

**Internet Appendix for**  
**“Climate Change and Corporate Cash Holdings: Global Evidence”**

**Abstract**

In this internet appendix, we report the results of our further robustness checks and additional analyses to address omitted variable bias and improve causal interpretation of our results, including Oster (2019) test, a placebo test, and entropy balancing. We also report the results of a quasi-natural experiment surrounding the Paris Climate Accord and provide the complete version of Tables 5, 6, and 9 (panel B).

***JEL Classification:** G15, G32, G38, Q54*

***Keywords:** Climate change, corporate cash holdings, financial constraints*

## 1. Further Robustness Checks

To alleviate the concern of overrepresentation of a country in our sample, in Model (1) of Table A.1 Panel A, we remove all the Japanese firms as they have the second largest representation after the U.S. In Model (2) we remove all the Japanese and U.S. firms as together they represent about half of our sample. In both models, we see that the coefficient for DROUGHT\_TREND continues to be positive and significant.

Various studies in the cash holding literature use the ratio of cash over net assets as the proxy for cash. Net asset is defined as total assets minus cash and marketable securities. In Model (3) we use *Cash/NA* as our dependent variable and find that the coefficient of DROUGHT\_TREND remains positive and significant. In the next two models, we add additional country-level variables to our baseline models. These variables include political stability (POL\_STABILITY), government effectiveness (GOV\_EFFECTIVENESS), rule of law (RULEOFLAW), and control of corruption (CORRUPT). These are obtained from World Bank Governance Indicators. We use  $Cash_t$  and  $Cash_{t+1}$  as dependent variables in Models (4) and (5), respectively. In the last model, we use the change in cash as the dependent variable. In all these models, DROUGHT\_TREND has a positive and statistically significant coefficient. In Model (6), the dependent variable is change in cash. Coefficient on DROUGHT\_TREND continues to be significantly positive. This result alleviates concerns related to spurious correlation since differencing the cash removes its long-term trend and should mitigate such concerns. We turn to this issue with greater detail in Section 5.3. These results confirm the earlier findings that climate risk has a positive and significant impact on cash holdings.

Panel B of Table A.1 shows that our baseline results reported in Table 3 of the manuscript are robust to the exclusion of US firms.

**Table A.1: Robustness Checks**

<b>Panel A</b>	(1) CASH Excluding Japan	(2) CASH Excluding U.S. and Japan	(3) CASH NA Alternative Definition (Cash/Net Asset)	(4) CASH Additional Country Level Controls	(5) FCASH Additional Country Level Controls	(6) $\Delta$ CASH Additional Country Level Controls
DROUGHT_TREND	0.055*** (3.94)	0.072*** (4.75)	0.174*** (3.25)	0.071*** (4.97)	0.080*** (5.31)	0.041** (2.44)
SIZE	-0.004*** (-11.05)	-0.004*** (-10.15)	-0.023*** (-15.02)	-0.005*** (-13.91)	-0.006*** (-14.50)	0.005*** (15.46)
MB	0.004*** (13.20)	0.004*** (12.68)	0.005*** (3.06)	0.004*** (13.08)	0.003*** (8.19)	0.002*** (5.64)
LEV	-0.317*** (-87.40)	-0.300*** (-68.19)	-0.942*** (-56.40)	-0.309*** (-84.27)	-0.285*** (-73.46)	0.021*** (7.21)
RD	0.474*** (37.91)	0.446*** (21.13)	2.092*** (24.57)	0.493*** (36.64)	0.515*** (33.21)	-0.167*** (-12.80)
CASH_FLOW	-0.009*** (-3.20)	-0.055*** (-14.58)	-0.164*** (-10.42)	-0.008*** (-2.84)	-0.007* (-1.91)	0.170*** (36.59)
NWC	-0.088*** (-29.18)	-0.081*** (-21.71)	-0.259*** (-16.43)	-0.079*** (-25.46)	-0.085*** (-23.43)	-0.037*** (-12.34)
CAPEX	-0.187*** (-31.41)	-0.144*** (-19.15)	-0.996*** (-31.98)	-0.206*** (-29.11)	-0.223*** (-29.31)	-0.187*** (-19.41)
ACQ	-0.287*** (-33.48)	-0.243*** (-19.93)	-1.077*** (-29.07)	-0.327*** (-33.51)	-0.308*** (-29.09)	-0.339*** (-27.33)
DIV_DUM	-0.014*** (-10.98)	0.001 (0.99)	-0.069*** (-15.52)	-0.011*** (-8.74)	-0.009*** (-7.41)	0.003*** (2.74)
INDUSTRY_SIGMA	0.300*** (18.93)	0.191*** (11.62)	1.634*** (17.95)	0.307*** (18.63)	0.296*** (16.63)	-0.039*** (-3.12)
GDP_PERCAPITA	0.000 (1.27)	-0.000 (-1.10)	0.000*** (4.48)	-0.000 (-0.18)	-0.000 (-0.49)	-0.000*** (-16.96)
PRIVATECREDIT_GDP	0.000 (0.49)	-0.000 (-0.15)	-0.000 (-0.90)	-0.000 (-1.54)	-0.000*** (-2.87)	0.000*** (9.71)
CPI	-0.025*** (-3.65)	-0.019*** (-2.70)	-0.100*** (-5.16)	-0.038*** (-6.55)	-0.054*** (-8.36)	-0.101*** (-16.77)
STOCKMARKET_CAP	0.000*** (4.99)	0.000*** (3.24)	0.001*** (7.55)	0.000*** (5.13)	0.000* (1.95)	-0.000*** (-3.77)
POL_STABILITY				-0.015*** (-7.87)	-0.020*** (-9.67)	0.002 (0.81)
GOV_EFFECTIVENESS				-0.019*** (-5.89)	-0.014*** (-3.82)	-0.070*** (-12.07)
RULEOFLAW				0.034*** (6.32)	0.044*** (7.53)	-0.098*** (-9.61)
CORRUPT				0.007** (2.29)	0.009*** (2.73)	0.024*** (6.00)
CONSTANT	0.228*** (16.90)	0.247*** (19.48)	0.459*** (10.10)	0.261*** (19.37)	0.274*** (18.93)	0.724*** (16.99)
Obs.	317,020	192,289	373,016	305,361	258,197	264,517
Adj. R <sup>2</sup>	0.346	0.311	0.227	0.347	0.324	0.102
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes

**Table A.1 (Continued): Excluding U.S.**

	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel B: Excluding US</b>	CASH	CASH	FCASH	FCASH	CASH	FCASH
DROUGHT_TREND	0.083*** (14.81)	0.168*** (10.87)	0.094*** (16.45)	0.143*** (8.86)	0.082*** (6.03)	0.057*** (4.03)
SIZE					-0.006*** (-14.55)	-0.006*** (-13.59)
MB					0.005*** (15.01)	0.004*** (12.10)
LEV					-0.292*** (-74.18)	-0.266*** (-65.05)
RD					0.420*** (20.87)	0.437*** (19.24)
CASH_FLOW					-0.051*** (-14.72)	-0.061*** (-14.18)
NWC					-0.082*** (-23.27)	-0.079*** (-20.57)
CAPEX					-0.163*** (-22.93)	-0.180*** (-23.88)
ACQ					-0.244*** (-20.26)	-0.227*** (-17.15)
DIV_DUM					-0.001 (-0.66)	-0.000 (-0.22)
INDUSTRY_SIGMA					0.200*** (12.34)	0.200*** (11.47)
CONSTANT	0.150*** (163.50)	0.149*** (9.15)	0.143*** (154.61)	0.152*** (9.40)	0.242*** (66.34)	0.237*** (59.49)
Obs.	260,234	260,234	221,894	221,894	260,233	221,894
Adj. R <sup>2</sup>	0.006	0.131	0.008	0.125	0.308	0.284
Year FE	No	Yes	No	Yes	Yes	Yes
Industry FE	No	Yes	No	Yes	Yes	Yes
Country FE	No	Yes	No	Yes	Yes	Yes

## 2. Oster test for Omitted Variable Bias

There is a concern that our analysis may suffer from omitted variable bias. We use Oster (2019) test to address this issue. This test is widely used in the literature (Mian and Sufi, 2014; Smith, 2016; Heimer et al., 2019; Irani et al., 2021). Oster (2019) builds on Altonji et al. (2005) by using the stability of coefficients while accounting for the change in R-square when switching from uncontrolled to controlled regression. The intuition is that as the R-square increases when more controls are added but the coefficient of interest is fairly stable and not varying much, then it is expected that the inclusion of the unobservable variable(s) would not change it either. More formally, Oster (2019) method shows if selection on observed and unobserved controls is proportional, we can compute an identified set. This test then examines whether the identified set

includes zero. If there is no zero in the constructed identifiable set, then the null that an omitted variable is driving the results is rejected.

