

## Appendix A: Supplementary tables

**Table A.1**  
Variable definitions

Variables	Definitions
$AR_{d,d+x}$	Abnormal returns cumulated over d to d+x
<i>CarbonEmissions</i>	The sum of firms' Scope 1, Scope 2, and Scope 3 emissions, in millions. Winsorized at the 99 percent level
<i>EnvironmentalRating</i>	Refinitiv's Environment Pillar Score, which is the environmental dimension of the Refinitiv ESG Score. Winsorized at the 99 percent level
<i>FirmSize</i>	Natural logarithm of total assets. Winsorized at the 99 percent level
<i>GreenTweets</i>	Environmental disclosures on Twitter. To identify environmental tweets, we use the environmental dimension of the CSR wordlist by Pencle and Mălăescu (2016). Tweets containing at least one environmental term are classified as environmental tweets
$ISVI_d$	Daily Investor Search Volume Index obtained from Google Trends. We follow the 4-steps outlined by deHaan et al. (2021) to obtain a daily measure of ISVI. First, we directly download the investor-specific Google search volume (Category 107) from Google trends on a monthly level. Second, we download the daily ISVI for each month in the sample period. Third, we adjust the daily ISVI by multiplying it with the monthly ISVI scaled by 100. Fourth, we rescale the daily ISVI, such that it ranges from 0 to 1. Winsorized at the 99 percent level
$ISVI_t$	Monthly Investor Search Volume Index obtained from Google Trends, following deHaan et al. (2021). We directly download the investor-specific Google search volume (Category 107) from Google trends on a monthly level and rescale it such that it ranges from 0 to 1. Winsorized at the 99 percent level
<i>LeverageRatio</i>	Ratio of firms' total liabilities and total assets. Winsorized at the 99 percent level
<i>LikesPerTweet</i>	Ratio of number of likes by other users on firm tweets and total number of tweets
<i>MTB</i>	Ratio of market value of equity and book value of equity. Winsorized at the 99 percent level
<i>NewCEO</i>	Dummy variable indicating whether the current CEO is new in this position
<i>Pollution</i>	Rate of change in firms' carbon emissions. Carbon emissions include Scope 1, Scope 2, and Scope 3 emissions. Winsorized at the 99 percent level

**Table A.1** (continued)

<i>RatingPerformance</i>	Relative change in firms' Environment Pillar Score, which is the environmental dimension of Refinitiv's ESG Score. Winsorized at the 99 percent level
<i>RepliesPerTweet</i>	Ratio of number of replies by other users on firm tweets and total number of tweets
<i>ROA</i>	Ratio of the firm's net income and its average total assets. Winsorized at the 99 percent level
<i>SalesGrowth</i>	Relative change in sales. Winsorized at the 99 percent level
<i>SIC</i>	Two-digit industry code
<i>StockVolatility</i>	Average standard deviation of firms' returns over a period of 30 days. Winsorized at the 99 percent level
<i>TenureCEO</i>	Number of years since the current CEO's starting date
<i>Tone</i>	Number of positive less the number of negative words identified in a tweet, normalized by the tweet's length
<i>TruthfulCEO</i>	Analyzing linguistic features of shareholder letters, we evaluate CEO's truthfulness based on the wordlist by Larcker and Zakolyukina (2012) and following the approach outlined by Hope and Wang (2018)
<i>TruthfulCEO_Newman</i>	Analyzing linguistic features of shareholder letters, we evaluate CEO's truthfulness based on Newman et al.'s prediction equation for lying behavior. For each observation, a lying score is calculated following the prediction equation, with word categories coming from the LIWC (following Dikolli et al. 2020). Either a median or a tertial split of the lying variable is performed. All observations above the median (in the upper third) are classified as deceptive. All below the median (in the lower third) are classified as truthful.
<i>TwitterActivity</i>	Total number of tweets less the number of environmental tweets

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Note: The table provides an overview of the variables and their definitions

**Table A.2**  
Robustness of CEO integrity

Variables	(1) <i>GreenTweets</i>	(2) <i>GreenTweets</i>	(3) $AR_{d,d+3}$	(4) $AR_{d,d+3}$	(5) <i>Rating Performanc e</i>	(6) <i>Rating Performanc e</i>
<i>Pollution</i>	0.3166** (0.1591)	0.4094** (0.1789)	-0.0006 (0.0042)	0.0004 (0.0054)	-0.0114*** (0.0016)	-0.0079*** (0.0020)
<i>TruthfulCEO_ Newman</i>	-0.3128 (0.5115)	-1.1107 <sup>†</sup> (0.7991)	-0.0014 <sup>†</sup> (0.0009)	-0.0011 (0.0018)	0.0250*** (0.0088)	-0.0436*** (0.0155)
<i>TruthfulCEO_ Newman x Pollution</i>	-1.2273*** (0.3948)	-1.8809*** (0.4744)				
<i>GreenTweets</i>			-0.0004 <sup>†</sup> (0.0003)	-0.0003 (0.0003)	-0.0001 (0.0003)	-0.0010** (0.0004)
<i>TruthfulCEO_ Newman x GreenTweets</i>			0.0007 <sup>†</sup> (0.0005)	0.0001 (0.0007)	-0.0003 (0.0004)	0.0009** (0.0005)
<i>TwitterActivity</i>	0.4470*** (0.0307)	0.4547*** (0.0358)	0.0000 (0.0000)	-0.0000 (0.0000)	0.0005*** (0.0002)	0.0009*** (0.0002)
<i>LikesPerTweet</i>	-0.0012 (0.0046)	0.0004 (0.0049)	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0001*** (0.0000)	-0.0001*** (0.0000)
<i>RepliesPerTweet</i>	-0.4038* (0.2411)	-0.6827** (0.3242)	-0.0000 (0.0001)	0.0001 (0.0001)	-0.0007 (0.0020)	-0.0067** (0.0028)
<i>NewCEO</i>	0.2288 (0.6755)	1.6110* (0.8395)	0.0010 (0.0011)	0.0012 (0.0018)	0.0286*** (0.0093)	0.0360*** (0.0116)
<i>TenureCEO</i>	0.1068 (0.0894)	0.3089*** (0.1066)	-0.0001 (0.0002)	-0.0000 (0.0003)	0.0083*** (0.0014)	0.0073*** (0.0019)



