

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. This variable can represent the average of fewer than 7 scores if not all 7 scores are available for a firm.	Refinitiv EIKON, Bloomberg Terminal
BTM ¹	BVE / MVE	Worldscope
Cash	Cash / AT	Worldscope
CDPHits	The log-transformed number of CDP hits.	Pre-invasion annual and sustainability reports
ESGScore	Any of Refinitiv EIKON ESG Score, Human Rights Score, or Social Pillar Score, Bloomberg ESG Disclosure Score, MSCI ESG Rating, RobecoSAM Total Sustainability Rank, Sustainalytics ESG Risk, ISS Quality Score, or CDP Integrated Performance Score. Sustainalytics ESG Risk and ISS Quality Score *-1 to facilitate comparisons. Refinitiv ESG scores are for FY2020, and the other scores relate to the most recent available year in the Bloomberg terminal.	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 CELI list
Four Factor Loadings	Loadings on Fama-French MKTRF, SMB, HML, and MOM factors. All factors are for European firms and	Kenneth French's website, Datastream

¹ Worldscope financial variables relate to fiscal year 2021.

	loadings are obtained by regressing firm-specific daily USD returns on Fama-French's four factors using calendar year 2021 as the estimation window.	
GasBeta	Loading on daily returns of the first month Dutch TTF natural gas future. Following Rajgopal (1999) and Jim & Jorion (2006), we estimate <i>GasBeta</i> with regressions of firm-specific daily returns on oil, gas, and market (i.e., Stoxx 600) returns. The estimation window is the calendar year 2021.	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
OilBeta	Loading on daily returns of the first month Brent oil future. Following Rajgopal (1999) and Jim & Jorion (2006), we estimate <i>OilBeta</i> with regressions of firm-specific daily returns on oil, gas, and market (i.e., Stoxx 600) returns. The estimation window is the calendar year 2021.	
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	Pre-invasion annual and sustainability reports

	quantitative disclosures, and 4 if full disclosure.	
RussiaExposure	The largest of the percentage of Russian sales, assets, employees, or net income. Estimated as the industry-size tercile mean exposure * 0.5 if exposure amounts not disclosed. 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 announced the suspension or withdrawal of its Russian operations. Updated until June 10 th , 2022.	Pre- and post-invasion corporate filings and disclosures, Factiva, Yale CELI list