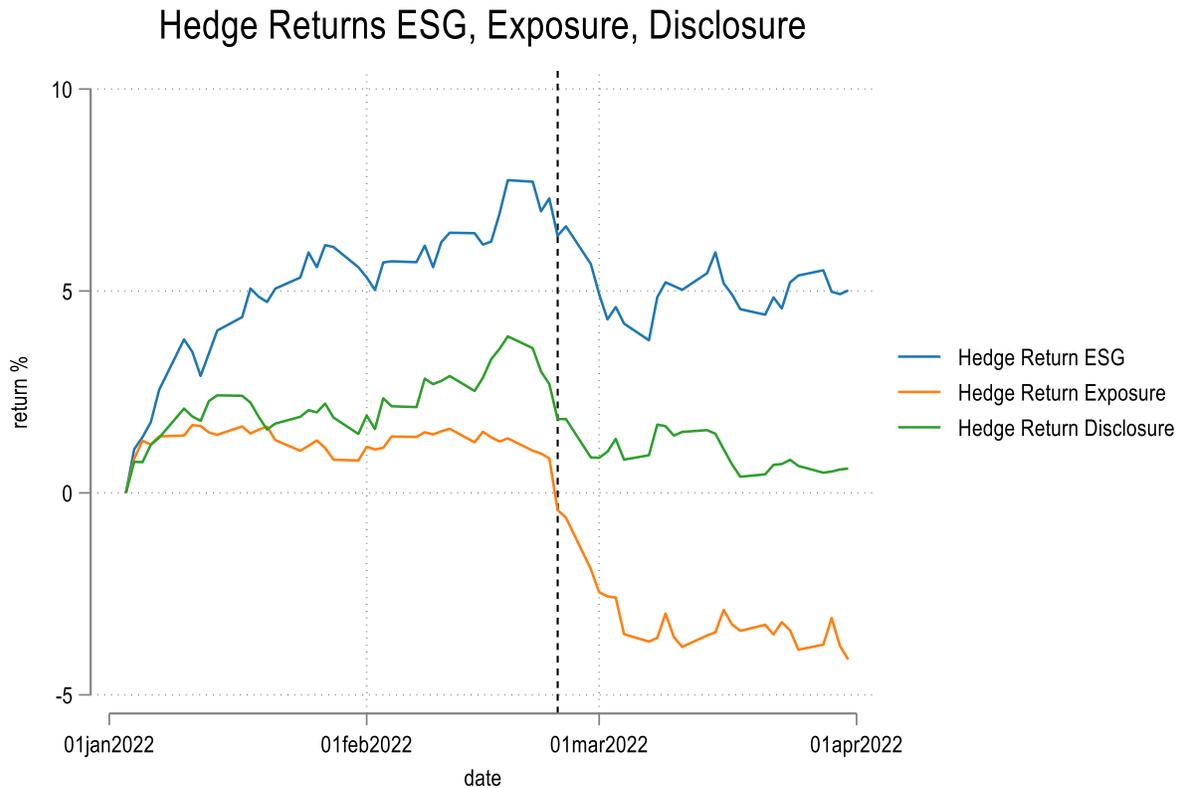


Figure 5: Google Trends Attention to Ukraine

Figure 5 represents Google Trend data for the keyword “Ukraine”. The dotted vertical lines represent the start and end dates for each of the *BuildUp*, *Outbreak*, and *Continuation* periods used in the Table 6 regression analyses.