We perform this test by computing the identified set as:  $[\tilde{\beta}, \beta^{*'}]$  where  $\beta^{*'}$  is obtained from the following the formula: 
$$\beta^{*' } = \tilde{\beta} - \delta[\hat{\beta} - \tilde{\beta}] \frac{R_{max} - \tilde{R}}{\tilde{R} - \hat{R}} \quad (1)$$

In Eq. (1),  $\tilde{\beta}$  and  $\tilde{R}$  are the coefficient estimated from our key independent variable (i.e., DROUGHT\_TREND) and the R-square value of our baseline regression with other controls, respectively.  $\hat{\beta}$  and  $\hat{R}$  are their counterparts from the regression without any control variables and fixed effects. Following Oster’s (2019) suggestion about the appropriate upper bound, the value we choose for  $\delta$  is 1, which implies that any omitted variable must be at least as influential as the variables we include in the regression to set the research coefficient value in the identified set equal to zero.

We follow Mian and Sufi (2014) and set a conservative value of  $R_{max} = \min(2.2\tilde{R}, 1)$  as the upper Oster bound. The results are presented in Table A.1. It shows that our identified sets safely exclude zero, indicating that the relationship between our DROUGHT\_TREND measure and cash holding is statistically unlikely to be confounded by omitted variable bias.

**Table A.2: Oster Test and Entropy Balancing**

Tests for omitted variable bias using Oster (2019)				
<i>Oster Condition</i>	<i>Variable of interest</i>	<i>Lower Bound</i>	<i>Upper Bound</i>	<i>Includes Zero?</i>
Assume d=1; RMAX=min(1.25 $\tilde{R}$ ,1)	DROUGHT_TREND	0.0254	0.0313	NO
Assume d=1; RMAX=min(1.5 $\tilde{R}$ ,1)	DROUGHT_TREND	0.0195	0.0313	NO
Assume d=1; RMAX=min(1.8 $\tilde{R}$ ,1)	DROUGHT_TREND	0.0125	0.0313	NO
Assume d=1; RMAX=min(2.2 $\tilde{R}$ ,1)	DROUGHT_TREND	0.0031	0.0313	NO

### 3. Placebo Test

As our second step to alleviate omitted variable bias, we conduct a placebo test. We first divide our sample into quartiles based on DROUGHT\_TREND (for each country, as described in Section 4.1) and then conduct a placebo test by employing nearest neighbor propensity score matching. We match firms in top (Q4) and bottom (Q1). In both cases we match firms based on SIZE, MB, LEV, RD, CASH\_FLOW, NWC, CAPEX, ACQ, DIV\_DUM, IND\_SIGMA, and industry fixed effects. The key independent variable in this analysis is PLACEBO\_DROUGHT\_TREND. We construct this variable by replacing DROUGHT\_TREND values associated with firms in the top quartile, Q4, with DROUGHT\_TREND values associated with their matched firms in the bottom quartile, Q1. We use the original values of DROUGHT\_TREND for the firms in the bottom quartile, Q1. In other words, we replace the DROUGHT\_TREND exposure of a firm that is in the top quartile with the DROUGHT\_TREND of a matched firm in the bottom quartile.

If the effect of DROUGHT\_TREND on cash holdings merely reflects time trends in cash holdings driven by the omitted variables, we expect that PLACEBO\_DROUGHT\_TREND will continue to load positively and significantly. We report the results from this placebo test in Table A.2. The coefficient on PLACEBO\_DROUGHT\_TREND is small and insignificant coefficients in all specifications. We find similar results when applying the same procedure to median instead of the top and bottom quartiles of DROUGHT\_TREND. Thus, our main findings survive the placebo test, mitigating the omitted variable bias.

**Table A.3: Placebo test using propensity score match**

VARIABLES	Top Quartile vs. Bottom Quartile		Above Median vs. Below Median	
	(1) CASH	(2) CASH	(3) CASH	(4) CASH
PLACEBO_DROUGHT_TREND	0.001 (0.30)	-0.001 (-0.39)	0.002 (0.94)	-0.001 (-0.35)
SIZE	-0.004*** (-12.30)	-0.005*** (-12.61)	-0.004*** (-13.16)	-0.005*** (-13.46)
MB	0.004*** (12.06)	0.003*** (10.57)	0.004*** (15.50)	0.004*** (13.76)
LEV	-0.310*** (-84.04)	-0.309*** (-83.26)	-0.311*** (-92.89)	-0.311*** (-91.84)
RD	0.479*** (34.81)	0.488*** (35.00)	0.460*** (37.35)	0.471*** (37.61)
CASH_FLOW	-0.012*** (-3.88)	-0.008** (-2.53)	-0.011*** (-4.04)	-0.006** (-2.23)
NWC	-0.092*** (-27.73)	-0.094*** (-28.19)	-0.087*** (-30.38)	-0.090*** (-30.98)
CAPEX	-0.182*** (-28.68)	-0.184*** (-28.43)	-0.203*** (-35.44)	-0.197*** (-33.85)
ACQ	-0.280*** (-27.20)	-0.290*** (-27.87)	-0.286*** (-33.90)	-0.291*** (-34.02)
DIV_DUM	-0.013*** (-10.45)	-0.013*** (-10.31)	-0.013*** (-11.52)	-0.013*** (-11.38)
INDUSTRY_SIGMA	0.311*** (17.97)	0.325*** (17.89)	0.322*** (21.28)	0.317*** (20.18)
GDP_PERCAPITA		0.000*** (3.74)		0.000*** (6.33)
PRIVATECREDIT_GDP		0.000 (0.23)		0.000*** (3.01)
CPI		-0.026*** (-4.38)		-0.025*** (-4.58)
STOCKMARKET_CAP		0.000*** (11.87)		0.000*** (11.43)
CONSTANT	0.240*** (71.78)	0.195*** (15.82)	0.239*** (78.22)	0.168*** (15.17)
Obs.	191,832	188,366	384,966	373,344
Adj. R <sup>2</sup>	0.347	0.350	0.337	0.340
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes

#### 4. Entropy Balancing Approach

We employ “entropy balancing” pioneered by Hainmueller (2012) as our next attempt to enhance the causal interpretation of our findings. This method is similar to the widely used Propensity Score Matching (PSM) technique that eliminates differences in observable covariates between treatment and control groups. This method, however, has several advantages over traditional PSM, and it is increasingly used in the social science research (see, e.g., Amiram et al., 2017; Athey et al., 2017; Chapman and Green, 2018; McMullin and Schonberger, 2020; Levy,

2021; etc.). Most importantly, this method enables the researcher to achieve a high degree of covariate balance. It also retains valuable information in the preprocessed data by allowing the unit weights to vary smoothly across units.

We split our sample into two subsamples based on the median value of DROUGHT\_TREND for each country. Then, we set the high DROUGHT\_TREND group as the treatment group, and low DROUGHT\_TREND group as control. We report the multivariate regression results using the sample constructed by entropy balancing in Panel A of Table A.4. Results closely mimic those of our baseline results. We report the proof of convergence in Panels B and C of Table A.4.

