

# Climate Change-Related Regulatory Risks and Bank Lending

**Isabella Mueller and Eleonora Sfrappini**  
*Halle Institute for Economic Research*

CompNet ProdTalks  
December 7, 2021

This paper has been prepared by the authors under the Lamfalussy Fellowship Programme sponsored by the ECB. Any views expressed are only those of the authors and do not necessarily represent the views of the ECB or the Eurosystem.

## Motivation

*"Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO<sub>2</sub> and other greenhouse gas emissions occur in the coming decades."* (IPCC, 2021)

- ▶ Climate change makes transitioning to a greener economy in the near future a priority.
- ▶ A transition relies on extensive regulatory intervention → Firms face regulatory risks.
- ▶ Effect of regulatory risks on **banks' lending patterns** has not been fully understood.
- ▶ Role of the financial sector: setting incentives and providing funding for transition.

# Understanding the role of banks

Do banks lending decisions facilitate or hinder the transition?

BBC | Sign in

Home News Sport Reel Worklife Travel

## NEWS

Home | Coronavirus | Climate | Video | World | UK | Business | Tech | Science | Stories | Entertainment & Arts

Politics | Parliaments | Brexit

### Greta Thunberg: Activist calls on banks to stop funding climate 'destruction'

29 October

COP26



REUTERS®

World | Business | Legal | Markets | Breakingviews | Technology | Investigations | Sports