**Table A.2** (continued)

<i>FirmSize</i>	0.7579** (0.3562)	0.8128* (0.4564)	-0.0009 (0.0008)	-0.0004 (0.0010)	-0.0114* (0.0063)	-0.0151 <sup>†</sup> (0.0092)
<i>SalesGrowth</i>	-13.4787** *	-20.3524*** (5.0687)	0.0021 (0.0076)	-0.0009 (0.0093)	-0.1500*** (0.0392)	-0.3080*** (0.0672)
<i>ROA</i>	-0.2017 <sup>†</sup> (0.1413)	0.5159** (0.2059)	0.0006 (0.0005)	0.0003 (0.0010)	0.0024 (0.0022)	-0.0039 (0.0033)
<i>CarbonEmissions</i>	-0.0168*** (0.0041)	-0.0234*** (0.0053)	0.0000 (0.0000)	0.0000 (0.0000)	0.0001*** (0.0000)	0.0000 (0.0001)
<i>LeverageRatio</i>	12.9371*** (2.8849)	12.9069*** (4.1172)	0.0013 (0.0077)	0.0073 (0.0110)	0.0919** (0.0414)	0.1544*** (0.0547)
<i>MTB</i>	-0.8715*** (0.2415)	-1.5481*** (0.3804)	-0.0012* (0.0007)	-0.0012 (0.0014)	-0.0071* (0.0041)	0.0005 (0.0058)
<i>AR<sub>d-30,d</sub></i>			0.0690*** (0.0049)	0.0621*** (0.0062)		
<i>Stock Volatility</i>			-0.1118** (0.0525)	0.0052 (0.0669)		
<i>ISVI</i>			0.0031 (0.0027)	0.0018 (0.0033)	0.0087 (0.0119)	0.0014 (0.0172)
<i>RatingPerformancePY</i>					-0.1064*** (0.0270)	-0.1574*** (0.0371)
Observations	1,120	744	6,586	4,375	1,107	732
Newman Median-Split	✓	✗	✓	✗	✓	✗
Newman Tertial-Split	✗	✓	✗	✓	✗	✓
Adjusted R2	0.742	0.764	0.0473	0.0394	0.440	0.512

Year & Industry FE

✓

✓

✓

✓

✓

✓



## Table A.2 (continued)

Note: The table reports regression coefficients of the OLS regression investigating whether the relation between environmental performance and voluntary environmental disclosures is moderated by CEO integrity (see Model (1)) and regression coefficients of the OLS regressions investigating whether the relation between voluntary environmental disclosures and assessed environmental performance is moderated by CEO integrity (see models (2) and (3)). *GreenTweets* is the monthly number of environmental tweets. *AR* are the cumulative abnormal returns over a three-day window. *RatingPerformance* is the relative change in firms' environmental rating. *Pollution* is the relative annual change in corporate carbon emissions. *TruthfulCEO\_Newman* is a dummy variable indicating whether a CEO is truthful or deceptive, calculated following Newman et al. (2003). The CEOs are classified either based on a median or a tertial split. *TwitterActivity* is the total number of tweets less the number of environmental tweets. *LikesPerTweet* and *RepliesPerTweet* are the ratios of likes or replies and the total number of tweets. *NewCEO* is a dummy variable indicating whether the CEO is new in his position. *TenureCEO* is the number of years since the current CEO's starting date. *FirmSize* is the natural logarithm of the firm's total assets. *SalesGrowth* is the firm's relative change in sales. *ROA* is the firm's return on assets. *CarbonEmissions* is the firm's level of carbon emissions in millions. *LeverageRatio* is the ratio of the firm's total liabilities and total assets. *MTB* is the firm's market-to-book ratio.  $AR_{t-30,t}$  is the firm's abnormal returns over the past 30 days. *StockVolatility* is the average standard deviation of the firm's stock returns over the past 30 days. *ISVI* is the Investor Search Volume Index from Google Trends. *RatingPerformance* is the firm's relative change in the Environmental Pillar Score. Robust standard errors are reported in parentheses (\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$  denote significance based on two-tailed tests;  $\dagger p < 0.1$  denotes significance based on one-tailed tests). Appendix A provides all variable definitions.