**Table A.4: Entropy Balancing Approach**

Panel A	CASH	FCASH	$\Delta$ CASH
DROUGHT_TREND	0.083*** (3.52)	0.068*** (2.64)	4.732*** (2.80)
SIZE	-0.005*** (-10.65)	-0.006*** (-11.03)	0.025 (0.78)
MB	0.003*** (6.36)	0.003*** (4.63)	-0.230*** (-3.63)
LEV	-0.303*** (-63.16)	-0.280*** (-55.52)	1.121 (1.50)
RD	0.503*** (23.16)	0.534*** (22.05)	4.903* (1.82)
CASH_FLOW	0.015*** (2.91)	0.017*** (2.89)	1.282 (1.17)
NWC	-0.102*** (-24.74)	-0.104*** (-22.89)	0.190 (0.56)
CAPEX	-0.235*** (-23.98)	-0.254*** (-24.58)	-1.091 (-0.99)
ACQ	-0.285*** (-19.96)	-0.284*** (-19.65)	-0.298 (-0.70)
DIV_DUM	-0.004*** (-2.60)	-0.005*** (-2.88)	0.003 (0.03)
INDUSTRY_SIGMA	0.331*** (15.08)	0.300*** (13.00)	-0.147 (-0.08)
GDP_PERCAPITA	0.000 (1.39)	0.000 (1.46)	-0.000*** (-6.77)
PRIVATECREDIT_GDP	0.000 (0.09)	0.000 (0.87)	-0.002 (-0.49)
CPI	-0.016** (-2.48)	-0.039*** (-5.16)	4.891*** (3.14)
STOCKMARKET_CAP	0.000*** (5.93)	0.000*** (5.30)	-0.004*** (-3.64)
CONSTANT	0.225*** (16.27)	0.237*** (16.10)	5.719*** (7.96)
Obs.	373,344	319,529	317,164
Adj. R <sup>2</sup>	0.331	0.294	0.014
Year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes

**Table A.4: Proof of Entropy Convergence**

Panel B	TREATMENT			CONTROL		
	MEAN	VARIANCE	SKEWNESS	MEAN	VARIANCE	SKEWNESS
SIZE	7.706	9.73	-0.04127	5.646	9.492	0.585
MB	1.876	8.244	6.45	2.153	9.796	5.337
LEV	0.2366	0.04415	1.105	0.2395	0.05458	1.184
RD	0.02016	0.004182	5.642	0.03504	0.008515	3.769
CASH_FLOW	0.003612	0.07409	-7.019	-0.05849	0.1594	-4.409
NWC	-0.00212	0.07413	-3.253	0.009646	0.1064	-3.174
CAPEX	0.04901	0.004298	3.012	0.08051	0.009608	2.224
ACQ	0.005935	0.000656	5.837	0.01134	0.001323	4.017
DIV_DUM	0.49	0.2499	0.03993	0.358	0.2298	0.5925
INDUSTRY_SIGMA	0.05937	0.003244	2.186	0.09832	0.005117	1.194
GDP_PERCAPITA	32431	3.23E+08	-0.4827	35845	2.43E+08	-0.6965
PRIVATECREDIT_GDP	130.6	2143	-0.4015	120	1693	-0.4123
CPI	0.9405	0.01957	-1.59	0.8243	0.03389	0.4289
STOCKMARKET_CAP	78.77	1798	1.366	94.62	1142	-0.09903

**After Convergence**

Panel C	TREATMENT			CONTROL		
	MEAN	VARIANCE	SKEWNESS	MEAN	VARIANCE	SKEWNESS
SIZE	7.706	9.73	-0.04127	7.705	12.68	0.1877
MB	1.876	8.244	6.45	1.876	9.169	6.056
LEV	0.2366	0.04415	1.105	0.2366	0.04248	1.052
RD	0.02016	0.004182	5.642	0.02016	0.00439	5.377
CASH_FLOW	0.003612	0.07409	-7.019	0.003579	0.0815	-6.747
NWC	-0.00212	0.07413	-3.253	-0.00213	0.07794	-3.347
CAPEX	0.04901	0.004298	3.012	0.04902	0.003273	2.792
ACQ	0.005935	0.000656	5.837	0.005935	0.000525	5.782
DIV_DUM	0.49	0.2499	0.03993	0.49	0.2499	0.04005
INDUSTRY_SIGMA	0.05937	0.003244	2.186	0.05938	0.001921	1.883
GDP_PERCAPITA	32431	3.23E+08	-0.4827	32433	3.02E+08	-0.1843
PRIVATECREDIT_GDP	130.6	2143	-0.4015	130.6	2418	-0.2264
CPI	0.9405	0.01957	-1.59	0.9405	0.03672	2.91E-05
STOCKMARKET_CAP	78.77	1798	1.366	78.77	973.3	-0.05748