November 4, 2021  
10:30 AM CET  
Last Updated 12 days ago

COP26

## Banks' green push requires more stick than carrot

3 minute read

By Liam Proud



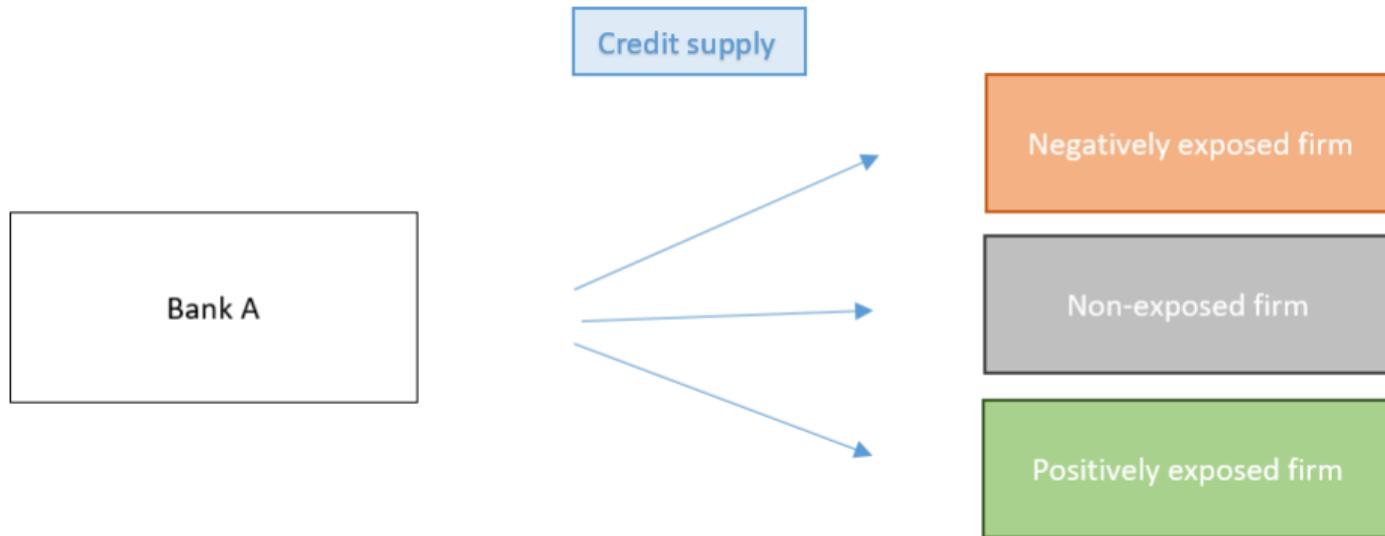
Links: BBC, Reuters

## The set-up in a nutshell:

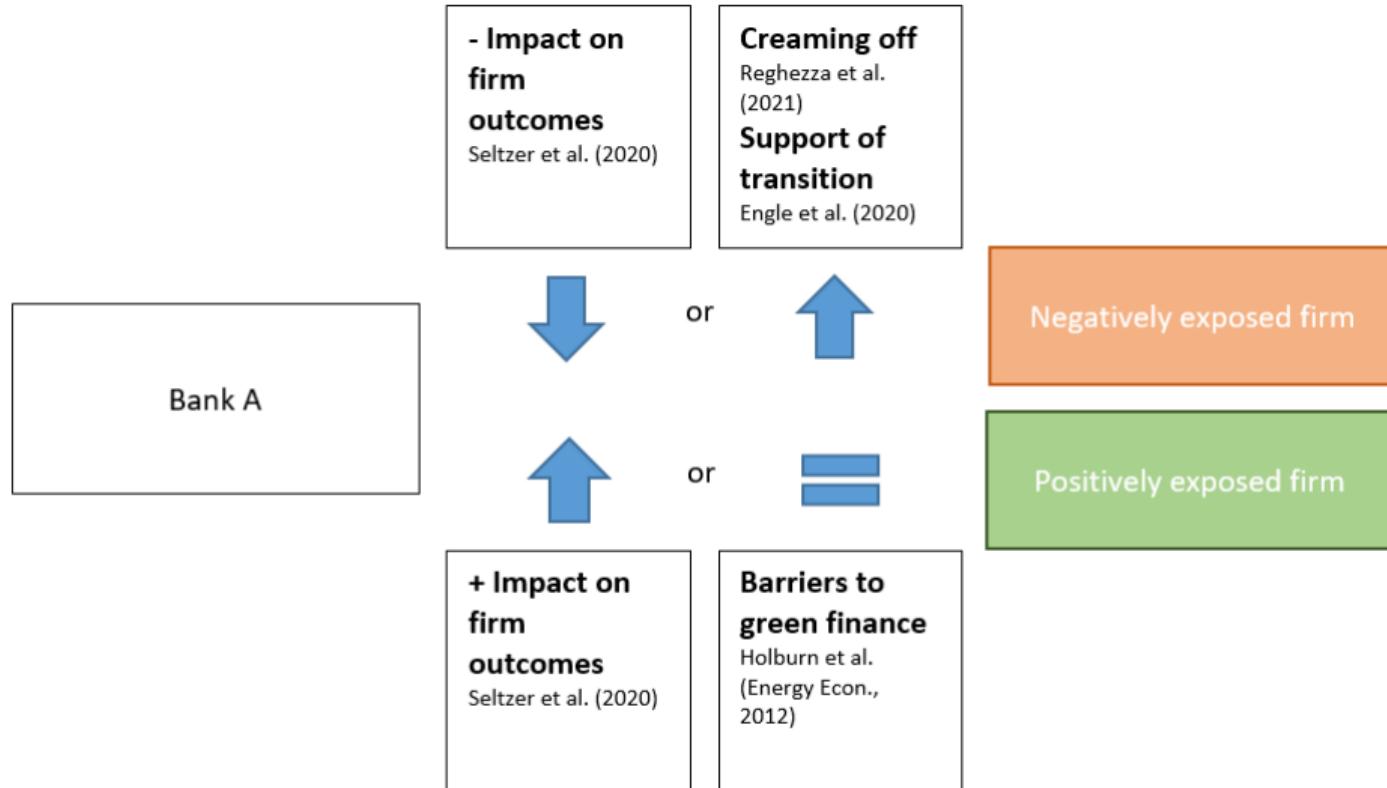
- ▶ Research question: **Do banks adjust their credit supply depending on firms' regulatory risks?**
- ▶ Paris Agreement in 2015 → shifting point for banks' awareness of the impact of climate change and the need for regulatory intervention (Krueger et al., 2020)
  - ▶ 196 nations agree to coordinate actions to limit global warming to below 2 degrees
  - ▶ Anticipation: Agreement unlikely and extent unforeseen
- ▶ International sample of firms and banks
  - ▶ All active syndicated loans between 2010 and 2019
- ▶ Identification of firms that are positively/negatively exposed to climate change-related regulatory risks
  - ▶ Firms' exposure to climate change-related regulatory risks: **Sautner et al. (2020)**
  - ▶ Exposure captures *frequency of occurrence* of topic but also *sentiment* of conversations in quarterly earning conference calls

