

# Internet Appendix

This internet appendix contains 10 tables. We reconduct our entire analysis on a sample that includes financials and quasi-public firms and report the results here.

**Table IA.1: Summary Statistics with financials**

This table reports summary statistics of different variables from our main dataset constructed based on a cross-section of 40,006 different loan facilities (data source: LPC DealScan) issued to 6,267 unique firms headquartered in 48 U.S. mainland-states during the years 1986 to 2017. Table A.1 (appears in Appendices) provides detailed descriptions and sources of all variables.

VARIABLE	N	MEAN	SD	P10	P25	P50	P75	P90
SPREAD (bps)	40,006	174.430	121.959	40	87.5	150	250	325
MATURITY (Months)	38,754	46.544	22.931	12	33	51	60	72
DEAL (\$M)	40,006	659	1420	30	85	250	700	1520
NLENDER	39,985	8.292	8.580	1	2	6	11	19
TOTALCOV	40,006	3.282	3.474	0	0	3	5	9
LN_UPFRONT	7,485	3.454	1.057	2.140	2.708	3.401	4.230	4.605
SECLOANDUM	40,006	0.460	0.498	0	0	0	0	1
NEGPDSI	40,006	-0.061	1.675	-2.219	-1.176	-0.143	0.950	2.101
TREND	40,006	-0.022	0.061	-0.099	-0.063	-0.031	0.030	0.063
DURATION (Days)	40,006	48.017	347.882	2	4	10	30	31
LN_AT	40,006	7.173	1.969	4.655	5.802	7.127	8.461	9.721
LEV Ratio	40,006	0.382	0.237	0.072	0.204	0.360	0.536	0.721
MTB	39,924	1.658	1.116	0.972	1.108	1.362	1.833	2.611
ROA	39,981	0.033	0.357	-0.044	0.008	0.039	0.076	0.123
TERMLOAN	40,006	0.270	0.444	0	0	0	1	1

**Table IA.2: Univariate analysis with financials**

In Panel A of this table, we present pairwise correlations between our key dependent variable, SPREAD, and two of our key measures of climate risk (key independent variable), NEGPDSI and TREND. Panel B presents mean t-test results of SPREAD from two extreme groups (Q1-first quartile and Q4-fourth quartile) of NEGPDSI and TREND. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

<b>Panel A: Pairwise correlation</b>						
VARIABLES	(NEGPDSI)	(TREND)	(SPREAD)			
NEGPDSI	1.000					
TREND	0.344***	1.000				
SPREAD	0.083***	0.048***	1.000			
<b>Panel B: Loan Portfolios</b>						
Basis	Q1	Q2	Q3	Q4	Difference (Q4-Q1)	t-stats
NEGPDSI	168.338	173.348	176.022	181.421	13.083***	7.717
TREND	165.723	176.150	172.851	184.012	18.289***	10.478