**Table A.5: Difference-in-Differences around Stern Review (Complete version of Table 5)**

	Panel A: Entire Sample								
	No Fixed Window			10 Years (2002-2011)			Excluding the Crisis Period		
	CASH	FCASH	ΔCash	CASH	FCASH	ΔCash	CASH	FCASH	ΔCash
DROUGHT_TREND×STERN	0.041*** (5.34)	0.063*** (7.78)	0.123*** (11.55)	0.043*** (5.45)	0.057*** (6.83)	0.082*** (8.59)	0.089*** (8.90)	0.107*** (10.02)	0.124*** (11.03)
DROUGHT_TREND	0.017 (1.24)	0.004 (0.29)	-0.027* (-1.72)	0.029 (1.48)	0.008 (0.41)	-0.148*** (-6.89)	-0.006 (-0.45)	-0.020 (-1.34)	-0.030* (-1.78)
SIZE	-0.005*** (-13.42)	-0.005*** (-13.67)	0.005*** (17.59)	-0.007*** (-14.99)	-0.008*** (-15.38)	0.003*** (13.55)	-0.004*** (-12.11)	-0.005*** (-12.77)	0.005*** (16.35)
MB	0.004*** (13.87)	0.003*** (9.10)	0.002*** (6.43)	0.003*** (9.72)	0.003*** (6.35)	0.003*** (8.02)	0.004*** (14.26)	0.003*** (9.16)	0.002*** (5.44)
LEV	-0.311*** (-91.81)	-0.285*** (-78.60)	0.017*** (6.95)	-0.316*** (-70.08)	-0.293*** (-62.84)	0.018*** (6.29)	-0.310*** (-89.24)	-0.284*** (-75.34)	0.015*** (5.46)
RD	0.471*** (37.62)	0.490*** (33.87)	-0.156*** (-13.45)	0.512*** (31.34)	0.538*** (28.56)	-0.185*** (-13.24)	0.462*** (36.18)	0.480*** (32.25)	-0.149*** (-11.56)
CASH_FLOW	-0.006** (-2.18)	-0.007** (-2.00)	0.169*** (39.67)	-0.007** (-2.01)	-0.005 (-1.01)	0.174*** (35.14)	-0.003 (-0.96)	-0.006 (-1.58)	0.161*** (33.29)
NWC	-0.090*** (-30.97)	-0.096*** (-28.06)	-0.038*** (-14.79)	-0.073*** (-18.39)	-0.082*** (-17.87)	-0.044*** (-13.28)	-0.095*** (-32.01)	-0.101*** (-28.71)	-0.035*** (-12.21)
CAPEX	-0.197*** (-33.82)	-0.216*** (-33.56)	-0.169*** (-23.87)	-0.213*** (-23.35)	-0.236*** (-24.20)	-0.183*** (-19.62)	-0.196*** (-32.96)	-0.212*** (-31.69)	-0.167*** (-21.34)
ACQ	-0.291*** (-34.01)	-0.281*** (-30.61)	-0.319*** (-30.79)	-0.359*** (-28.29)	-0.333*** (-24.29)	-0.361*** (-29.03)	-0.284*** (-31.86)	-0.271*** (-28.15)	-0.319*** (-27.91)
DIV_DUM	-0.013*** (-11.33)	-0.011*** (-9.49)	0.002* (1.93)	-0.009*** (-5.97)	-0.007*** (-4.75)	0.007*** (8.35)	-0.014*** (-12.28)	-0.013*** (-10.51)	0.000 (0.20)
INDUSTRY_SIGMA	0.317*** (20.12)	0.308*** (18.10)	-0.034*** (-2.92)	0.306*** (16.17)	0.302*** (14.81)	-0.020* (-1.83)	0.316*** (19.82)	0.304*** (17.70)	-0.016 (-1.18)
GDP_PERCAPITA	0.000*** (6.91)	0.000*** (7.35)	-0.000*** (-15.78)	0.000*** (2.65)	-0.000 (-1.63)	-0.000*** (-2.73)	0.000*** (7.25)	0.000*** (7.74)	-0.000*** (-16.73)
PRIVATECREDIT_GDP	0.000*** (3.57)	0.000*** (3.00)	0.001*** (13.29)	-0.000 (-0.21)	-0.000*** (-2.68)	0.000*** (6.11)	0.000* (1.79)	0.000** (2.15)	0.001*** (14.90)
CPI	-0.008 (-1.31)	-0.015** (-2.27)	-0.005 (-0.95)	-0.025** (-2.45)	-0.046*** (-4.36)	0.018* (1.68)	0.013* (1.90)	0.004 (0.46)	-0.013** (-2.35)
STOCKMARKET_CAP	0.000*** (10.61)	0.000*** (8.36)	-0.000*** (-5.28)	0.000** (2.52)	0.000*** (3.98)	0.000 (1.16)	0.000*** (9.93)	0.000*** (7.51)	-0.000*** (-7.96)
Obs.	373,344	319,529	317,164	174,065	155,813	150,964	318,579	270,214	270,209
Adj. R <sup>2</sup>	0.340	0.300	0.100	0.353	0.333	0.161	0.338	0.294	0.095
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Panel B: Excluding US								
	No Fixed Window			10 Years (2002-2011)			Excluding the Crisis Period		
	CASH	FCASH	ΔCash	CASH	FCASH	ΔCash	CASH	FCASH	ΔCash
DROUGHT_TREND×STERN	0.037*** (4.54)	0.047*** (5.46)	0.094*** (7.99)	0.034*** (4.05)	0.045*** (5.07)	0.085*** (7.74)	0.096*** (8.62)	0.096*** (8.13)	0.088*** (6.61)
DROUGHT_TREND	0.041*** (2.70)	0.034** (2.20)	-0.005 (-0.26)	0.081*** (4.04)	0.057*** (2.80)	-0.163*** (-6.57)	0.009 (0.54)	0.004 (0.23)	0.005 (0.24)
SIZE	-0.005*** (-13.62)	-0.005*** (-12.91)	0.006*** (15.20)	-0.008*** (-16.28)	-0.008*** (-15.30)	0.003*** (12.53)	-0.005*** (-12.05)	-0.005*** (-11.65)	0.007*** (13.92)
MB	0.004*** (13.37)	0.004*** (11.04)	-0.000 (-0.67)	0.005*** (11.05)	0.004*** (8.94)	0.001 (1.56)	0.004*** (13.35)	0.004*** (10.85)	-0.000 (-0.71)
LEV	-0.292*** (-73.40)	-0.266*** (-64.42)	0.006** (2.08)	-0.306*** (-63.24)	-0.280*** (-56.46)	0.005* (1.74)	-0.289*** (-70.87)	-0.262*** (-61.65)	0.006 (1.61)
RD	0.434*** (20.80)	0.446*** (19.03)	-0.137*** (-8.35)	0.454*** (18.45)	0.461*** (16.90)	-0.150*** (-8.17)	0.433*** (19.75)	0.446*** (18.07)	-0.129*** (-6.80)
CASH_FLOW	-0.050*** (-13.38)	-0.060*** (-13.02)	0.170*** (31.69)	-0.045*** (-9.78)	-0.056*** (-9.86)	0.187*** (28.32)	-0.048*** (-12.15)	-0.060*** (-11.92)	0.157*** (25.16)
NWC	-0.087*** (-24.54)	-0.083*** (-21.32)	-0.041*** (-14.18)	-0.076*** (-17.14)	-0.078*** (-16.21)	-0.045*** (-13.83)	-0.091*** (-24.91)	-0.086*** (-21.58)	-0.036*** (-11.14)
CAPEX	-0.159*** (-21.76)	-0.176*** (-23.08)	-0.161*** (-17.33)	-0.161*** (-16.80)	-0.183*** (-18.31)	-0.183*** (-18.56)	-0.158*** (-20.99)	-0.171*** (-21.52)	-0.153*** (-14.24)
ACQ	-0.246*** (-20.04)	-0.224*** (-16.72)	-0.242*** (-11.77)	-0.278*** (-17.65)	-0.255*** (-14.88)	-0.279*** (-16.88)	-0.242*** (-18.27)	-0.209*** (-13.98)	-0.239*** (-9.50)
DIV_DUM	-0.000 (-0.31)	-0.000 (-0.26)	0.006*** (4.44)	0.001 (0.84)	0.002 (1.30)	0.010*** (10.04)	-0.001 (-0.95)	-0.002 (-1.27)	0.004*** (2.59)
INDUSTRY_SIGMA	0.202*** (12.38)	0.197*** (11.41)	-0.015 (-1.05)	0.165*** (8.30)	0.153*** (7.26)	0.009 (0.74)	0.210*** (12.46)	0.198*** (11.18)	-0.008 (-0.47)
GDP_PERCAPITA	0.000** (3.35)	0.000** (2.80)	-0.000*** (-14.92)	0.000 (0.84)	-0.000*** (-3.19)	-0.000 (-0.60)	0.000*** (3.80)	0.000*** (3.34)	-0.000*** (-16.08)
PRIVATECREDIT_GDP	0.000 (1.51)	-0.000 (-0.15)	0.001*** (12.81)	-0.000 (-1.40)	-0.000*** (-4.20)	0.000*** (7.52)	0.000 (0.47)	-0.000 (-0.04)	0.001*** (13.43)
CPI	-0.010 (-1.60)	-0.023*** (-3.35)	0.001 (0.19)	-0.028*** (-2.77)	-0.048*** (-4.60)	0.027** (2.31)	0.016** (2.17)	-0.001 (-0.10)	-0.006 (-0.99)
STOCKMARKET_CAP	0.000*** (7.05)	0.000*** (4.25)	-0.000*** (-10.82)	0.000** (2.53)	0.000*** (3.39)	-0.000 (-0.03)	0.000*** (6.99)	0.000*** (4.00)	-0.000*** (-12.31)
Obs.	248,612	213,995	211,630	134,295	121,707	115,400	205,136	174,468	174,721
Adj. R <sup>2</sup>	0.310	0.286	0.083	0.327	0.302	0.134	0.307	0.281	0.082
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Panel C: Excluding English Speaking Countries								
	No Fixed Window			10 Years (2002-2011)			Excluding the Crisis Period		
	CASH	FCASH	ΔCash	CASH	FCASH	ΔCash	CASH	FCASH	ΔCash
DROUGHT_TREND×STERN	0.036*** (4.04)	0.046*** (4.83)	0.050*** (3.64)	0.038*** (4.02)	0.045*** (4.56)	0.076*** (6.15)	0.071*** (6.09)	0.076*** (6.14)	0.052*** (3.22)
DROUGHT_TREND	-0.024 (-1.44)	-0.033* (-1.91)	0.028 (1.13)	0.067*** (3.25)	0.041** (1.98)	-0.131*** (-5.40)	-0.034* (-1.92)	-0.047** (-2.53)	0.022 (0.80)
SIZE	-0.005*** (-10.39)	-0.005*** (-10.26)	0.007*** (14.21)	-0.007*** (-12.02)	-0.007*** (-11.80)	0.003*** (11.12)	-0.004*** (-9.59)	-0.005*** (-9.63)	0.008*** (13.42)
MB	0.003*** (9.39)	0.003*** (8.93)	-0.001* (-1.85)	0.004*** (8.26)	0.004*** (7.67)	-0.000 (-1.06)	0.003*** (9.81)	0.003*** (8.99)	-0.001 (-1.43)
LEV	-0.279*** (-61.90)	-0.262*** (-56.53)	0.004 (1.17)	-0.291*** (-55.12)	-0.274*** (-51.53)	0.002 (0.59)	-0.277*** (-60.45)	-0.260*** (-54.38)	0.005 (1.36)
RD	0.474*** (15.31)	0.460*** (13.85)	-0.109*** (-5.01)	0.517*** (13.83)	0.489*** (12.34)	-0.117*** (-5.14)	0.448*** (14.53)	0.447*** (13.25)	-0.085*** (-3.40)
CASH_FLOW	-0.003 (-0.51)	-0.009 (-1.52)	0.168*** (18.98)	0.006 (0.91)	0.002 (0.24)	0.192*** (18.97)	-0.005 (-0.93)	-0.015** (-2.14)	0.157*** (15.20)
NWC	-0.103*** (-26.08)	-0.093*** (-22.02)	-0.038*** (-12.01)	-0.097*** (-19.90)	-0.091*** (-17.81)	-0.042*** (-13.08)	-0.104*** (-26.16)	-0.094*** (-22.19)	-0.033*** (-9.14)
CAPEX	-0.147*** (-19.42)	-0.171*** (-21.67)	-0.157*** (-11.59)	-0.141*** (-15.06)	-0.181*** (-18.69)	-0.183*** (-16.87)	-0.149*** (-18.96)	-0.169*** (-20.34)	-0.148*** (-9.07)
ACQ	-0.191*** (-11.32)	-0.173*** (-9.43)	-0.141*** (-4.06)	-0.207*** (-10.36)	-0.193*** (-9.09)	-0.235*** (-11.01)	-0.207*** (-11.02)	-0.175*** (-8.22)	-0.126*** (-2.85)
DIV_DUM	0.009*** (7.59)	0.008*** (6.08)	0.005*** (2.86)	0.012*** (7.59)	0.010*** (6.62)	0.009*** (8.67)	0.009*** (6.69)	0.006*** (4.85)	0.003 (1.60)
INDUSTRY_SIGMA	0.151*** (6.75)	0.143*** (6.12)	0.006 (0.26)	0.111*** (4.36)	0.103*** (3.82)	-0.020 (-1.20)	0.158*** (6.77)	0.147*** (6.16)	0.028 (0.94)
GDP_PERCAPITA	-0.000 (-1.62)	-0.000** (-2.11)	-0.000*** (-12.98)	-0.000*** (-4.21)	-0.000*** (-6.76)	0.000 (1.17)	-0.000 (-1.53)	-0.000 (-1.35)	-0.000*** (-14.19)
PRIVATECREDIT_GDP	-0.000*** (-3.28)	-0.000*** (-3.60)	0.001*** (15.10)	-0.000* (-1.68)	-0.000*** (-4.91)	0.001*** (8.22)	-0.000*** (-4.64)	-0.000*** (-3.73)	0.002*** (15.64)
CPI	-0.017*** (-2.71)	-0.029*** (-4.22)	-0.047*** (-8.03)	-0.036*** (-3.41)	-0.051*** (-4.67)	0.001 (0.10)	0.002 (0.26)	-0.012 (-1.49)	-0.056*** (-7.63)
STOCKMARKET_CAP	0.000*** (4.12)	0.000** (2.36)	-0.001*** (-15.52)	0.000*** (5.50)	0.000*** (5.29)	-0.000*** (-4.27)	0.000*** (4.44)	0.000* (1.69)	-0.001*** (-15.60)
Obs.	193,738	168,622	168,053	106,516	98,963	93,301	159,297	136,617	138,171
Adj. R <sup>2</sup>	0.310	0.294	0.078	0.320	0.306	0.094	0.310	0.291	0.083
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Table A.6: Regulatory risk (Complete version of Table 6)**