# Setting

Identification of 3 groups of firms

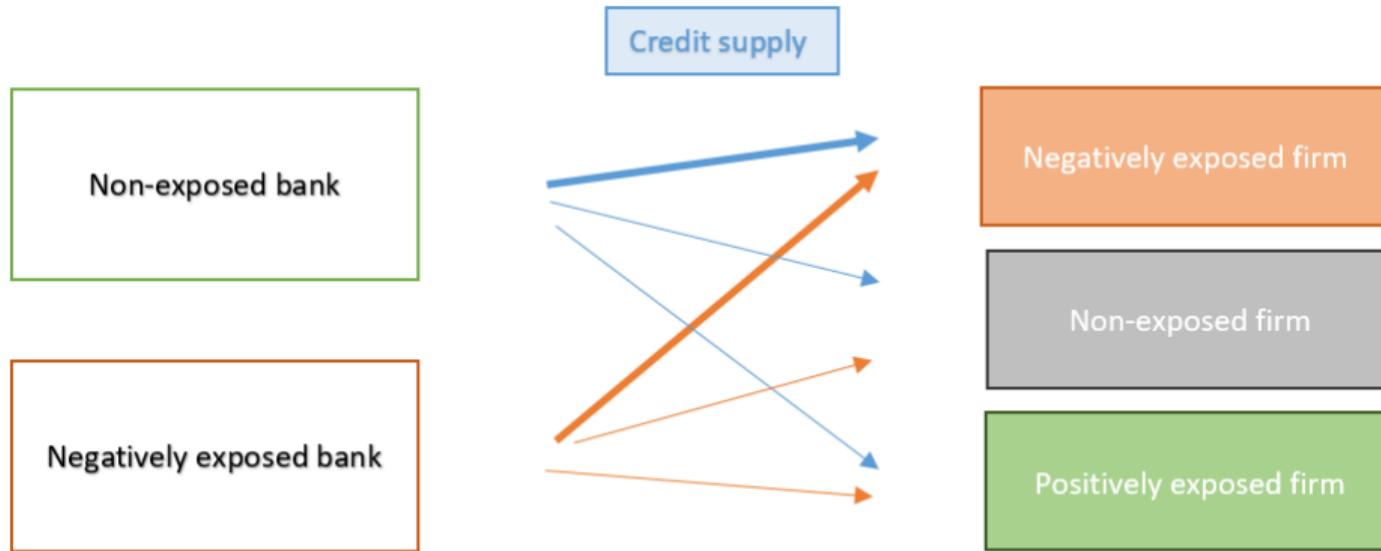


# Hypotheses

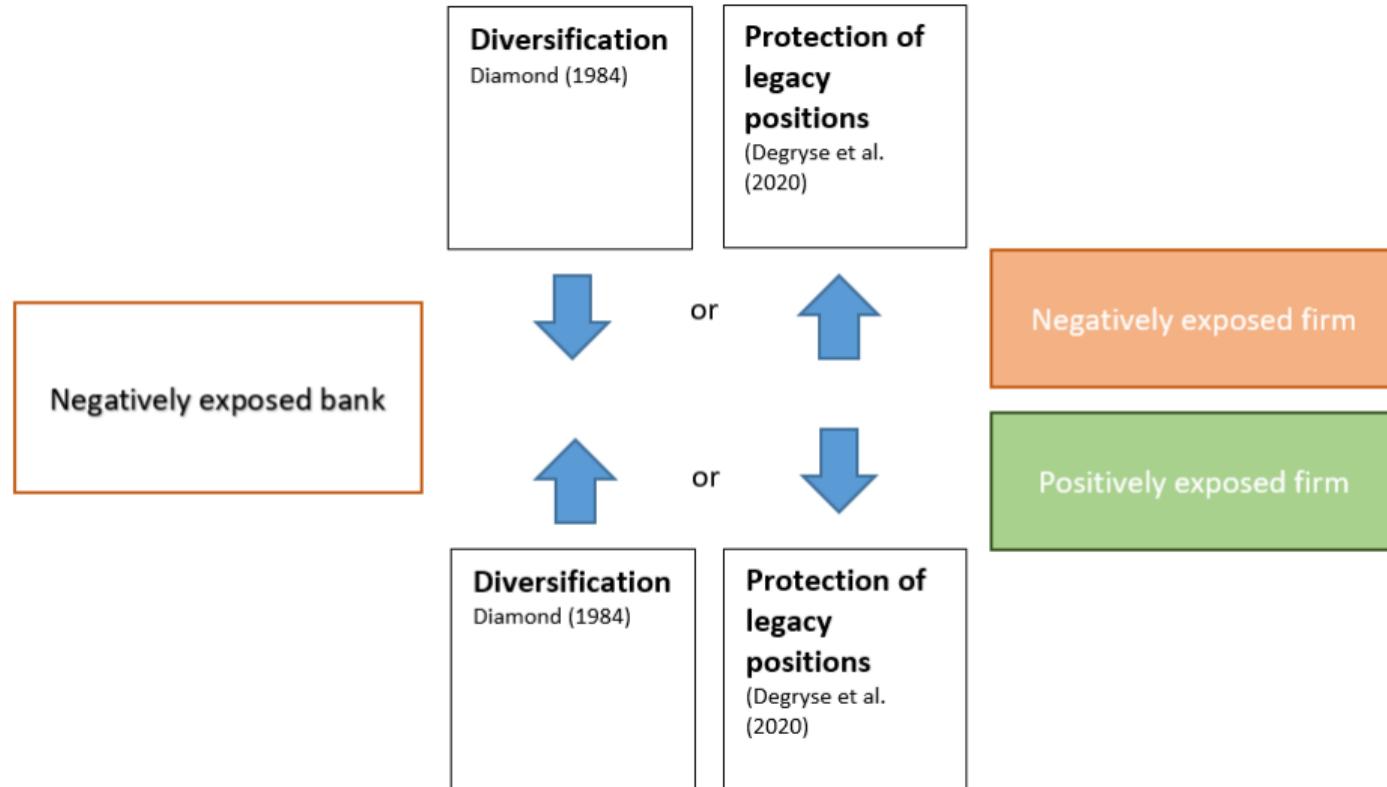


# Setting: The role of banks' own exposure

Identification of banks' exposure via portfolio composition



# Hypotheses: The role of banks' own exposure



## Estimation strategy: Difference-in-differences design

Combination of Doerr and Schaz (JFE, 2020) and Degryse et al. (JFI, 2019)

$$\ln(\text{Credit})_{b,f,t} = \beta_1 \text{Positive}_f \times \text{Post}_t + \beta_2 \text{Negative}_f \times \text{Post}_t + \zeta_{j,I,s,t} + \zeta_{b,t} + \zeta_{b,f} + \varepsilon_{b,f,t} \quad (1)$$