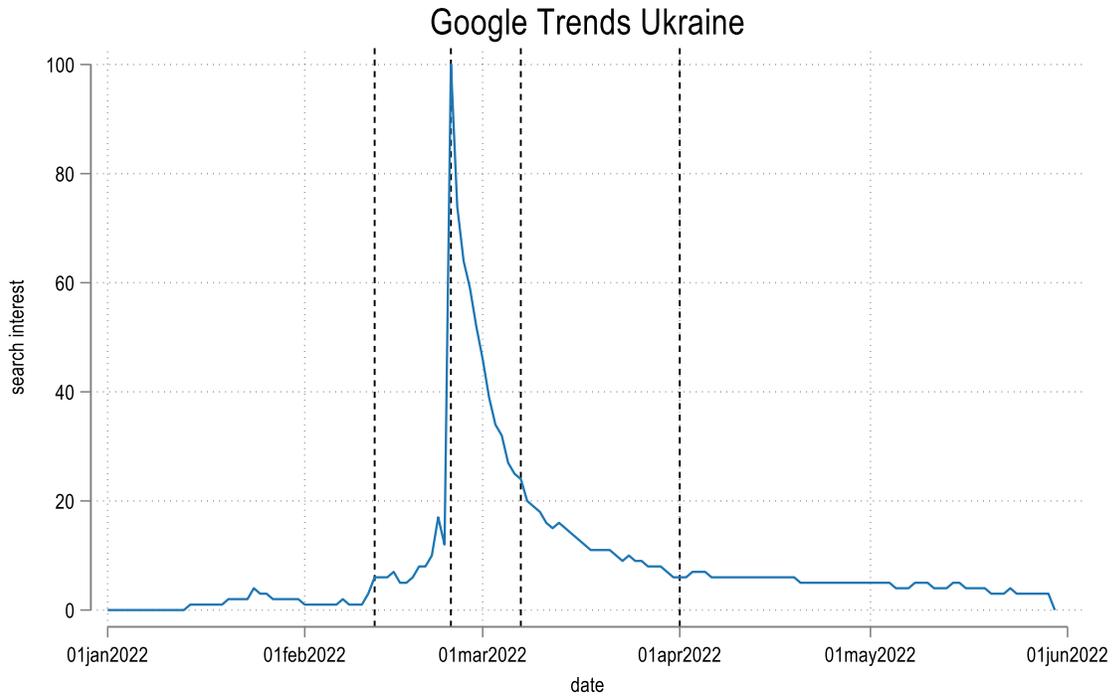


Table 1: Descriptive Statistics

Table 1 presents descriptive statistics for our sample firms. Log-transformed variables are exponentiated for ease of interpretation. All continuous control variables winsorized at the 1st and 99th percentile. All variables are defined in detail in the Variable Definitions Appendix

	N	Mean	p25	Median	p75	Std. Dev.
RussiaExposure	591	1.6	0.00	.27	1.36	5.32
ExposureDummy	591	.59	0.00	1	1	.49
RussiaHits	591	9.72	0.00	2	7	31.69
RussiaDisclosure	591	1.09	0.00	0	2	1.31
ESGScore	591	69.34	60.41	72.5	80.98	15.89
WithdrawSuspend	591	.3	0.00	0	1	.46
DaysWithdrawSuspend	169	19.16	7.00	12	20	19.93
Momentum	591	24.73	2.78	20.69	41.53	31.8
Analyst	591	16.61	12.00	17	22	6.8
NSegments	591	4.33	2.00	4	6	2.38
Cash	591	.13	0.05	.1	.17	.11
ROA	591	7.5	1.93	6.49	10.59	7.62
Leverage	591	.26	0.15	.25	.36	.15
RDIntensity	591	.01	0.00	0	.01	.03
BTM	591	.54	0.18	.38	.73	.5
Size	591	17770.1	2252.09	6024.79	19632.07	29874.61
ARCSRWordCount	591	155788.65	98114.00	135346.95	194790.98	81793.69
GRIHits	591	52.29	0.00	13	61	89.14
SASBHits	591	4.4	0.00	0	5	9.39
TCFDHits	591	11.37	0.00	7	17	13.9
IntegratedHits	591	6.76	0.00	0	0	32.03
CDPHits	591	6.25	0.00	3	8	8.85

Table 2: Russia Exposure Logistic Regressions

Table 2 presents results of regressing *ExposureDummy*, a variable taking the value of one if a firm is identified as having Russian exposure, on ESG scores, firm financials, filing controls, and industry and country FE. All continuous control variables winsorized at the 1st and 99th percentile. All variables are defined in detail in the Variable Definitions Appendix.