	Stringency of Environmental Regulation			
	Entire Sample		Excluding US	
	Stringent	Lax	Stringent	Lax
DROUGHT_TREND×STERN	0.089*** (2.84)	0.014 (0.83)	0.089*** (2.84)	0.012 (0.72)
DROUGHT_TREND	0.114** (2.27)	0.063* (1.89)	0.114** (2.27)	0.071** (2.00)
SIZE	-0.007*** (-10.66)	-0.004*** (-7.59)	-0.007*** (-10.66)	-0.004*** (-5.38)
MB	0.006*** (8.36)	0.003*** (6.39)	0.006*** (8.36)	0.003*** (5.79)
LEV	-0.309*** (-43.73)	-0.278*** (-51.29)	-0.309*** (-43.73)	-0.259*** (-42.20)
RD	0.436*** (13.33)	0.515*** (20.22)	0.436*** (13.33)	0.437*** (10.09)
CASH_FLOW	-0.060*** (-9.27)	-0.001 (-0.27)	-0.060*** (-9.27)	-0.012* (-1.84)
NWC	-0.110*** (-15.47)	-0.083*** (-17.45)	-0.110*** (-15.47)	-0.076*** (-14.47)
CAPEX	-0.255*** (-16.01)	-0.132*** (-14.22)	-0.255*** (-16.01)	-0.102*** (-10.27)
ACQ	-0.245*** (-11.19)	-0.288*** (-15.62)	-0.245*** (-11.19)	-0.180*** (-7.74)
DIV_DUM	-0.005** (-2.54)	0.008*** (4.68)	-0.005** (-2.54)	0.016*** (8.10)
INDUSTRY_SIGMA	0.126*** (4.20)	0.253*** (9.80)	0.126*** (4.20)	0.164*** (5.73)
GDP_PERCAPITA	-0.000** (-2.16)	-0.000 (-0.16)	-0.000** (-2.16)	0.000 (0.29)
PRIVATECREDIT_GDP	-0.000*** (-4.35)	0.000*** (4.78)	-0.000*** (-4.35)	0.000*** (4.88)
CPI	0.004 (0.14)	-0.124*** (-9.35)	0.004 (0.14)	-0.119*** (-8.91)
STOCKMARKET_CAP	0.000*** (7.27)	0.000*** (4.58)	0.000*** (7.27)	0.000*** (4.16)
Obs.	61,563	84,736	61,563	72,285
Adj. R <sup>2</sup>	0.322	0.331	0.322	0.309
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
$\chi^2$ test of coefficient difference	7.53		7.91	
p-value of $\chi^2$ test	0.006		0.005	

**Table A.6 Cont.: Transition Risk (Complete version of Table 6)**

	Transition Risk			
	Entire Sample		Excluding US	
	Emitters	Non-emitters	Emitters	Non-emitters
DROUGHT_TREND×STERN	0.064*** (2.89)	0.036*** (4.42)	0.080*** (3.39)	0.027*** (3.15)
DROUGHT_TREND	-0.045 (-1.24)	0.021 (1.45)	-0.014 (-0.35)	0.040** (2.46)
SIZE	-0.007*** (-8.97)	-0.004*** (-11.31)	-0.008*** (-8.85)	-0.005*** (-11.28)
MB	0.004*** (6.97)	0.004*** (12.77)	0.006*** (9.58)	0.004*** (10.23)
LEV	-0.295*** (-36.55)	-0.310*** (-84.81)	-0.283*** (-29.98)	-0.289*** (-66.43)
RD	0.721*** (36.79)	0.300*** (21.66)	0.616*** (18.42)	0.287*** (12.85)
CASH_FLOW	-0.024*** (-4.82)	0.007** (2.26)	-0.062*** (-10.09)	-0.033*** (-7.18)
NWC	-0.020*** (-3.00)	-0.110*** (-34.45)	-0.024*** (-2.75)	-0.105*** (-27.57)
CAPEX	-0.218*** (-18.00)	-0.188*** (-29.92)	-0.193*** (-13.24)	-0.148*** (-19.25)
ACQ	-0.327*** (-14.48)	-0.281*** (-30.64)	-0.250*** (-8.82)	-0.228*** (-17.14)
DIV_DUM	-0.038*** (-11.81)	-0.007*** (-5.80)	-0.012*** (-3.92)	0.003*** (2.61)
INDUSTRY_SIGMA	0.290*** (9.26)	0.211*** (11.59)	0.179*** (4.96)	0.150*** (8.05)
GDP_PERCAPITA	0.000*** (3.48)	0.000*** (7.12)	0.000*** (2.71)	0.000*** (3.08)
PRIVATECREDIT_GDP	0.000*** (2.96)	0.000*** (2.58)	0.000*** (3.90)	-0.000 (-0.84)
CPI	0.031** (1.99)	-0.013** (-2.01)	0.048*** (3.00)	-0.018*** (-2.81)
STOCKMARKET_CAP	0.000*** (6.52)	0.000*** (8.25)	0.000*** (4.98)	0.000*** (5.11)
Obs.	65,653	307,691	44,316	204,295
Adj. R <sup>2</sup>	0.434	0.315	0.354	0.305
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
$\chi^2$ test of coefficient difference		3.19		9.68
p-value of $\chi^2$ test		0.074		0.002