- ▶  $\ln(\text{Credit})_{b,f,t}$ : Log of outstanding credit between bank  $b$  and firm  $f$  in quarter  $t$
- ▶  $\text{Post}_t = 1$  from 2015q4 onwards (= after Paris) and zero otherwise
- ▶  $\text{Positive}_f = \begin{cases} 1 & \text{if } \overline{\text{CCExposure}}_f > 0 \\ 0 & \text{otherwise} \end{cases}$
- ▶  $\text{Negative}_f = \begin{cases} 1 & \text{if } \overline{\text{CCExposure}}_f < 0 \\ 0 & \text{otherwise} \end{cases}$
- ▶ Industry-location-size-time ( $\zeta_{j,I,s,t}$ ), bank-time ( $\zeta_{b,t}$ ), bank-firm ( $\zeta_{b,f}$ ) fixed effects

► CCExposure ► Distribution ► Pre-trends

## Estimation strategy: The role of banks' own exposure

Combination of Doerr and Schatz (JFE, 2020) and Degryse et al. (JFI, 2019)

$$\begin{aligned}\ln(\text{Credit})_{b,f,t} = & \gamma_1 \text{Positive}_f \times \text{Post}_t + \gamma_2 \text{Negative}_f \times \text{Post}_t \\ & + \gamma_3 \text{Positive}_f \times \text{Post}_t \times \text{NegBank}_b \\ & + \gamma_4 \text{Negative}_f \times \text{Post}_t \times \text{NegBank}_b \\ & + \eta_{j,l,s,t} + \eta_{b,t} + \eta_{b,f} + \epsilon_{b,f,t}.\end{aligned}\tag{2}$$

- ▶  $\text{NegBank}_b = \begin{cases} |\text{Bank exposure}_b| & \text{if } \text{Bank exposure}_b < 0 \\ 0 & \text{otherwise} \end{cases}$ ▶ Bank exposure ▶ Distribution
- ▶ Industry-location-size-time ( $\eta_{j,l,s,t}$ ), bank-time ( $\eta_{b,t}$ ), bank-firm ( $\eta_{b,f}$ ) fixed effects

## A first look at lending patterns after Paris

	(1) All	(2) USA	(3) Europe	(4) ROW
Positive × Post	0.128 (0.097)	-0.094 (0.126)	0.521*** (0.114)	0.006 (0.102)
Negative × Post	0.164*** (0.048)	0.176*** (0.060)	0.055 (0.111)	0.135 (0.106)
Observations	299,550	162,394	92,179	41,947
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
ILST FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.912	0.890	0.907	0.927
Number of banks	261	96	148	160
Number of firms	2,155	1,637	290	223
Clustering	Bank	Bank	Bank	Bank

▶ Controls

▶ Robustness

▶ Spread

▶ Trump

## Does banks' own exposure play a role?

	(1) USA	(2) Europe
Positive × Post	-0.111 (0.134)	0.507*** (0.113)
Positive × Post × NegBank	<b>119.980</b> (108.050)	<b>10.244</b> (18.535)
Negative × Post	0.176*** (0.060)	0.029 (0.106)
Negative × Post × NegBank	<b>-3.912</b> (9.188)	<b>25.324***</b> (9.639)
Observations	162,394	93,805
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Adjusted $R^2$	0.890	0.906
Number of banks	96	148
Number of firms	1,637	295
Clustering	Bank	Bank

# Does bank behavior fuel or hinder the transition?

To whom is the money going? Firms' likelihood to transition

	(1) USA	(2) Europe
Positive × Post	-0.110 (0.135)	0.503*** (0.111)
LessNegative × Post	0.210* (0.108)	0.314*** (0.108)
VeryNegative × Post	0.162** (0.064)	-0.013 (0.112)
Positive × Post × NegBank	114.725 (111.034)	13.404 (19.156)
LessNegative × Post × NegBank	-190.181 (213.348)	5.915 (11.661)
VeryNegative × Post × NegBank	-2.618 (9.704)	32.975** (13.147)
Observations	162,394	93,805
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Adjusted $R^2$	0.890	0.907
Number of banks	96	148
Number of firms	1637	295
Clustering	Bank	Bank