DV = ExposureDummy	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Refinitiv ESG Score	Refinitiv Social Pillar	Refinitiv Human Rights	Bloomberg	Sustainalytic	MSCI	RobecoSAM	CDP	ISS	AverageESG
ESGScore	.0186** (.0092)	.0158** (.0075)	.017*** (.0047)	.004 (.0178)	-.0043 (.0204)	.0084 (.1478)	.0066 (.0068)	.1526** (.061)	.0585 (.043)	2.5185** (1.1481)
NSegments	.0979* (.0527)	.0949* (.0528)	.0877 (.0534)	.1943*** (.0664)	.117** (.0525)	.1148* (.0672)	.1117** (.0523)	.11** (.0536)	.1161** (.0536)	.1033** (.0523)
Cash	-1.4367 (1.0688)	-1.3383 (1.067)	-1.097 (1.0727)	-2.2697 (1.4345)	-1.9986* (1.1077)	-1.7346 (1.4304)	-1.4081 (1.0785)	-1.6861 (1.159)	-2.4592** (1.1596)	-1.2347 (1.0725)
ROA	-.0021 (.0161)	-.0028 (.0162)	-.0034 (.0166)	.0026 (.0202)	.0055 (.0163)	.0021 (.0213)	.0003 (.0161)	.0075 (.0174)	.0067 (.0167)	-.0014 (.0161)
Leverage	.0919 (.8104)	.0741 (.811)	-.1053 (.8259)	.6729 (1.0306)	.2065 (.8115)	.6989 (.9891)	.1783 (.8072)	.3796 (.8554)	.3618 (.8398)	.0949 (.81)
RDIntensity	14.5906** (5.8102)	14.2139** (5.7953)	14.8952** (5.797)	19.955*** (6.8648)	17.5958*** (5.9816)	25.3683*** (8.8377)	15.3836*** (5.8608)	17.2996*** (5.967)	18.0582*** (5.9879)	15.1406*** (5.7895)
BTM	-.4371 (.2902)	-.4372 (.2894)	-.4441 (.2905)	-.5069 (.3716)	-.4439 (.2982)	-.432 (.3568)	-.4337 (.2905)	-.6388** (.3071)	-.4147 (.3063)	-.4027 (.2901)
Size	.5253*** (.1206)	.5367*** (.1192)	.4894*** (.1203)	.5168*** (.1524)	.5675*** (.1175)	.5817*** (.1457)	.5604*** (.1177)	.4818*** (.1241)	.6129*** (.1229)	.5348*** (.1189)
ARCSRWordCount	.139 (.4008)	.1747 (.3945)	.2638 (.3928)	.5759 (.4933)	.5523 (.3923)	.3345 (.4721)	.3321 (.3928)	.8204* (.4367)	.624 (.4139)	.2517 (.391)
GRIHits	.0382 (.0838)	.0454 (.0833)	.054 (.0835)	-.0144 (.1062)	.0698 (.0824)	.0786 (.1044)	.0586 (.0835)	.0495 (.0854)	.0028 (.0853)	.0368 (.0836)
SASBHits	-.035 (.1189)	-.0519 (.1192)	-.0457 (.1206)	-.0979 (.1441)	-.0415 (.1197)	-.1189 (.146)	-.0565 (.1188)	-.0536 (.1217)	-.0042 (.1219)	-.0519 (.1189)
TCFDHits	-.1319 (.129)	-.1302 (.1289)	-.1389 (.1297)	-.1148 (.1555)	-.1128 (.1298)	.0059 (.1726)	-.1373 (.1292)	-.1935 (.1359)	-.1359 (.1327)	-.1614 (.1295)
IntegratedHits	-.0942 (.1106)	-.0926 (.1103)	-.0872 (.1101)	.0636 (.1526)	-.0963 (.1112)	-.0883 (.1256)	-.0796 (.11)	-.1259 (.1146)	-.0842 (.1144)	-.092 (.1103)
CDPHits	.0633 (.1211)	.0629 (.1213)	.0248 (.1225)	.1355 (.1495)	.0736 (.1217)	.1225 (.1531)	.0751 (.1206)	-.0568 (.1397)	.1029 (.1246)	.0206 (.1236)

_cons	-10.5797**	-10.9866**	-11.213***	-15.3211***	-15.0654***	-13.3249**	-12.7513***	-17.2815***	-16.7192***	-12.2702***
	(4.4102)	(4.3431)	(4.3367)	(5.3301)	(4.3639)	(5.4149)	(4.3234)	(4.7037)	(4.599)	(4.2659)
Observations	583	583	583	393	579	414	581	561	560	583
Pseudo R ²	.2895	.29	.3017	.3095	.2915	.2894	.2869	.303	.3063	.2905
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 3: Russia Disclosure Ordered Logistic Regressions

Table 3 presents results of regressing *RussiaDisclosure* on several variants of ESG Scores, firm financials, and filing controls. Filing controls include the log-transformed length of the annual and sustainability report, and the log-transformed number of hits for GRI, SASB, TCFD, CDP, and Integrated Reporting keywords. *RussiaDisclosure* is defined as 0 if no disclosure, 1 if disclosure of Russian subsidiary, 2 if qualitative disclosures, 3 if quantitative disclosures, and 4 if full disclosure. The regression is estimated for the subset of firms identified as having exposure to Russia. All continuous control variables winsorized at the 1st and 99th percentile. All variables are defined in detail in the Variable Definitions Appendix.