**Table A.6 Cont.: Litigation, regulation stringency, and transition Risk for non-English Speaking countries (Complete version of Table 6)**

	Excluding English Speaking Countries			
	Stringency of		Transition Risk	
	Environmental Regulation		Emitters	Non-emitters
	Stringent	Lax		
DROUGHT_TREND×STERN	0.061** (1.96)	-0.003 (-0.15)	0.081*** (3.01)	0.023** (2.41)
DROUGHT_TREND	0.024 (0.46)	0.068* (1.86)	-0.140*** (-3.10)	-0.002 (-0.13)
SIZE	-0.006*** (-8.37)	-0.003*** (-4.68)	-0.005*** (-4.60)	-0.005*** (-9.72)
MB	0.006*** (6.54)	0.002*** (4.43)	0.004*** (4.63)	0.003*** (7.77)
LEV	-0.303*** (-39.24)	-0.249*** (-36.11)	-0.281*** (-23.28)	-0.276*** (-57.50)
RD	0.498*** (10.99)	0.258*** (4.17)	0.757*** (14.32)	0.287*** (9.49)
CASH_FLOW	-0.032*** (-3.15)	0.025*** (2.71)	-0.012 (-0.86)	0.009 (1.50)
NWC	-0.147*** (-18.21)	-0.082*** (-14.66)	-0.073*** (-6.90)	-0.108*** (-25.74)
CAPEX	-0.244*** (-14.75)	-0.107*** (-10.39)	-0.132*** (-7.67)	-0.150*** (-18.02)
ACQ	-0.219*** (-8.64)	-0.027 (-0.69)	-0.196*** (-4.33)	-0.181*** (-10.08)
DIV_DUM	0.001 (0.30)	0.024*** (11.24)	-0.001 (-0.33)	0.011*** (8.46)
INDUSTRY_SIGMA	0.034 (0.85)	0.089** (2.56)	0.247*** (4.36)	0.122*** (5.00)
GDP_PERCAPITA	0.000 (0.01)	0.000* (1.72)	0.000 (0.80)	-0.000** (-2.24)
PRIVATECREDIT_GDP	-0.000*** (-4.86)	0.001*** (4.67)	0.000 (0.70)	-0.000*** (-4.29)
CPI	-0.004 (-0.13)	-0.134*** (-9.52)	0.026 (1.59)	-0.027*** (-4.00)
STOCKMARKET_CAP	0.000*** (4.28)	0.000** (2.37)	0.000** (2.20)	0.000*** (3.44)
Obs.	52,713	61,896	26,462	167,276
Adj. R <sup>2</sup>	0.321	0.319	0.359	0.309
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
$\chi^2$ test of coefficient difference		5.32		10.65
p-value of $\chi^2$ test		0.021		0.001

**Table A.6: Financially constrained vs. unconstrained firms after Stern Review (Complete version of Table 6)**

	Panel A: Entire Sample					
	KZ Index		WW Index		SA Index	
	Constrained	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained
DROUGHT_TREND×STERN	0.184*** (7.13)	0.024* (1.95)	1.185*** (12.78)	0.007 (1.59)	0.258*** (5.97)	0.044*** (4.43)
DROUGHT_TREND	-0.045 (-1.05)	-0.004 (-0.21)	-0.340*** (-4.22)	0.004 (0.41)	-0.029 (-0.81)	0.032** (2.17)
SIZE	0.006*** (10.78)	0.003*** (7.84)	-0.013*** (-8.33)	0.000 (0.48)	0.010*** (11.95)	0.004*** (7.07)
MB	0.000 (0.98)	0.013*** (16.08)	0.004** (6.35)	0.001** (2.10)	0.004*** (6.80)	-0.002* (-1.92)
LEV	0.059*** (8.85)	0.043*** (6.69)	0.048*** (8.49)	-0.013*** (-7.88)	0.064*** (10.59)	-0.014*** (-4.92)
RD	-0.146*** (-6.09)	-0.160*** (-10.27)	-0.211*** (-15.18)	-0.033*** (-2.86)	-0.171*** (-11.27)	-0.069*** (-4.28)
CASH_FLOW	0.130*** (19.61)	0.214*** (26.43)	0.185*** (33.63)	0.128*** (11.01)	0.173*** (33.43)	0.140*** (11.68)
NWC	-0.018*** (-3.83)	-0.038*** (-9.22)	-0.026*** (-5.91)	-0.032*** (-16.28)	-0.032*** (-6.96)	-0.026*** (-8.87)
CAPEX	-0.126*** (-7.80)	-0.236*** (-22.65)	-0.208*** (-11.66)	-0.116*** (-20.12)	-0.217*** (-15.33)	-0.137*** (-10.07)
ACQ	-0.133*** (-5.68)	-0.511*** (-27.93)	-0.420*** (-13.88)	-0.178*** (-15.44)	-0.521*** (-14.96)	-0.207*** (-19.58)
DIV_DUM	-0.018*** (-5.95)	-0.017*** (-10.07)	-0.038*** (-5.33)	0.007*** (10.91)	0.008*** (3.31)	-0.001 (-0.71)
INDUSTRY_SIGMA	-0.054** (-2.09)	-0.025* (-1.68)	-0.047 (-1.35)	-0.007 (-0.82)	-0.048** (-2.08)	-0.011 (-0.47)
GDP_PERCAPITA	-0.000*** (-11.14)	-0.000*** (-4.70)	-0.000*** (-14.01)	-0.000*** (-9.15)	-0.000*** (-6.09)	-0.000*** (-7.88)
PRIVATECREDIT_GDP	0.001*** (10.29)	0.000** (2.12)	0.001*** (8.81)	0.000*** (4.63)	-0.000 (-0.04)	0.001*** (6.30)
CPI	-0.000 (-0.05)	-0.052*** (-6.37)	0.296*** (6.82)	-0.041*** (-11.22)	0.026 (0.76)	-0.035*** (-4.37)
STOCKMARKET_CAP	-0.000** (-2.14)	-0.000** (-2.38)	-0.000 (-0.84)	0.000*** (5.88)	-0.000** (-2.00)	0.000*** (4.15)
Obs.	95,947	94,623	87,042	94,362	84,005	108,091
Adj. R <sup>2</sup>	0.115	0.115	0.179	0.046	0.157	0.039
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
$\chi^2$ test of coefficient difference	28.49		177.81		23.08	
p-value of $\chi^2$ test	0.000		0.000		0.000	