# Does bank behavior fuel or hinder the transition?

From whom is the money coming? Banks' capital constraints

	(1) USA	(2) Europe
Positive $\times$ Post	-0.115 (0.156)	0.399*** (0.131)
Positive $\times$ Post $\times$ LowCapital	<b>-0.072</b> (0.074)	<b>0.002</b> (0.096)
Negative $\times$ Post	0.141** (0.058)	0.023 (0.131)
Negative $\times$ Post $\times$ LowCapital	<b>0.086**</b> (0.040)	<b>-0.066</b> (0.043)
Positive $\times$ Post $\times$ NegBank	142.436 (135.855)	16.786 (20.594)
Negative $\times$ Post $\times$ NegBank	-6.489 (8.414)	17.682 (12.525)
Observations	145,470	66,064
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Adjusted $R^2$	0.889	0.906
Number of banks	59	74
Number of firms	1,582	275
Clustering	Bank	Bank

# What is driving banks' behavior: Is it their public commitments?

The preferences channel

	(1) USA	(2) Europe
Positive × Post	-0.100 (0.131)	0.424*** (0.125)
Positive × Post × UNEPMember	<b>-0.038</b> (0.075)	<b>0.141*</b> (0.081)
Negative × Post	0.176*** (0.062)	-0.004 (0.106)
Negative × Post × UNEPMember	<b>-0.002</b> (0.033)	<b>0.058</b> (0.043)
Positive × Post × NegBank	130.351 (107.777)	18.547 (18.729)
Negative × Post × NegBank	-3.899 (9.253)	26.931*** (9.896)
Observations	162,394	93,805
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Adjusted $R^2$	0.890	0.907
Number of banks	96	148
Number of firms	1,637	295
Clustering	Bank	Bank

# What is driving banks' behavior: Is it the regulatory environment?

The risk channel

	(1) USA	(2) Europe
Positive × Post	-0.095 (0.165)	0.410*** (0.134)
Positive × Post × Target	<b>-0.039</b> (0.154)	
Negative × Post	0.162*** (0.055)	0.445*** (0.138)
Negative × Post × Target	<b>0.049</b> (0.162)	
Positive × Post × HighScore		<b>-0.346</b> (0.261)
Negative × Post × HighScore		<b>-1.072***</b> (0.154)
Positive × Post × NegBank	117.438 (110.243)	7.748 (18.844)
Negative × Post × NegBank	-4.225 (9.072)	22.355*** (8.377)
Observations	162,394	91,490
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Adjusted $R^2$	0.890	0.907
Number of banks	96	147
Number of firms	1,637	284
Clustering	Bank	Bank

## Conclusions

This paper contributes to the growing field of climate finance by investigating banks' current role in mitigating transition risks.

We investigate whether and how banks adjust credit supply depending on:

- ▶ firms' regulatory risks
- ▶ banks' own exposure via their portfolio composition

*Does banks' behavior fuel or hinder the transition?*

- ▶ In the United States: support of negatively exposed firms
- ▶ In Europe: support of positively exposed firms, but banks' own exposure obstructs the transition

*What drives banks' decisions?* The regulatory environment rather than banks' own public commitments to tackle climate change.

Thank you for your attention

## Firms' exposure to climate change-related regulatory risks

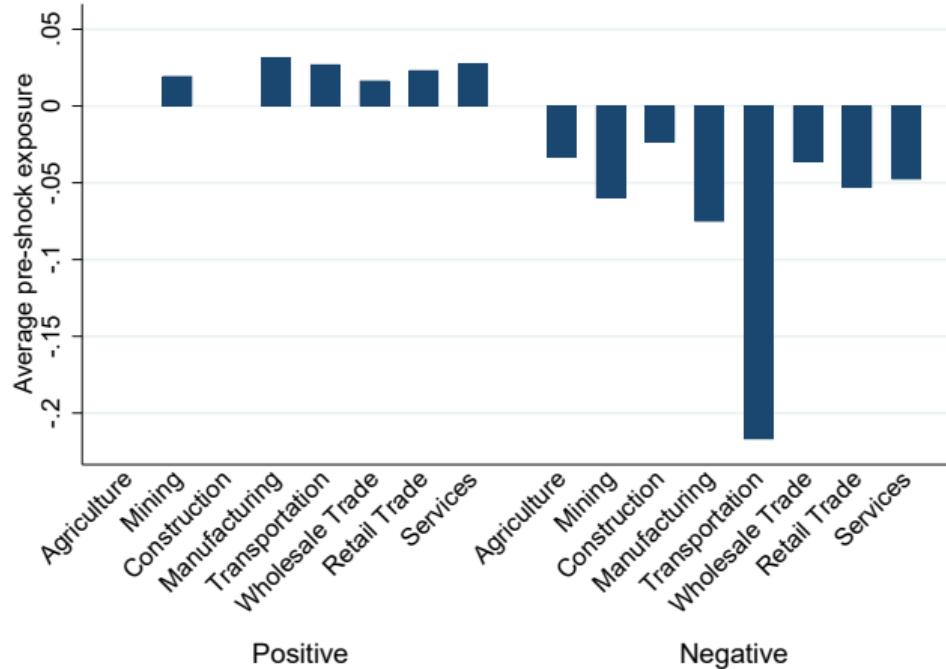
Construction by Sautner et al.(2020)

$$\text{CCExposure}_{f,t} = \frac{1}{B_{f,t}} \sum_b^{B_{f,t}} (1[b \in \mathbb{C}]) \times \sum_{b \in S} \tau(b) \quad (3)$$