<b>Panel B</b>	(1)	(2)	(3)	(4)	(5)	(6)
NEGPDSI	0.010*** (5.64)	0.010*** (3.86)	0.010*** (3.41)	0.009*** (4.99)	0.009*** (3.52)	0.009*** (2.74)
Log (Asset)	-0.183*** (-77.13)	-0.183*** (-25.29)	-0.183*** (-26.38)	-0.174*** (-62.23)	-0.174*** (-20.76)	-0.174*** (-18.49)
LEV Ratio	0.502*** (33.22)	0.502*** (17.46)	0.502*** (19.88)	0.464*** (30.58)	0.464*** (16.64)	0.464*** (20.04)
MTB	-0.085*** (-6.53)	-0.085*** (-5.40)	-0.085*** (-3.00)	-0.088*** (-6.54)	-0.088*** (-5.65)	-0.088*** (-3.24)
ROA	-0.065 (-0.81)	-0.065 (-0.81)	-0.065 (-0.93)	-0.046 (-0.71)	-0.046 (-0.71)	-0.046 (-0.79)
TERMLOAN	-0.041** (-2.17)	-0.041* (-1.83)	-0.041** (-2.28)	-0.039** (-1.96)	-0.039* (-1.73)	-0.039** (-2.39)
REVOLVER	-0.385*** (-19.46)	-0.385*** (-16.01)	-0.385*** (-18.05)	-0.341*** (-16.68)	-0.341*** (-14.27)	-0.341*** (-17.04)
MERGER	0.196*** (14.72)	0.196*** (10.27)	0.196*** (10.01)	0.187*** (14.13)	0.187*** (10.17)	0.187*** (10.27)
LBO	0.996*** (27.12)	0.996*** (16.65)	0.996*** (20.33)	0.848*** (23.14)	0.848*** (14.73)	0.848*** (17.05)
CORPPURP	0.073*** (6.19)	0.073*** (4.50)	0.073*** (4.35)	0.087*** (7.53)	0.087*** (5.47)	0.087*** (5.69)
DEBTPAY	0.205*** (14.88)	0.205*** (11.09)	0.205*** (11.27)	0.197*** (14.40)	0.197*** (10.81)	0.197*** (10.68)
OTHERTYPE	-0.634*** (-27.40)	-0.634*** (-21.22)	-0.634*** (-19.42)	-0.586*** (-24.71)	-0.586*** (-19.54)	-0.586*** (-19.41)
WORKCAP	0.134*** (10.42)	0.134*** (7.26)	0.134*** (6.38)	0.141*** (11.17)	0.141*** (7.93)	0.141*** (7.03)
Constant	6.380*** (159.98)	6.380*** (98.44)	6.380*** (77.05)	6.301*** (146.10)	6.301*** (88.69)	6.301*** (60.44)
Obs.	39,900	39,900	39,900	38,600	38,600	38,600
Adj-R <sup>2</sup>	0.503	0.503	0.503	0.548	0.548	0.548
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes
State Clustering	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes



<b>Panel B</b>	(1)	(2)	(3)	(4)	(5)	(6)
TREND	0.306*** (6.72)	0.306*** (2.96)	0.306** (2.46)	0.214*** (4.58)	0.214** (2.02)	0.214* (1.73)
Log (Asset)	-0.183*** (-77.09)	-0.183*** (-25.32)	-0.183*** (-26.06)	-0.174*** (-62.11)	-0.174*** (-20.72)	-0.174*** (-18.25)
LEV Ratio	0.503*** (33.34)	0.503*** (17.59)	0.503*** (20.26)	0.465*** (30.64)	0.465*** (16.70)	0.465*** (20.28)
MTB	-0.086*** (-6.56)	-0.086*** (-5.44)	-0.086*** (-3.05)	-0.088*** (-6.55)	-0.088*** (-5.67)	-0.088*** (-3.26)
ROA	-0.064 (-0.80)	-0.064 (-0.80)	-0.064 (-0.92)	-0.046 (-0.70)	-0.046 (-0.70)	-0.046 (-0.78)
TERMLOAN	-0.041** (-2.16)	-0.041* (-1.82)	-0.041** (-2.28)	-0.039** (-1.97)	-0.039* (-1.74)	-0.039** (-2.44)
REVOLVER	-0.384*** (-19.45)	-0.384*** (-15.96)	-0.384*** (-18.16)	-0.341*** (-16.69)	-0.341*** (-14.27)	-0.341*** (-17.28)
MERGER	0.197*** (14.77)	0.197*** (10.29)	0.197*** (10.14)	0.188*** (14.16)	0.188*** (10.19)	0.188*** (10.37)
LBO	0.998*** (27.14)	0.998*** (16.64)	0.998*** (20.19)	0.850*** (23.19)	0.850*** (14.71)	0.850*** (16.91)
CORPPUR	0.073*** (6.19)	0.073*** (4.49)	0.073*** (4.41)	0.088*** (7.54)	0.088*** (5.47)	0.088*** (5.75)
DEBTPAY	0.206*** (14.96)	0.206*** (11.14)	0.206*** (11.38)	0.198*** (14.45)	0.198*** (10.83)	0.198*** (10.79)
OTHERTYPE	-0.634*** (-27.39)	-0.634*** (-21.21)	-0.634*** (-19.58)	-0.586*** (-24.72)	-0.586*** (-19.56)	-0.586*** (-19.61)
WORKCAP	0.134*** (10.45)	0.134*** (7.29)	0.134*** (6.45)	0.141*** (11.20)	0.141*** (7.95)	0.141*** (7.08)
Constant	6.384*** (160.34)	6.384*** (99.03)	6.384*** (75.45)	6.304*** (146.38)	6.304*** (89.17)	6.304*** (59.74)
Obs.	39,900	39,900	39,900	38,600	38,600	38,600
Adj-R <sup>2</sup>	0.503	0.503	0.503	0.548	0.548	0.548
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes
State Clustering	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes

<b>Panel C</b>	(1)	(2)	(3)	(4)	(5)	(6)
TREND Dummy	0.049*** (5.95)	0.049*** (2.63)	0.049** (2.69)	0.037*** (4.21)	0.037* (1.87)	0.037* (1.78)
Log (Asset)	-0.175*** (-52.33)	-0.175*** (-16.07)	-0.175*** (-20.99)	-0.162*** (-40.29)	-0.162*** (-12.61)	-0.162*** (-14.35)
LEV Ratio	0.493*** (23.98)	0.493*** (12.39)	0.493*** (16.49)	0.472*** (22.44)	0.472*** (12.04)	0.472*** (14.85)
MTB	-0.064*** (-4.21)	-0.064*** (-3.50)	-0.064** (-2.06)	-0.066*** (-4.23)	-0.066*** (-3.77)	-0.066** (-2.27)
ROA	-0.020 (-0.45)	-0.020 (-0.45)	-0.020 (-0.62)	-0.009 (-0.27)	-0.009 (-0.27)	-0.009 (-0.35)
TERMLOAN	-0.043 (-1.56)	-0.043 (-1.36)	-0.043 (-1.63)	-0.043 (-1.47)	-0.043 (-1.35)	-0.043 (-1.66)
REVOLVER	-0.366*** (-13.01)	-0.366*** (-11.04)	-0.366*** (-12.28)	-0.326*** (-10.84)	-0.326*** (-9.47)	-0.326*** (-12.13)
MERGER	0.223*** (11.75)	0.223*** (8.05)	0.223*** (8.21)	0.208*** (10.73)	0.208*** (7.59)	0.208*** (7.65)
LBO	0.989*** (19.44)	0.989*** (12.14)	0.989*** (15.13)	0.908*** (17.36)	0.908*** (11.04)	0.908*** (14.75)
CORPPURP	0.087*** (5.15)	0.087*** (3.67)	0.087*** (4.49)	0.098*** (5.72)	0.098*** (4.20)	0.098*** (5.59)
DEBTPAY	0.191*** (9.48)	0.191*** (7.02)	0.191*** (11.55)	0.178*** (8.69)	0.178*** (6.60)	0.178*** (11.52)
OTHERTYPE	-0.625*** (-18.85)	-0.625*** (-14.53)	-0.625*** (-14.94)	-0.589*** (-16.84)	-0.589*** (-13.28)	-0.589*** (-15.62)
WORKCAP	0.127*** (7.04)	0.127*** (4.85)	0.127*** (4.39)	0.139*** (7.67)	0.139*** (5.50)	0.139*** (5.41)
Constant	6.268*** (117.51)	6.268*** (69.02)	6.268*** (65.94)	6.166*** (103.91)	6.166*** (60.21)	6.166*** (50.12)
Obs.	19,961	19,961	19,961	19,249	19,249	19,249
Adj-R <sup>2</sup>	0.511	0.511	0.511	0.553	0.553	0.553
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes
State Clustering	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes

**Table IA.5: Loan Spreads and natural hazards intensity with financials**

In this table, as a robustness check of our main results, we present cost of bank loan, Log (Spread), as a function of intensity (or damages) due to natural hazards (likely to be influenced by climate change) from SHELDUS database, Log (Duration) in Panel A, Property Damage in Panel B, and Crop Damage in Panel C, and controls. Durations are in days, Damages (Property or Crop) are in billion dollars and adjusted for 2017. Columns (1), (2), and (3) consider Year fixed effect and Industry (two-digits SIC) fixed effect. In column (1) we use robust standard errors, in column (2) we cluster standard errors by Firm, in column (3) we use two-way clustering of standard errors by Firm and State, and in columns (4) to (6) we repeat the models (1) to (3) with added Bank (Lending) fixed effects. Values of t-statistics are in parentheses. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