DV = RussiaDisclosure	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Refinitiv ESG Score	Refinitiv Social Pillar	Refinitiv Human Rights	Bloomberg	Sustainalytic	MSCI	RobecoSAM	CDP	ISS	AverageESG
ESGScore	-.0133 (.0105)	-.0163* (.0088)	-.0039 (.0056)	-.0187 (.0186)	-.037* (.0207)	.1024 (.1278)	-.006 (.0076)	-.0128 (.0619)	-.0227 (.0424)	-1.4048 (1.186)
RussiaExposure	1.3686*** (.2269)	1.3629*** (.2262)	1.3608*** (.2271)	1.659*** (.3027)	1.3613*** (.227)	1.4299*** (.2634)	1.3736*** (.229)	1.3209*** (.228)	1.3623*** (.2327)	1.3815*** (.2283)
Analyst	.0012 (.0221)	.0015 (.0219)	-.0021 (.0218)	-.0174 (.0296)	-.0027 (.0219)	.0265 (.0274)	-.0019 (.022)	-.0057 (.0239)	-.0066 (.023)	.0016 (.0221)
NSegments	-.0509 (.0498)	-.0465 (.05)	-.0537 (.0497)	-.0443 (.069)	-.0653 (.0497)	-.0692 (.0585)	-.062 (.0497)	-.0611 (.0499)	-.0906* (.051)	-.0544 (.0496)
Cash	.9711 (1.3234)	.9973 (1.3242)	.9261 (1.3303)	1.1342 (1.7645)	1.2068 (1.377)	-.0628 (1.5906)	1.0838 (1.3356)	1.1145 (1.3918)	.7561 (1.4321)	.8901 (1.3241)
ROA	-.0086 (.0179)	-.0063 (.0179)	-.0087 (.0178)	-.0229 (.0218)	-.0109 (.0182)	-.0051 (.0221)	-.0113 (.0179)	-.0102 (.0182)	-.0111 (.0185)	-.0079 (.0179)
Leverage	.4737 (.8922)	.5973 (.8976)	.4137 (.8903)	-.1738 (1.1794)	.4053 (.8911)	.2956 (1.0363)	.4776 (.8932)	.3384 (.9032)	.4177 (.9197)	.4521 (.8907)
RDIntensity	-.785 (5.1124)	-.3674 (5.1033)	-1.4541 (5.052)	-4.3078 (6.7315)	-3.2205 (5.1083)	-3.0356 (5.7989)	-1.4577 (5.1049)	-2.4655 (5.074)	-1.5336 (5.0767)	-1.2583 (5.0505)
BTM	.2787 (.3098)	.2213 (.3126)	.3001 (.3077)	-.0886 (.3879)	.1635 (.318)	.4874 (.3942)	.2874 (.31)	.2712 (.3232)	.3379 (.3291)	.2478 (.3126)
Size	.3288** (.1342)	.3341** (.1316)	.2978** (.131)	.2744 (.1674)	.305** (.1296)	.2471 (.1521)	.3179** (.1317)	.3133** (.1346)	.3643*** (.1356)	.2998** (.1295)
ARCSRWordCount	1.4489*** (.4326)	1.5177*** (.4328)	1.3318*** (.4192)	1.6263*** (.5506)	1.2356*** (.424)	1.0832** (.4783)	1.2513*** (.4211)	1.1883*** (.4373)	.9619** (.4543)	1.3606*** (.4201)
GRIHits	.0688 (.0826)	.0658 (.081)	.0465 (.08)	.0186 (.1112)	.0427 (.0802)	-.1092 (.0944)	.0461 (.0816)	.0268 (.0811)	.0236 (.0828)	.0577 (.0808)
SASBHits	-.1695 (.12)	-.1566 (.1197)	-.1548 (.1194)	.0174 (.1503)	-.139 (.1199)	-.0232 (.1314)	-.1413 (.1196)	-.1369 (.12)	-.0995 (.1215)	-.1555 (.1196)

TCFDHits	-.0258 (.1228)	-.0382 (.1233)	-.0204 (.1225)	.1548 (.1552)	-.0228 (.1224)	.0874 (.1522)	-.0119 (.1229)	-.0169 (.1249)	-.0543 (.1258)	-.0161 (.1225)
IntegratedHits	.0642 (.1126)	.068 (.1126)	.0539 (.112)	-.0028 (.1435)	.074 (.1127)	.049 (.1231)	.0538 (.1126)	.0575 (.1146)	.068 (.1172)	.0654 (.1127)
CDPHits	-.149 (.1149)	-.1424 (.1151)	-.1489 (.1157)	-.2181 (.1567)	-.1487 (.115)	-.0675 (.1316)	-.1547 (.1147)	-.146 (.1303)	-.1567 (.1168)	-.1283 (.1181)
Observations	347	347	347	219	345	273	346	336	330	347
Pseudo R ²	.1946	.1964	.1936	.2476	.1955	.2047	.1955	.1853	.1931	.1944
Industry FE	YES									
Country FE	YES									