- ▶  $b = 0, 1, \dots, B_{f,t}$  are the bigrams in firm  $f$ 's conference call transcript in quarter  $t$
- ▶  $1[.]$  = indicator function
- ▶  $\mathbb{C}$  = set of bigrams
- ▶  $S$  represents the sentence containing  $b = 0, 1, \dots, B_{f,t}$

$$\tau(b) = \begin{cases} 1 & \text{if } b \text{ has a positive tone} \\ -1 & \text{if } b \text{ has a negative tone} \\ 0 & \text{otherwise} \end{cases}$$

## Distribution of firms' exposure



## Industry distribution of firms' exposure

	Mean	SD	Median	# of firms
Bottom-5 Industries				
49 Electric, Gas and Sanitary Svcs.	-0.197	0.313	-0.051	113
76 Miscellaneous Repair Svcs.	-0.110	0.164	-0.031	3
12 Coal Mining	-0.057	0.054	-0.063	11
45 Transportation by Air	-0.034	0.056	0.000	14
34 Fabricated Metal Prdcts	-0.029	0.075	0.000	24
Top-5 Industries				
25 Furniture and Fixtures	0.001	0.004	0.000	10
59 Miscellaneous Retail	0.001	0.006	0.000	47
56 Apparel and Accessory Stores	0.001	0.005	0.000	24
22 Textile Mill Prdcts	0.002	0.005	0.000	6
72 Personal Svcs.	0.002	0.007	0.000	8

## Banks' exposure to climate change-related regulatory risks

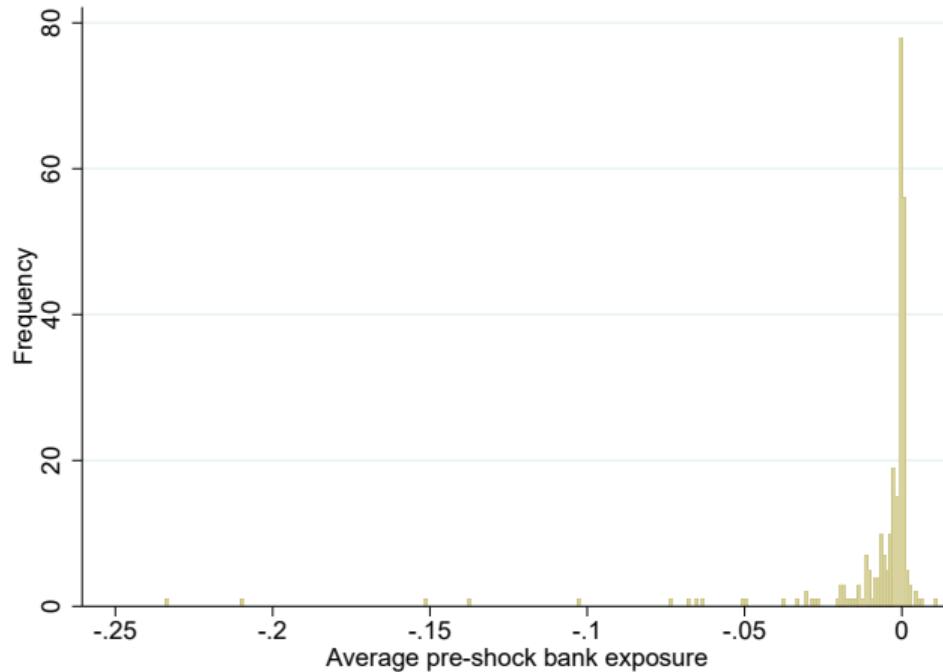
Banks are exposed through their lending portfolio:

$$\text{Bank exposure}_b = \frac{\sum_{f=1}^N \left( \frac{\text{lending}_{b,f}}{\text{lending}_b} \times \text{CCExposure}_f \right)}{N}. \quad (4)$$

$$\text{Bank exposure}_b = \begin{cases} < 0 & \text{if a bank predominantly lends to negatively exposed firms} \\ > 0 & \text{if a bank predominantly lends to positively exposed firms} \\ = 0 & \text{if a bank lends to non-exposed firms only/ exposures cancel out} \end{cases}$$

[◀ Go Back](#)

## Distribution of banks' exposure



# Robustness checks

- ▶ Alternative specifications
  - ▶ Inclusion of loan and firm controls ▶ Controls
  - ▶ Alternative clustering schemes ▶ USA ▶ Europe
  - ▶ Inclusion of banks' country fixed effects ▶ FE USA ▶ FE Europe
- ▶ Anticipation effects ▶ Anticipation
- ▶ Greenwashing ▶ Greenwashing
- ▶ DealScan particularities ▶ DealScan
  - ▶ Exclusion of loans that are likely to be securitized
  - ▶ Exclusion of uncommon loan types
  - ▶ Exclusion of loans that are de facto no syndicate
- ▶ Location and timing of regulation ▶ Location+Timing
  - ▶ Exclusion of loans from foreign subsidiaries
  - ▶ Exclusion of short-term loans
- ▶ Alternative exposure measures and control group ▶ Alt. exposure
  - ▶ Cumulative exposure measure
  - ▶ Full period exposure measure
  - ▶ Exclusion of firms with zero exposure