<b>Panel A: Spread and Duration (Days)</b>						
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
Log (Duration)	0.014*** (5.99)	0.014*** (3.49)	0.014*** (3.09)	0.012*** (4.82)	0.012*** (2.85)	0.012** (2.60)
Constant	6.347*** (158.06)	6.347*** (95.57)	6.347*** (71.98)	6.274*** (144.34)	6.274*** (85.72)	6.274*** (58.43)
Observations	39,900	39,900	39,900	38,600	38,600	38,600
Adjusted R-squared	0.503	0.503	0.503	0.548	0.548	0.548
<b>Panel B: Spread and Property Damage, \$B (2017 Adjusted)</b>						
Property_damage	0.003*** (4.90)	0.003*** (3.80)	0.003*** (5.31)	0.002*** (3.85)	0.002*** (3.06)	0.002*** (2.78)
Constant	6.378*** (159.74)	6.378*** (98.32)	6.378*** (77.74)	6.300*** (145.73)	6.300*** (88.49)	6.300*** (60.48)
Observations	39,900	39,900	39,900	38,600	38,600	38,600
Adjusted R-squared	0.503	0.503	0.503	0.548	0.548	0.548
<b>Panel C: Spread and Crop Damage, \$B (2017 Adjusted)</b>						
Crop_damage	0.024*** (5.56)	0.024*** (3.65)	0.024*** (4.92)	0.022*** (4.98)	0.022*** (3.35)	0.022*** (4.73)
Constant	6.374*** (159.55)	6.374*** (98.12)	6.374*** (76.57)	6.295*** (145.62)	6.295*** (88.32)	6.295*** (59.94)
Obs.	39,900	39,900	39,900	38,600	38,600	38,600
Adj-R <sup>2</sup>	0.503	0.503	0.503	0.549	0.549	0.549
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm Control	Yes	Yes	Yes	Yes	Yes	Yes
Loan Type & Purpose FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes
State Clustering	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes



**Table IA.6: Loan Spreads and Customer climate risk exposure with financials**

This table presents Log of Spread as a function of long-term climate change trend at customer locations (TREND\_CSTMR) and controls. Here, the customer locations are determined by matching borrower firms with Compustat Capital IQ Customer Segmentation database. The customer locations are country-level and our climate change proxy for country-level locations are available until 2014 only. As one firm can have customers at several different locations, we have repetitive observations in those cases for this part of analyses. In Panel A, we report the results with TREND\_CSTMR, and in Panel B, we use TREND\_CSTMR Dummy (equals to 1 if TREND\_CSTMR is above 75% in a particular year, and equals to 0 if TREND\_CSTMR is below 25% in a particular year). In both cases, columns (1), (2), and (3) consider Year fixed effect and Industry (two-digits SIC) fixed effect. In column (1) we use robust standard errors, in column (2) we cluster standard errors by Firm, in column (3) we use two-way clustering of standard errors by Firm and Country, and in columns (4) to (6) we repeat the models (1) to (3) with added Bank (Lending) fixed effects. Values of t-statistics are in parentheses. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