	Panel B: Excluding US					
	KZ Index		WW Index		SA Index	
	Constrained	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained
DROUGHT_TREND×STERN	0.135*** (4.94)	0.017 (1.23)	1.091*** (11.76)	0.004 (0.77)	0.248*** (5.59)	-0.012 (-1.02)
DROUGHT_TREND	0.002 (0.03)	0.014 (0.62)	-0.446*** (-4.05)	0.006 (0.56)	-0.008 (-0.17)	0.106*** (4.58)
SIZE	0.008*** (9.66)	0.004*** (7.00)	-0.028*** (-9.66)	0.000 (0.51)	0.011*** (8.54)	0.006*** (7.06)
MB	-0.000 (-0.64)	0.006*** (8.09)	-0.000 (-0.38)	0.000 (1.09)	0.001 (1.46)	-0.003*** (-2.71)
LEV	0.053*** (6.80)	0.021*** (2.65)	0.070*** (6.18)	-0.013*** (-7.40)	0.038*** (4.98)	-0.014*** (-3.58)
RD	-0.153*** (-4.51)	-0.109*** (-4.42)	-0.196*** (-7.51)	-0.042*** (-3.28)	-0.150*** (-7.00)	-0.088*** (-3.34)
CASH_FLOW	0.138*** (18.70)	0.193*** (14.91)	0.201*** (23.85)	0.137*** (10.06)	0.176*** (27.10)	0.128*** (8.04)
NWC	-0.018*** (-3.61)	-0.049*** (-10.76)	-0.024*** (-3.17)	-0.032*** (-15.34)	-0.044*** (-7.61)	-0.026*** (-6.63)
CAPEX	-0.089*** (-4.10)	-0.216*** (-16.51)	-0.178*** (-5.55)	-0.125*** (-18.12)	-0.195*** (-12.06)	-0.149*** (-6.21)
ACQ	-0.070 (-1.06)	-0.414*** (-15.85)	-0.349*** (-5.35)	-0.159*** (-9.17)	-0.467*** (-7.92)	-0.119*** (-5.48)
DIV_DUM	-0.024*** (-5.88)	-0.001 (-0.54)	-0.047*** (-4.73)	0.009*** (12.58)	0.012*** (4.01)	0.003 (1.19)
INDUSTRY_SIGMA	0.003 (0.08)	-0.019 (-1.10)	-0.171*** (-3.62)	-0.009 (-0.70)	-0.012 (-0.42)	-0.029 (-0.71)
GDP_PERCAPITA	-0.000*** (-10.66)	-0.000*** (-4.29)	-0.000*** (-12.23)	-0.000*** (-8.29)	-0.000*** (-6.27)	-0.000*** (-7.48)
PRIVATECREDIT_GDP	0.001*** (10.10)	0.000** (2.37)	0.001*** (5.72)	0.000*** (4.40)	-0.000 (-1.23)	0.000*** (5.86)
CPI	0.007 (0.63)	-0.039*** (-4.42)	0.445*** (9.18)	-0.043*** (-11.27)	0.090** (2.41)	-0.039*** (-4.45)
STOCKMARKET_CAP	-0.001*** (-8.32)	-0.000** (-2.12)	-0.001*** (-7.01)	0.000*** (3.48)	-0.000*** (-4.25)	-0.000*** (-3.58)
Obs.	63,842	63,575	42,714	83,232	45,835	77,024
Adj. R <sup>2</sup>	0.108	0.067	0.221	0.047	0.140	0.042
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
$\chi^2$ test of coefficient difference		13.72		151.35		31.89
p-value of $\chi^2$ test		0.000		0.000		0.008

Panel C: Excluding English Speaking Countries						
	KZ Index		WW Index		SA Index	
	Constrained	Unconstrained	Constrained	Unconstrained	Constrained	Unconstrained
DROUGHT_TREND×STERN	0.095*** (3.21)	-0.028 (-1.57)	1.137*** (7.92)	0.001 (0.12)	0.142* (1.82)	-0.046*** (-3.30)
DROUGHT_TREND	0.046 (0.79)	0.081*** (2.69)	-1.098*** (-5.79)	-0.007 (-0.60)	-0.057 (-0.54)	0.146*** (4.93)
SIZE	0.009*** (9.41)	0.005*** (6.02)	-0.052*** (-11.59)	0.000 (0.93)	0.006*** (3.02)	0.006*** (7.00)
MB	-0.000 (-0.42)	0.004*** (5.38)	-0.003* (-1.78)	0.000 (1.08)	-0.001 (-0.69)	-0.003*** (-2.72)
LEV	0.052*** (6.33)	0.046*** (4.58)	0.093*** (5.37)	-0.013*** (-7.06)	0.066*** (5.88)	-0.016*** (-3.64)
RD	-0.125*** (-2.69)	-0.066** (-2.15)	-0.178*** (-3.97)	-0.038*** (-2.97)	-0.096*** (-2.83)	-0.086*** (-3.09)
CASH_FLOW	0.130*** (11.02)	0.190*** (9.48)	0.183*** (11.70)	0.140*** (9.81)	0.190*** (15.28)	0.134*** (7.45)
NWC	-0.013** (-2.50)	-0.041*** (-7.16)	-0.005 (-0.45)	-0.032*** (-15.09)	-0.039*** (-4.88)	-0.028*** (-6.34)
CAPEX	-0.100*** (-3.67)	-0.242*** (-12.96)	-0.151** (-2.06)	-0.130*** (-17.58)	-0.200*** (-5.17)	-0.156*** (-5.30)
ACQ	-0.029 (-0.28)	-0.382*** (-11.15)	-0.143 (-1.12)	-0.157*** (-7.10)	-0.411*** (-3.28)	-0.051 (-1.39)
DIV_DUM	-0.026*** (-5.83)	0.003 (1.10)	-0.145*** (-7.32)	0.009*** (12.33)	0.011** (1.99)	0.002 (0.87)
INDUSTRY_SIGMA	0.037 (0.86)	-0.035 (-1.34)	-0.378*** (-4.26)	-0.028* (-1.76)	-0.039 (-0.79)	-0.016 (-0.25)
GDP_PERCAPITA	-0.000*** (-9.06)	-0.000*** (-3.32)	-0.000*** (-4.77)	-0.000*** (-7.19)	-0.000** (-2.30)	-0.000*** (-7.10)
PRIVATECREDIT_GDP	0.002*** (11.07)	0.000*** (3.35)	0.007*** (12.64)	0.000*** (4.12)	0.002*** (4.96)	0.001*** (6.56)
CPI	-0.036*** (-3.00)	-0.063*** (-6.41)	0.170*** (3.51)	-0.045*** (-11.47)	0.029 (0.76)	-0.073*** (-7.04)
STOCKMARKET_CAP	-0.001*** (-11.02)	-0.000*** (-4.59)	-0.001*** (-2.63)	0.000** (1.96)	-0.000*** (-2.91)	-0.000*** (-5.24)
Obs.	55,902	45,073	25,390	79,506	22,772	69,241
Adj. R <sup>2</sup>	0.106	0.058	0.312	0.048	0.142	0.047
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
$\chi^2$ test of coefficient difference		11.74		71.43		5.44
p-value of $\chi^2$ test		0.001		0.000		0.020