# Robust: Loan and Firm controls

	(1) USA	(2) USA	(3) Europe	(4) Europe
Positive × Post	-0.056 (0.124)	-0.010 (0.072)	0.439*** (0.105)	0.366*** (0.079)
Negative × Post	0.150*** (0.057)	0.106** (0.049)	0.031 (0.097)	0.282 (0.186)
Loan Spread	-0.000 (0.000)		0.001** (0.000)	
Loan Maturity	-0.011*** (0.002)		-0.007*** (0.001)	
ROA t-1		-0.001 (0.002)		0.024*** (0.006)
Equity ratio t-1		-0.003* (0.002)		0.004 (0.008)
R&D investment ratio t-1		0.048 (0.032)		1.010*** (0.189)
Capital expenditure ratio t-1		-0.007 (0.006)		0.081*** (0.019)
Sales ratio t-1		-0.005** (0.002)		0.028*** (0.007)
Observations	159,017	62,908	92,452	35,412
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
ILST FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.892	0.912	0.912	0.929
Number of banks	92	84	148	122
Number of firms	1,621	1,301	292	182
Clustering	Bank	Bank	Bank	Bank

# What is happening in the USA?

	(1) Only Obama period	(2) Only Trump period	(3) Until announcement
Positive × Post	-0.089 (0.085)	-0.091 (0.124)	-0.066 (0.092)
Negative × Post	0.161*** (0.044)	0.153** (0.066)	0.167*** (0.049)
Observations	97,211	143,343	106,900
Bank-Firm FE	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes
ILST FE	Yes	Yes	Yes
Adjusted $R^2$	0.908	0.888	0.907
Number of banks	92	96	94
Number of firms	1,515	1,634	1,540
Clustering	Bank	Bank	Bank

# Adjusting along other margins

## The pricing of firms' regulatory exposure

Dependent Var: Loan Spread	(1) USA	(2) Europe
Positive × Post	14.872 (10.365)	-2.725 (7.068)
Positive × Post × NegBank	-8242.203 (8435.687)	2261.563 (1664.372)
Negative × Post	4.548 (4.673)	<b>32.208***</b> (6.201)
Negative × Post × NegBank	689.539 (652.645)	<b>1209.877*</b> (620.265)
<i>Marginal effect at 90th percentile of NegBank</i>		
Positive × Post	-111.518 (126.303)	31.955 (26.209)
Negative × Post	15.122 (10.738)	<b>50.761***</b> (11.858)
Observations	159,017	92,452
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Loan controls	Yes	Yes
Adjusted $R^2$	0.946	0.958
Number of banks	92	148
Number of firms	1,621	292
Clustering	Bank	Bank

## Robust: Anticipation

	(1) USA	(2) Europe
Positive x Post	-0.094 (0.126)	0.521*** (0.114)
Negative x Post	0.176*** (0.060)	0.055 (0.111)
Observations	162,394	92,179
ILST FE	Yes	Yes
Bank-Time FE	Yes	Yes
Bank-Firm FE	Yes	Yes
Adjusted $R^2$	0.890	0.907
Number of banks	96	148
Number of firms	1,637	290
Clustering	Bank	Bank

## Robust: Greenwashing

	(1) USA	(2) Europe
Positive x Post	-0.136 (0.211)	0.414*** (0.134)
Negative x Post	0.278*** (0.077)	-0.478*** (0.075)
Observations	75767	33904
ILST FE	Yes	Yes
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
Adjusted $R^2$	0.890	0.886
Number of banks	76	92
Number of firms	537	91
Clustering	Bank	Bank

## Robust: DealScan particularities

	(1) USA	(2) USA	(3) USA	(4) Europe	(5) Europe	(6) Europe
Positive x Post	-0.063 (0.118)	-0.094 (0.125)	-0.028 (0.114)	0.758*** (0.094)	0.527*** (0.114)	0.532*** (0.117)
Negative x Post	0.174*** (0.056)	0.155*** (0.047)	0.130*** (0.045)	0.126 (0.105)	0.045 (0.112)	0.057 (0.112)
Observations	161,055	157,845	152,070	90,561	91,597	91,156
ILST FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.895	0.893	0.898	0.914	0.909	0.912
Number of banks	94	91	93	147	146	146
Number of firms	1,633	1,523	1,615	277	284	291
Clustering	Bank	Bank	Bank	Bank	Bank	Bank