Standard errors are in parentheses

**** $p < .01$, ** $p < .05$, * $p < .1$*

Table 4: Withdraw or Suspend Logistic Regressions

Table 4 presents results of regressing *WithdrawSuspend* on several variants of ESG Scores, firm financials, and filing controls. Filing controls include the log-transformed length of the annual and sustainability report, and the log-transformed number of hits for GRI, SASB, TCFD, CDP, and Integrated Reporting keywords. *WithdrawSuspend* is a dummy variable taking the value of one if a firm has divested or suspended its operations in Russia. The regression is estimated for the subset of firms identified as having exposure to Russia. All continuous control variables winsorized at the 1st and 99th percentile. All variables are defined in detail in the Variable Definitions Appendix.

DV =	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
WithdrawSuspend	Refinitiv ESG Score	Refinitiv Social Pillar	Refinitiv Human Rights	Bloomberg	Sustainalytic	MSCI	RobecoSAM	CDP	ISS	AverageESG
ESGScore	.0078 (.0135)	.0137 (.0113)	-.0007 (.0073)	.0073 (.0254)	.0031 (.026)	.0629 (.1749)	.0135 (.0098)	.0571 (.0797)	-.0243 (.059)	.9513 (1.5458)
RussiaDisclosure	.0717 (.1441)	.0868 (.1449)	.0624 (.1434)	-.0502 (.1993)	.0376 (.1455)	.0958 (.1699)	.0531 (.1456)	.0438 (.1447)	.01 (.1488)	.0746 (.1447)
RussiaExposure	-.2551 (.2797)	-.2559 (.2796)	-.2468 (.2796)	-.1797 (.3847)	-.2421 (.2813)	-.1171 (.328)	-.2745 (.2824)	-.2168 (.2796)	-.2475 (.2872)	-.2615 (.2802)
Analyst	.0248 (.0291)	.0249 (.0289)	.0274 (.0288)	.0068 (.0406)	.0268 (.0288)	.0103 (.0364)	.024 (.0291)	.036 (.0321)	.0316 (.0309)	.0244 (.0292)
Momentum	-.0101** (.0051)	-.0104** (.0052)	-.0098* (.0051)	-.009 (.007)	-.01* (.0051)	-.0064 (.0059)	-.0096* (.0052)	-.0089* (.0052)	-.0066 (.0055)	-.0101** (.0051)
NSegments	.0471 (.0681)	.0419 (.0686)	.0494 (.0682)	.106 (.0938)	.0371 (.0688)	.0922 (.0809)	.0331 (.0688)	.0389 (.0691)	.0299 (.0719)	.0497 (.0681)
Cash	2.9546* (1.7618)	2.941* (1.7516)	2.9838* (1.7701)	4.2569* (2.3846)	3.1891* (1.8482)	4.1934* (2.2913)	3.3294* (1.8018)	3.3589* (1.8696)	3.0194 (1.9329)	3.0308* (1.7559)
ROA	.0392 (.0254)	.0381 (.0254)	.0378 (.0254)	.0283 (.0323)	.0356 (.0254)	.0531* (.031)	.0342 (.0253)	.0275 (.0257)	.0367 (.0264)	.0385 (.0254)
Leverage	-.8994 (1.2542)	-1.0196 (1.2616)	-.8373 (1.2543)	2.2505 (1.6416)	-.7674 (1.2511)	-2.467* (1.4734)	-.8716 (1.2578)	-1.134 (1.2796)	-.9088 (1.3057)	-.873 (1.2521)
RDIntensity	-1.6784 (7.6586)	-2.0422 (7.6232)	-.8977 (7.5765)	2.8595 (9.6358)	-1.392 (7.702)	-5.2791 (8.6336)	-2.9135 (7.6578)	-.528 (7.6986)	-.5955 (7.6525)	-1.2551 (7.5928)
BTM	.0227 (.3711)	.0694 (.3722)	.0148 (.3715)	-.5894 (.5028)	.0344 (.3849)	.2697 (.454)	.0613 (.3736)	.0435 (.3827)	.0086 (.3817)	.0449 (.3735)
Size	.3785** (.1686)	.3647** (.1662)	.4063** (.1671)	.6285*** (.2272)	.4224** (.1643)	.3731* (.1949)	.3839** (.1677)	.3366** (.1715)	.396** (.1743)	.3913** (.1644)
ARCSRWordCount	-.6087 (.5392)	-.7169 (.5451)	-.527 (.5209)	-1.4819*** (.7365)	-.6301 (.5349)	-.6108 (.6223)	-.7268 (.534)	-.4865 (.5573)	-.6908 (.5711)	-.5628 (.523)
GRIHits	-.1476	-.1509	-.1301	-.263*	-.1473	-.1154	-.1815	-.1246	-.102	-.1453