<b>Panel A: TREND</b>						
	(1)	(2)	(3)	(4)	(5)	(6)
TREND_CSTMR	0.157*** (3.15)	0.157* (1.86)	0.157* (1.81)	0.155*** (3.26)	0.155** (2.06)	0.155** (2.49)
Log (Asset)	-0.195*** (-93.09)	-0.195*** (-15.43)	-0.195*** (-16.56)	-0.186*** (-73.77)	-0.186*** (-12.45)	-0.186*** (-13.19)
LEV Ratio	0.555*** (42.92)	0.555*** (11.58)	0.555*** (10.86)	0.511*** (38.82)	0.511*** (10.84)	0.511*** (10.42)
MTB	-0.063*** (-6.04)	-0.063*** (-3.38)	-0.063*** (-3.98)	-0.065*** (-6.28)	-0.065*** (-3.69)	-0.065*** (-4.28)
ROA	-0.822*** (-11.47)	-0.822*** (-6.20)	-0.822*** (-6.89)	-0.755*** (-10.38)	-0.755*** (-5.63)	-0.755*** (-6.37)
TERMLOAN	-0.055*** (-3.29)	-0.055* (-1.71)	-0.055* (-1.92)	-0.068*** (-3.90)	-0.068** (-2.10)	.068** (-2.23)
REVOLVER	-0.442*** (-25.26)	-0.442*** (-12.82)	-0.442*** (-11.89)	-0.417*** (-23.00)	-0.417*** (-11.76)	-0.417*** (-9.96)
MERGER	0.181*** (16.79)	0.181*** (5.89)	0.181*** (4.93)	0.183*** (17.05)	0.183*** (6.25)	0.183*** (5.53)
LBO	1.045*** (29.47)	1.045*** (10.15)	1.045*** (11.51)	0.929*** (26.43)	0.929*** (9.06)	0.929*** (9.09)
CORPPURP	0.074*** (7.84)	0.074*** (3.03)	0.074*** (3.14)	0.087*** (9.31)	0.087*** (3.58)	0.087*** (3.61)
DEBTPAY	0.189*** (17.25)	0.189*** (6.72)	0.189*** (6.18)	0.173*** (15.91)	0.173*** (6.19)	0.173*** (4.90)
OTHERTYPE	-0.695*** (-34.94)	-0.695*** (-15.67)	-0.695*** (-15.32)	-0.665*** (-32.43)	-0.665*** (-14.38)	-0.665*** (-13.15)
WORKCAP	0.152*** (14.02)	0.152*** (4.94)	0.152*** (5.67)	0.162*** (15.17)	0.162*** (5.24)	0.162*** (5.92)
Constant	6.408*** (199.39)	6.408*** (63.29)	6.408*** (68.26)	6.346*** (183.86)	6.346*** (55.45)	6.346*** (58.51)
Obs.	58,972	58,972	58,972	57,113	57,113	57,113
Adj-R <sup>2</sup>	0.545	0.545	0.545	0.596	0.596	0.596
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes
Country Clustering	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes

	<b>Panel B: TREND Dummy</b>					
	(1)	(2)	(3)	(4)	(5)	(6)
TREND_CSTMR_dummy	0.046*** (6.36)	0.046* (1.68)	0.046* (1.86)	0.049*** (6.24)	0.049* (1.64)	0.049* (1.83)
Log (Asset)	-0.180*** (-60.86)	-0.180*** (-10.03)	-0.180*** (-10.57)	-0.167*** (-46.73)	-0.167*** (-8.05)	-0.167*** (-8.51)
LEV Ratio	0.543*** (29.97)	0.543*** (8.70)	0.543*** (9.42)	0.539*** (28.78)	0.539*** (8.88)	0.539*** (9.49)
MTB	-0.043*** (-3.84)	-0.043** (-2.17)	-0.043** (-2.63)	-0.045*** (-4.06)	-0.045** (-2.44)	-0.045*** (-2.90)
ROA	-0.748*** (-8.38)	-0.748*** (-4.21)	-0.748*** (-4.75)	-0.633*** (-7.35)	-0.633*** (-3.70)	-0.633*** (-4.10)
TERMLOAN	-0.052** (-2.18)	-0.052 (-1.24)	-0.052 (-1.27)	-0.062** (-2.38)	-0.062 (-1.31)	-0.062 (-1.38)
REVOLVER	-0.430*** (-17.28)	-0.430*** (-9.25)	-0.430*** (-7.96)	-0.403*** (-15.05)	-0.403*** (-7.58)	-0.403*** (-6.66)
MERGER	0.246*** (15.76)	0.246*** (5.69)	0.246*** (5.69)	0.233*** (14.47)	0.233*** (5.60)	0.233*** (5.76)
LBO	1.108*** (23.74)	1.108*** (8.26)	1.108*** (8.94)	1.044*** (21.74)	1.044*** (7.92)	1.044*** (7.61)
CORPPURP	0.116*** (8.57)	0.116*** (3.27)	0.116*** (3.53)	0.128*** (9.26)	0.128*** (3.82)	0.128*** (4.32)
DEBTPAY	0.175*** (10.89)	0.175*** (4.19)	0.175*** (4.03)	0.163*** (9.85)	0.163*** (3.97)	0.163*** (3.75)
OTHERTYPE	-0.708*** (-24.85)	-0.708*** (-11.66)	-0.708*** (-9.83)	-0.672*** (-22.16)	-0.672*** (-9.89)	-0.672*** (-9.06)
WORKCAP	0.150*** (9.83)	0.150*** (3.77)	0.150*** (4.39)	0.161*** (10.43)	0.161*** (4.37)	0.161*** (5.14)
Constant	6.246*** (147.71)	6.246*** (46.32)	6.246*** (49.16)	6.132*** (131.09)	6.132*** (40.65)	6.132*** (43.68)
Obs.	29,477	29,477	29,477	28,523	28,523	28,523
Adj-R <sup>2</sup>	0.559	0.559	0.559	0.604	0.604	0.604
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes
Country Clustering	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes

**Table IA.7: Moderating Effect of Insurance with financials**

This table presents the moderating effect of insurance. Here we separate our sample into two groups based on the condition whether the borrower firm was insured through the Credit Default Swap (CDS) during the issuance of a loan to it. The sample is limited due to our limited availability of CDS data. The dependent variable is log (spread). Each of the models use Year fixed effect, Industry fixed effect, and Bank (Lending) fixed effect. The standard errors are two-way clustered by Firm and State. Values of t-statistics are in parentheses. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

	With CDS	Without CDS	With CDS	Without CDS
TREND	0.081 (0.27)	0.186* (1.83)		
TREND Dummy			0.018 (0.38)	0.035** (2.58)
Log (Asset)	-0.164*** (-8.64)	-0.129*** (-15.14)	-0.150*** (-6.39)	-0.113*** (-10.03)
LEV Ratio	0.616*** (6.51)	0.454*** (10.07)	0.536*** (3.57)	0.442*** (7.91)
MTB	-0.272*** (-9.77)	-0.103*** (-12.14)	-0.235*** (-7.37)	-0.110*** (-12.31)
ROA	-2.561*** (-7.68)	-0.652*** (-6.24)	-2.133*** (-6.12)	-0.464*** (-4.01)
TERMLOAN	-0.167 (-0.44)	0.073 (1.20)	-0.132 (-0.33)	0.152*** (3.73)
REVOLVER	-0.537 (-1.44)	-0.172** (-2.49)	-0.491 (-1.27)	-0.071 (-1.55)
MERGER	0.327*** (5.17)	0.091** (2.64)	0.389*** (3.71)	0.093* (1.97)
LBO	0.978*** (6.20)	0.646*** (6.23)	1.210*** (4.23)	0.644*** (5.57)
CORPPURP	0.262*** (6.96)	0.007 (0.22)	0.299*** (5.50)	0.026 (0.63)
DEBTPAY	0.463*** (6.51)	0.130*** (3.83)	0.545*** (5.25)	0.121** (2.32)
OTHERTYPE	-0.773** (-2.06)	-0.423*** (-6.38)	-0.760* (-2.01)	-0.303*** (-4.74)
WORKCAP	0.274*** (6.66)	0.023 (0.82)	0.266*** (5.24)	0.035 (0.98)
Constant	6.650*** (14.94)	6.215*** (57.46)	6.428*** (11.68)	6.016*** (57.62)
Obs.	4,589	12,614	2,161	6,423
Adj-R <sup>2</sup>	0.663	0.493	0.669	0.489
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Bank (lending) FE	Yes	Yes	Yes	Yes
State Clustering	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes

**Table IA.8: Loan Subsamples with financials**

In this table we present a series of subsample analyses based on our original analysis of log (spread) as a function of TREND (or TREND Dummy) and controls (as of Table 4). Panel A1 (A3) and A2 (A4) present comparison between Investment Grade vs. Noninvestment Grade subsample, Panel B1 (B3) and B2 (B4) present comparison between Long Maturity (T3 and T4) vs. Short Maturity (T1 and T2) subsample. Models (1), (2), and (3) consider Year fixed effect and Industry (two-digits SIC) fixed effect. In model (1) we use robust standard errors, in model (2) we cluster standard errors by firm, in model (3) we use two-way clustering of standard errors by Firm and State, and in models (4) to (6) we repeat the models (1) to (3) with added Bank (Lending) fixed effects. Values of t-statistics are in parentheses. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