**Table 6: Adaptive Capacity**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	cash	cash	cash	cash	cash	cash
	High Cap.	Low Cap.	High Cap.	Low Cap.	High Cap.	Low Cap.
	Panel A (All)		Panel B (Non-US)		Panel C (Non-English)	
DROUGHT_TREND×STERN	<b>0.044***</b>	<b>0.056***</b>	<b>0.015</b>	<b>0.054***</b>	<b>0.023</b>	<b>0.075***</b>
	<b>(3.16)</b>	<b>(5.09)</b>	<b>(1.08)</b>	<b>(4.52)</b>	<b>(1.63)</b>	<b>(4.07)</b>
DROUGHT_TREND	-0.011	-0.019	0.060***	0.017	0.038*	-0.174***
	(-0.57)	(-0.56)	(2.88)	(0.48)	(1.77)	(-3.60)
size	-0.002***	-0.009***	-0.001*	-0.010***	-0.000	-0.010***
	(-4.70)	(-17.87)	(-1.66)	(-18.06)	(-0.67)	(-14.11)
MB	0.002***	0.005***	0.003***	0.007***	0.003***	0.007***
	(8.54)	(13.38)	(7.56)	(12.47)	(7.31)	(9.45)
LEV	-0.298***	-0.313***	-0.269***	-0.309***	-0.260***	-0.304***
	(-65.99)	(-64.60)	(-48.52)	(-52.96)	(-44.88)	(-43.14)
RD	0.562***	0.449***	0.345***	0.413***	0.184***	0.464***
	(33.64)	(26.56)	(7.82)	(17.17)	(3.92)	(12.71)
cash_flow	0.010***	-0.019***	-0.010*	-0.040***	0.023***	0.002
	(2.70)	(-5.15)	(-1.65)	(-8.91)	(3.24)	(0.24)
NWC	-0.074***	-0.072***	-0.077***	-0.084***	-0.081***	-0.133***
	(-21.43)	(-16.87)	(-17.62)	(-15.06)	(-17.83)	(-17.88)
CAPEX	-0.188***	-0.269***	-0.105***	-0.266***	-0.121***	-0.300***
	(-23.00)	(-24.26)	(-12.18)	(-20.84)	(-13.60)	(-18.56)
ACQ	-0.367***	-0.299***	-0.170***	-0.274***	-0.098***	-0.221***
	(-28.01)	(-22.43)	(-7.33)	(-16.50)	(-3.75)	(-9.30)
DIV_DUM	-0.005***	-0.021***	0.019***	-0.016***	0.024***	-0.003
	(-2.96)	(-12.98)	(11.54)	(-9.02)	(14.50)	(-1.60)
industry_sigma	0.398***	0.204***	0.175***	0.125***	0.115***	0.109***
	(17.37)	(10.52)	(6.53)	(5.71)	(3.79)	(3.06)
GDP_PerCapita	-0.000	0.000***	-0.000***	0.000***	-0.000***	0.000
	(-1.22)	(5.54)	(-3.16)	(4.81)	(-4.20)	(1.09)
PrivateCredit_GDP	0.000***	0.000***	0.000***	0.000***	0.000	-0.000
	(7.99)	(3.96)	(3.30)	(3.74)	(1.51)	(-0.43)
CPI	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(-9.37)	(-3.74)	(-8.46)	(-6.76)	(-9.02)	(-2.97)
StockMarket_cap	-0.000	0.000***	-0.000***	0.000***	-0.000***	0.000***
	(-1.44)	(6.79)	(-3.27)	(3.08)	(-4.27)	(3.37)
Constant	0.256***	0.212***	0.280***	0.319***	0.293***	0.379***
	(14.10)	(11.30)	(17.57)	(14.29)	(18.88)	(13.17)
Observations	158,907	144,836	94,232	124,328	88,327	88,337
Adjusted R-squared	0.359	0.349	0.285	0.344	0.292	0.357
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes	Yes	Yes
$\chi^2$ test of coeff. Diff.		0.47		4.30		4.91
p-value of $\chi^2$ test		0.4929		0.0381		0.0267

**Table A.7: Cash Flow Risk (Complete version of Table 9 – Panel B)**

<b>Excluding US</b>	(1)	(2)	(3)	(4)	(5)	(6)
	STDERN3	STDERN5	STDROA3	STDROA5	STDCF3	STDCF5
DROUGHT_TREND	0.246*** (4.62)	0.336*** (4.14)	0.249*** (4.70)	0.340*** (4.19)	0.061*** (6.20)	0.082*** (6.71)
CASH_FLOW	-0.852*** (-5.58)	-0.982*** (-5.95)	-0.847*** (-5.55)	-0.977*** (-5.91)		
SIZE	-0.016*** (-4.07)	-0.029*** (-4.49)	-0.016*** (-4.07)	-0.029*** (-4.48)	-0.014*** (-41.25)	-0.017*** (-39.29)
FIRM AGE	0.000 (0.21)	0.001 (0.40)	0.000 (0.20)	0.001 (0.37)	0.000** (2.50)	0.001*** (4.74)
MB	0.052*** (5.04)	0.058*** (4.84)	0.051*** (5.01)	0.058*** (4.82)	0.008*** (16.87)	0.009*** (17.68)
LEV	0.061 (1.22)	0.088 (1.43)	0.060 (1.20)	0.088 (1.42)	0.038*** (14.35)	0.038*** (12.70)
CAPEX	-0.111 (-1.27)	-0.034 (-0.16)	-0.105 (-1.20)	-0.027 (-0.13)	-0.016* (-1.95)	-0.010 (-1.10)
GDP_PERCAPITA	0.000 (0.04)	-0.000 (-0.24)	0.000 (0.10)	-0.000 (-0.21)	0.000*** (4.84)	0.000*** (7.42)
PRIVATECREDIT_GDP	0.000 (0.41)	0.001 (1.49)	0.000 (0.43)	0.001 (1.51)	0.000*** (2.58)	0.000*** (4.84)
CPI	-0.034 (-1.50)	-0.050 (-1.19)	-0.033 (-1.44)	-0.048 (-1.16)	-0.018*** (-5.06)	-0.015*** (-3.78)
STOCKMARKET_CAP	-0.000*** (-2.91)	-0.001*** (-3.34)	-0.000*** (-3.17)	-0.001*** (-3.48)	-0.000*** (-3.77)	-0.000*** (-4.62)
Obs.	201,273	205,359	201,132	205,226	201,273	205,359
Adj. R <sup>2</sup>	0.034	0.030	0.034	0.030	0.181	0.221
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes

**Table A.8: Quasi-Natural Experiment surrounding the Paris Climate Accord**

VARIABLES	(1)	(2)	(3)	(4)
	cash	cash	cash	cash
	No fixed window		5-yr window (2013-2017)	
	With US	Non-US	With US	Non-US
CC_exposure_ND × Paris	0.040*** (3.25)	0.042*** (3.43)	0.018* (1.65)	0.020* (1.82)
CC_exposure_ND	2.202*** (16.56)	2.304*** (17.11)	1.968*** (8.82)	1.944*** (8.57)
size	-0.005*** (-15.47)	-0.006*** (-16.87)	-0.006*** (-12.08)	-0.007*** (-12.08)
MB	0.003*** (14.24)	0.004*** (14.69)	0.004*** (10.18)	0.005*** (11.72)
LEV	-0.299*** (-91.60)	-0.293*** (-79.61)	-0.277*** (-54.87)	-0.284*** (-52.52)
RD	0.527*** (41.03)	0.448*** (22.15)	0.566*** (25.85)	0.457*** (14.94)
cash_flow	-0.009*** (-3.49)	-0.048*** (-14.04)	-0.021*** (-4.69)	-0.056*** (-10.73)
NWC	-0.070*** (-27.39)	-0.080*** (-26.98)	-0.058*** (-15.28)	-0.077*** (-18.70)
CAPEX	-0.220*** (-32.19)	-0.177*** (-23.27)	-0.271*** (-17.06)	-0.258*** (-15.30)
ACQ	-0.343*** (-36.46)	-0.275*** (-21.60)	-0.341*** (-19.26)	-0.298*** (-12.61)
DIV_DUM	-0.007*** (-6.02)	0.004*** (3.84)	0.007*** (4.00)	0.015*** (8.77)
industry_sigma	0.327*** (21.84)	0.186*** (11.79)	0.414*** (16.83)	0.252*** (8.97)
GDP_PerCapita	0.000*** (3.87)	0.000 (1.21)	0.000 (0.51)	0.000 (0.24)
PrivateCredit_GDP	0.000*** (3.68)	0.000 (1.52)	-0.000 (-1.32)	-0.000 (-1.61)
CPI	-0.001*** (-16.54)	-0.001*** (-16.60)	-0.000*** (-4.35)	-0.000*** (-4.44)
StockMarket_cap	0.000*** (7.75)	0.000*** (8.13)	0.000 (1.06)	0.000 (0.73)
Constant	-0.763*** (-12.63)	-0.784*** (-12.81)	-0.661*** (-6.08)	-0.620*** (-5.58)
Observations	404,776	307,813	106,629	90,974
Adjusted R-squared	0.349	0.319	0.359	0.332
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes

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