	(.1108)	(.1083)	(.1066)	(.1564)	(.1082)	(.1287)	(.1114)	(.1083)	(.1118)	(.1093)
SASBHits	.3082*	.3001*	.2996*	.1965	.3183**	.2965*	.3098**	.3062*	.3218**	.2988*
	(.1576)	(.1568)	(.1566)	(.2003)	(.1576)	(.1735)	(.1579)	(.1579)	(.1599)	(.1568)
TCFDHits	-.1849	-.1752	-.1868	.1654	-.19	-.3504*	-.2002	-.2229	-.1506	-.1888
	(.1651)	(.1659)	(.1648)	(.2179)	(.1655)	(.1995)	(.1674)	(.1679)	(.1715)	(.1653)
IntegratedHits	.1849	.1788	.1914	.1733	.1999	.1922	.2032	.1973	.2092	.183
	(.1407)	(.1408)	(.1403)	(.1764)	(.1409)	(.152)	(.1416)	(.1429)	(.145)	(.1409)
CDPHits	.0531	.0504	.0629	-.1525	.059	.1167	.0495	.0163	.0158	.0389
	(.1519)	(.1519)	(.1524)	(.2069)	(.1524)	(.1777)	(.1532)	(.1713)	(.1562)	(.156)
_cons	-.0002	1.1303	-.9996	-23.8721	.0468	-14.9955	.9833	-.6049	1.1276	-.8441
	(5.8472)	(5.875)	(5.6263)	(1852.2391)	(5.7374)	(1830.9153)	(5.7049)	(6.0181)	(6.0608)	(5.6039)
Observations	344	344	344	210	342	272	343	333	327	344
Pseudo R ²	.2813	.2837	.2806	.3028	.2833	.306	.289	.2785	.2905	.2814
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 5: Duration Analysis

Table 5 presents results of a Cox proportional hazard model for the number of days until a firm announces its withdrawal or suspension. The model is estimated for the subset of firms identified as having exposure to Russia. All continuous control variables winsorized at the 1st and 99th percentile. All variables are defined in detail in the Variable Definitions Appendix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Spell = DaysWithdrawSuspend	Refinitiv ESG Score	Refinitiv Social Pillar	Refinitiv Human Rights	Bloomberg	Sustainalytic	MSCI	RobecoSAM	CDP	ISS	AverageESG
ESGScore	.0002 (.0087)	.0039 (.007)	-.0025 (.0046)	-.012 (.0156)	.0087 (.0162)	.0957 (.099)	.0077 (.0063)	.0443 (.0529)	.0035 (.0348)	.6602 (.9608)
RussiaDisclosure	.0671 (.0904)	.0718 (.0906)	.0661 (.0906)	-.0239 (.1242)	.0444 (.0913)	.0479 (.0997)	.0455 (.0905)	.0464 (.0929)	.0132 (.094)	.0652 (.0902)
RussiaExposure	-.2316 (.151)	-.2333 (.1501)	-.2251 (.1518)	-.1758 (.2039)	-.2246 (.1503)	-.1603 (.185)	-.2508* (.1521)	-.2015 (.1512)	-.2303 (.1564)	-.2365 (.15)
Analyst	.0182 (.0185)	.0168 (.0184)	.0201 (.0185)	.0258 (.0227)	.0166 (.018)	.0046 (.0219)	.0128 (.0185)	.0215 (.0194)	.02 (.019)	.0152 (.0187)
Momentum	-.0038 (.0032)	-.0037 (.0032)	-.0036 (.0032)	-.0011 (.0042)	-.0037 (.0032)	-.0022 (.0036)	-.0033 (.0032)	-.0029 (.0032)	-.002 (.0034)	-.0038 (.0032)
NSegments	.0535 (.0414)	.0512 (.0414)	.0545 (.0414)	.0807 (.0551)	.0454 (.0414)	.0921* (.049)	.0432 (.0412)	.0488 (.0421)	.0472 (.0436)	.0522 (.0411)
Cash	2.9145*** (.985)	2.9386*** (.9898)	2.8684*** (.9856)	3.3104** (1.4677)	2.9206*** (1.0634)	4.2163*** (1.2764)	3.2434*** (.99)	3.0998*** (1.0786)	2.8416** (1.1173)	2.9895*** (1.0021)
ROA	.0251* (.0143)	.0247* (.0144)	.0243* (.0143)	.0181 (.0184)	.0247* (.0147)	.0349** (.0168)	.0229 (.0145)	.0205 (.015)	.0263* (.015)	.0247* (.0144)
Leverage	-.6221 (.7705)	-.6835 (.7626)	-.5499 (.7643)	1.4511 (1.0949)	-.5116 (.7564)	-1.3055 (.8372)	-.6409 (.7611)	-.7585 (.7868)	-.7421 (.8057)	-.6669 (.7563)
RDIntensity	-1.5973 (4.5929)	-1.6517 (4.5675)	-1.6911 (4.526)	4.1038 (6.5206)	-1.4642 (4.5724)	-4.5418 (5.0862)	-2.4011 (4.5516)	-.925 (4.6073)	-.976 (4.5809)	-1.9625 (4.5722)
BTM	-.0023 (.2527)	.023 (.2548)	-.0126 (.2514)	-.4507 (.3492)	.0355 (.2612)	.3013 (.2909)	.0552 (.2546)	.0202 (.2641)	.0011 (.2638)	.0278 (.2548)
Size	.3207*** (.1074)	.3062*** (.1047)	.3324*** (.1035)	.5639*** (.1454)	.3363*** (.1032)	.2836** (.1164)	.315*** (.1041)	.2774*** (.1065)	.339*** (.1092)	.3161*** (.1017)
ARCSRWordCount	-.3733 (.3599)	-.4216 (.3613)	-.3481 (.3522)	-.6542 (.4742)	-.402 (.3682)	-.6138 (.4107)	-.476 (.3533)	-.2488 (.3888)	-.364 (.4024)	-.3818 (.3504)
GRIHits	-.0803 (.0688)	-.0851 (.0669)	-.0804 (.0662)	-.2148** (.1004)	-.0987 (.0676)	-.0533 (.0757)	-.1059 (.068)	-.0734 (.0685)	-.066 (.0689)	-.089 (.0676)