<b>Panel A: Investment vs. Noninvestment</b>												
<b>Panel A1: Investment and TREND</b>						<b>Panel A2: Noninvestment and TREND</b>						
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
TREND	0.140 (1.23)	0.140 (0.58)	0.140 (0.59)	0.159 (1.35)	0.159 (0.64)	0.159 (0.64)	0.370*** (7.99)	0.370*** (4.08)	0.370*** (3.56)	0.273*** (5.80)	0.273*** (2.99)	0.273*** (3.63)
CONSTANT	6.126*** (76.49)	6.126*** (47.67)	6.126*** (54.53)	6.022*** (71.49)	6.022*** (45.92)	6.022*** (49.16)	6.150*** (154.19)	6.150*** (101.83)	6.150*** (83.81)	6.117*** (141.97)	6.117*** (93.08)	6.117*** (68.57)
Obs.	7,578	7,578	7,578	7,326	7,326	7,326	31,071	31,071	31,071	30,040	30,040	30,040
Adj-R <sup>2</sup>	0.564	0.564	0.564	0.598	0.598	0.598	0.380	0.380	0.380	0.444	0.444	0.444
<b>Panel A3: Investment and TREND Dummy</b>						<b>Panel A4: Noninvestment and TREND Dummy</b>						
TREND Dummy	0.030 (1.49)	0.030 (0.73)	0.030 (0.83)	0.048** (2.22)	0.048 (1.13)	0.048 (1.39)	0.059*** (7.04)	0.059*** (3.57)	0.059*** (4.28)	0.046*** (5.18)	0.046*** (2.63)	0.046*** (3.31)
CONSTANT	5.988*** (49.48)	5.988*** (33.97)	5.988*** (45.54)	5.756*** (43.79)	5.756*** (29.31)	5.756*** (29.93)	6.081*** (117.42)	6.081*** (71.80)	6.081*** (63.51)	6.025*** (104.49)	6.025*** (62.21)	6.025*** (51.66)
Obs.	3,688	3,688	3,688	3,518	3,518	3,518	16,270	16,270	16,270	15,650	15,650	15,650
Adj-R <sup>2</sup>	0.575	0.575	0.575	0.610	0.610	0.610	0.384	0.384	0.384	0.446	0.446	0.446
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
State Clustering	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes

**Panel B: Long Maturity vs. Short Maturity**

	<b>Panel B1: Long Maturity and TREND</b>						<b>Panel B2: Short Maturity and TREND</b>					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
TREND	0.296 <sup>***</sup> (4.84)	0.296 <sup>**</sup> (2.44)	0.296 <sup>**</sup> (2.57)	0.177 <sup>***</sup> (2.88)	0.177 (1.45)	0.177 (1.44)	0.228 <sup>***</sup> (3.45)	0.228 <sup>**</sup> (1.99)	0.228 <sup>*</sup> (1.65)	0.169 <sup>**</sup> (2.40)	0.169 (1.39)	0.169 (1.18)
CONSTANT	6.287 <sup>***</sup> (133.42)	6.287 <sup>***</sup> (67.20)	6.287 <sup>***</sup> (53.51)	6.245 <sup>***</sup> (127.56)	6.245 <sup>***</sup> (59.18)	6.245 <sup>***</sup> (43.67)	6.226 <sup>***</sup> (84.24)	6.226 <sup>***</sup> (73.51)	6.226 <sup>***</sup> (75.50)	6.178 <sup>***</sup> (80.37)	6.178 <sup>***</sup> (71.94)	6.178 <sup>***</sup> (58.89)
Obs.	19,326	19,326	19,326	18,737	18,737	18,737	19,323	19,323	19,323	18,541	18,541	18,541
Adj-R <sup>2</sup>	0.522	0.522	0.522	0.576	0.576	0.576	0.534	0.534	0.534	0.569	0.569	0.569
	<b>Panel B3: Long Maturity and TREND Dummy</b>						<b>Panel B4: Short Maturity and TREND Dummy</b>					
TREND Dummy	0.049 <sup>***</sup> (4.26)	0.049 <sup>**</sup> (2.21)	0.049 <sup>***</sup> (3.03)	0.034 <sup>***</sup> (2.93)	0.034 (1.54)	0.034 <sup>*</sup> (1.79)	0.033 <sup>***</sup> (2.87)	0.033 (1.64)	0.033 (1.42)	0.026 <sup>**</sup> (2.04)	0.026 (1.18)	0.026 (1.04)
CONSTANT	6.102 <sup>***</sup> (95.92)	6.102 <sup>***</sup> (45.31)	6.102 <sup>***</sup> (48.91)	6.023 <sup>***</sup> (88.25)	6.023 <sup>***</sup> (39.26)	6.023 <sup>***</sup> (36.75)	6.118 <sup>***</sup> (62.49)	6.118 <sup>***</sup> (56.38)	6.118 <sup>***</sup> (63.59)	6.027 <sup>***</sup> (58.46)	6.027 <sup>***</sup> (53.28)	6.027 <sup>***</sup> (42.77)
Obs.	9,734	9,734	9,734	9,406	9,406	9,406	10,225	10,225	10,225	9,712	9,712	9,712
Adj-R <sup>2</sup>	0.516	0.516	0.516	0.565	0.565	0.565	10,225	10,225	10,225	9,712	9,712	9,712
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank (lending) FE	No	No	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
State Clustering	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Firm Clustering	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes

**Table IA.9: Loan Subsample Driving the effect with financials**

In this table, we present analyses of subsample that are (most likely) driving the effect. Here we first split our sample into Investment and Non-investment rated firms. Then, within each of the groups, we further split them into long vs. short maturities. Panel A, and Panel B present the results using TREND, and TREND Dummy as key independent variables, respectively. The dependent variable is log (spread). Each of the models use Year fixed effect, Industry fixed effect, and Bank (Lending) fixed effect. The standard errors are two-way clustered by Firm and State. Values of t-statistics are in parentheses. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

<b>Panel A: TREND</b>				
	Non-Investment		Investment	
	Long Maturity	Short Maturity	Long Maturity	Short Maturity
TREND	0.287*** (2.99)	0.193* (1.93)	-0.012 (-0.05)	0.296 (0.97)
CONSTANT	6.024*** (49.80)	5.938*** (55.76)	6.103*** (41.28)	5.957*** (29.15)
Obs.	15,720	15,046	2,958	4,557
Adj-R <sup>2</sup>	0.492	0.443	0.649	0.569
<b>Panel B: TREND Dummy</b>				
TREND Dummy	0.043*** (2.72)	0.038* (1.74)	0.054 (1.42)	0.051 (1.19)
CONSTANT	5.895*** (42.08)	5.819*** (41.94)	5.843*** (29.09)	5.545*** (16.56)
Obs.	8,061	7,459	1,298	2,178
Adj-R <sup>2</sup>	0.487	0.460	0.690	0.583
Other Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Bank (lending) FE	Yes	Yes	Yes	Yes
State Clustering	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes

**Table IA.10: Other contractual features of loans with financials**

This table presents different contractual features of bank loans other than the Spread as a function of long-term climate change trend (TREND) – in Panel A (or TREND Dummy – in Panel B), and controls. These loan features include Deal Amount, Maturity, Number of Lenders in a Loan Syndicate, Total Covenants, Upfront Fee, and Secured Loan Dummy. Each of the models use Year fixed effect, Industry fixed effect, and Bank (Lending) fixed effect. The standard errors are two-way clustered by Firm and State. Values of t-statistics are in parentheses. \*\*\*, \*\*, and \* represent significance at 1% level, 5% level, and 10% level respectively.

<b>Panel A: TREND</b>						
	lndeal	lmaturity	lnlender	totalcov	ln_upfront	secured_loan
TREND	-0.265 (-0.92)	-0.068 (-1.18)	-0.353 (-1.17)	0.563 (1.42)	0.511** (2.59)	0.061 (0.66)
CONSTANT	15.122*** (128.29)	3.203*** (81.64)	-0.506*** (-6.41)	4.910*** (24.28)	4.513*** (30.53)	1.147*** (22.22)
Obs.	38,600	37,457	38,600	38,600	6,964	38,600
Adj-R <sup>2</sup>	0.710	0.497	0.423	0.343	0.325	0.310
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
State Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes	Yes	Yes
<b>Panel B: TREND Dummy</b>						
	lndeal	lmaturity	lnlender	totalcov	ln_upfront	secured_loan
TREND Dummy	-0.028 (-0.57)	-0.007 (-0.97)	-0.059 (-1.31)	0.175*** (2.79)	0.082*** (3.04)	0.018 (1.33)
CONSTANT	15.274*** (109.33)	3.249*** (54.29)	-0.423*** (-4.46)	4.529*** (21.17)	4.222*** (29.17)	1.064*** (23.32)
Obs.	19,249	18,733	19,249	19,249	3,487	19,249
Adj-R <sup>2</sup>	0.721	0.506	0.441	0.349	0.339	0.321
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
State Clustering	Yes	Yes	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes	Yes	Yes