SASBHits	.2661*** (.0953)	.2702*** (.0941)	.263*** (.0938)	.2229* (.1262)	.2758*** (.094)	.2749*** (.101)	.2733*** (.0943)	.2661*** (.0949)	.276*** (.0957)	.2685*** (.0937)
TCFDHits	-.1549 (.1011)	-.1521 (.101)	-.1559 (.1014)	.0721 (.1283)	-.1542 (.1004)	-.2047* (.116)	-.1702* (.101)	-.1891* (.104)	-.147 (.1044)	-.1613 (.1008)
IntegratedHits	.1413 (.0906)	.139 (.0906)	.1401 (.0904)	.1251 (.1172)	.1424 (.0912)	.134 (.0952)	.1534* (.0917)	.1449 (.092)	.1433 (.0948)	.1371 (.0906)
CDPHits	.011 (.097)	.0095 (.0969)	.0163 (.0974)	-.2045 (.1303)	.0079 (.0961)	-.0053 (.1119)	-.0029 (.0971)	-.0057 (.1056)	.0022 (.0985)	-.0029 (.0986)
_cons	-5.1706 (3.8984)	-4.5817 (3.8794)	-5.5488 (3.774)	-19.5733 (599.8256)	-4.8309 (3.8654)	-16.1943 (741.7608)	-4.2409 (3.7505)	-6.1501 (4.1038)	-5.6027 (4.2406)	-5.3024 (3.7362)
/ln_p	-.3133*** (.0652)	-.3139*** (.0652)	-.3122*** (.0652)	-.257*** (.0843)	-.3105*** (.0655)	-.2587*** (.0722)	-.3072*** (.0651)	-.3087*** (.0664)	-.3106*** (.0669)	-.3111*** (.0653)
Observations	338	338	338	215	336	269	337	327	321	338
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 6: Daily Raw Return Regressions

Table 6 presents results of regressing daily returns for the period January 1st – April 31st 2022 on *RussiaDisclosure*, *RussiaExposure*, *ESGScore*, time period dummies, the interactions between the time periods, *RussiaDisclosure*, *RussiaExposure*, and *ESGScores*, control variables, and country and industry FE. *BuildUp* is set to one from February 14th to February 23rd. *Outbreak* is set to one from February 24th to March 6th and *Continuation* is set to one from March 7th to March 31st, all based on public attention to the Ukraine war as shown in Figure 5. Controls include Fama French factors, *IdioRisk*, *Momentum*, *Size*, *Cash*, *RDIntensity*, *ROA*, *BTM*, *Leverage*, *NSegments*, *ARCSRWordCount* and *WithdrawSuspend*. Standard errors are robust to heteroskedasticity and clustered at the firm level, all continuous control variables are winsorized at the 1st and 99th percentile, and all variables are defined in detail in the Variable Definitions Appendix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DV = RawReturn	Refinitiv ESGScore	Bloomberg	Sustainalytic	MSCI	RobecoSAM	CDP	ISS	AverageESG
RussiaDisclosure	.0092 (.0131)	-.0092 (.0193)	.0149 (.0129)	.0107 (.0141)	.014 (.0129)	.0094 (.0127)	.016 (.0133)	.0153 (.013)
RussiaExposure	-.0173 (.0239)	.0164 (.0332)	-.0131 (.0235)	-.0134 (.0267)	-.0143 (.0237)	-.0227 (.0233)	-.0171 (.0248)	-.0224 (.0241)
ESGScore	.0033*** (.0009)	.0036** (.0016)	-.0039* (.0021)	.0171 (.0127)	.0011* (.0007)	.02*** (.0053)	.0009 (.0046)	.3987*** (.1028)
BuildUp	-.1786 (.1362)	-.1454 (.1645)	-.2238** (.0872)	-.0286 (.1958)	-.2309* (.1203)	-.2315*** (.0664)	-.3406*** (.0588)	-.1781 (.1472)
Outbreak	.3067 (.2502)	-.1431 (.3049)	-.8058*** (.1806)	-.5818 (.3698)	-.0617 (.2108)	-.1162 (.1248)	-.706*** (.117)	.2802 (.2679)
Continuation	1.0896*** (.1028)	1.0751*** (.1323)	.8121*** (.0666)	.8289*** (.1381)	.8293*** (.0911)	.8569*** (.0522)	.6058*** (.0422)	1.1025*** (.1031)
BuildUp*Disclosure	-.0571* (.0331)	-.0349 (.0471)	-.0631** (.0319)	-.0708* (.0382)	-.0646** (.0324)	-.0624* (.0326)	-.0656** (.0333)	-.0612* (.0327)
Outbreak*Disclosure	-.157** (.0668)	-.1287 (.0861)	-.2222*** (.0669)	-.1935** (.076)	-.1881*** (.0662)	-.1865*** (.066)	-.2134*** (.0671)	-.1844*** (.0665)
Continuation*Disclosure	-.0345* (.0207)	.0041 (.0276)	-.0485** (.0208)	-.0349 (.0226)	-.0505** (.0207)	-.0417** (.0199)	-.0546*** (.0207)	-.0476** (.0204)
BuildUp*Exposure	-.0252 (.0687)	-.0711 (.0905)	-.0206 (.069)	-.0356 (.086)	-.0196 (.0688)	-.0141 (.0684)	-.0113 (.071)	-.0222 (.0686)
Outbreak*Exposure	-.2308** (.1135)	-.3394** (.1382)	-.2226* (.1152)	-.2431* (.1418)	-.2239** (.114)	-.1803 (.1139)	-.213* (.1186)	-.212* (.1148)
Continuation*Exposure	.0068 (.0478)	-.0408 (.0592)	.0086 (.0476)	-.0271 (.0515)	.0085 (.0483)	.0207 (.048)	-.008 (.0467)	.0165 (.0481)
BuildUp*ESGScore	-.0021	-.0033	.0048	-.0391	-.0012	-.0197*	.0042	-.2352

	(.002)	(.0031)	(.0045)	(.0331)	(.0015)	(.0114)	(.0108)	(.2351)
Outbreak*ESGScore	-.0136***	-.0083	-.0126	.0032	-.0074***	-.1047***	.0284	-1.4754***
	(.0037)	(.0059)	(.0093)	(.065)	(.0028)	(.0227)	(.0214)	(.4393)
Continuation*ESGScore	-.0068***	-.0094***	.0094***	-.0416*	-.0027**	-.0507***	.007	-.7825***
	(.0014)	(.0024)	(.0034)	(.0232)	(.0012)	(.0086)	(.008)	(.1601)
_cons	-.9015***	-.8088**	-.6772***	-.8668***	-.7514***	-.6938***	-.6236**	-.9073***
	(.2724)	(.3173)	(.2488)	(.3016)	(.2558)	(.2523)	(.2622)	(.2689)
Observations	48801	32855	48471	34541	48637	46985	46745	48801
R-squared	.0361	.0342	.0355	.0352	.0357	.0368	.0353	.036
Four Factor Loadings	YES	YES	YES	YES	YES	YES	YES	YES
Firm Controls	YES	YES	YES	YES	YES	YES	YES	YES
Industry and Country FE	YES	YES	YES	YES	YES	YES	YES	YES

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$