## Robust: Alternative exposure measures + control group

	(1) USA	(2) USA	(3) USA	(4) Europe	(5) Europe	(6) Europe
Positive x Post	-0.094 (0.126)	-0.023 (0.107)	-0.439*** (0.118)	0.521*** (0.114)	0.407*** (0.114)	0.670*** (0.206)
Negative x Post	0.176*** (0.060)	0.159*** (0.060)		0.055 (0.111)	-0.044 (0.083)	
Observations	162,394	162,394	50,100	92,179	92,179	37,171
ILST FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank-Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.890	0.890	0.886	0.907	0.907	0.908
Number of banks	96	96	56	148	148	100
Number of firms	1,637	1,637	404	290	290	88
Clustering	Bank	Bank	Bank	Bank	Bank	Bank

## Robust: Location + timing of regulation

	(1) USA	(2) USA	(3) Europe	(4) Europe
Positive x Post	-0.015 (0.130)	-0.061 (0.122)	0.769*** (0.110)	0.448*** (0.115)
Negative x Post	0.180*** (0.058)	0.179*** (0.061)	0.171 (0.116)	0.071 (0.113)
Observations	146951	152041	85547	83438
ILST FE	Yes	Yes	Yes	Yes
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.896	0.888	0.909	0.900
Number of banks	92	93	137	144
Number of firms	1588	1604	281	288
Clustering	Bank	Bank	Bank	Bank

## Robust: Alternative FE USA

	(1) SIC1	(2) 5 Size Bins	(3) Year	(4) Country FE
Positive × Post	-0.057 (0.041)	-0.126 (0.117)	-0.070 (0.075)	-0.094 (0.126)
Negative × Post	0.195*** (0.041)	0.104*** (0.034)	0.097*** (0.029)	0.176*** (0.060)
Observations	162,394	162,394	162,394	162,394
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
ILST FE	Yes (SIC1)	Yes (5bins)	Yes (Year)	Yes
Bank Country FE	No	No	No	Yes
Adjusted $R^2$	0.867	0.882	0.891	0.890
Number of banks	96	96	96	96
Number of firms	1,637	1,637	1,638	1,637
Clustering	Bank	Bank	Bank	Bank

## Robust: Alternative FE Europe

	(1) SIC1	(2) 5 Size Bins	(3) Year	(4) Country FE
Positive × Post	0.593*** (0.116)	0.431*** (0.114)	0.319*** (0.066)	0.519*** (0.114)
Negative × Post	-0.007 (0.075)	-0.049 (0.094)	0.028 (0.049)	0.055 (0.112)
Observations	93,805	93,805	93,805	93,805
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
ILST FE	Yes (SIC1)	Yes (5bins)	Yes (Year)	Yes
Bank Country FE	No	No	No	Yes
Adjusted $R^2$	0.897	0.905	0.894	0.906
Number of banks	148	148	148	148
Number of firms	295	295	295	295
Clustering	Bank	Bank	Bank	Bank

## Robust: Clustering USA

	(1)	(2)	(3)	(4)
Positive x Post	-0.094 (0.198)	-0.094 (0.184)	-0.094 (0.115)	-0.094 (0.119)
Negative x Post	0.176** (0.086)	0.176* (0.091)	0.176*** (0.058)	0.176*** (0.042)
Observations	162,394	162,394	162,394	162,394
ILST FE	Yes	Yes	Yes	Yes
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.890	0.890	0.890	0.890
Number of banks	96	96	96	96
Number of firms	1,637	1,637	1,637	1,637
Clustering	Bank-Firm	Firm	Bank-Time	Location

## Robust: Clustering Europe

	(1)	(2)	(3)	(4)
Positive x Post	0.521*** (0.099)	0.521*** (0.123)	0.521*** (0.187)	0.521*** (0.110)
Negative x Post	0.055 (0.205)	0.055 (0.206)	0.055 (0.119)	0.055 (0.296)
Observations	92179	92179	92179	92179
ILST FE	Yes	Yes	Yes	Yes
Bank-Firm FE	Yes	Yes	Yes	Yes
Bank-Time FE	Yes	Yes	Yes	Yes
Adjusted $R^2$	0.907	0.907	0.907	0.907
Number of banks	148	148	148	148
Number of firms	290	290	290	290
Clustering	Bank-Firm	Firm	Bank-Time	Location

# Pre-trends

	Negative		Zero		Positive		ND		
	Mean	SD	Mean	SD	Mean	SD	Neg-No	Neg-Pos	Pos-No
<i>Panel A: Loan Level</i>									
Loan volume (Mio)	288.5	522.8	243.4	500.4	350.9	591.6	0.06	-0.08	0.14
Δ Loan volume	34.3	587.8	25.8	246.5	59.8	1,884.9	0.01	-0.01	0.02
<i>Panel B: Firm Level</i>									
Δ Total assets	19.3	91.2	21.8	98.3	27.2	120.9	-0.02	-0.05	0.04
Δ ROA	-18.9	331.1	-6.2	310.9	-31.5	276.7	-0.03	0.03	-0.06
Δ Equity ratio	-5.3	65.7	-6.1	93.6	-9.7	91.2	0.01	0.04	-0.03
Δ R&D inv. ratio	-10.4	66.2	-3.9	49.7	-4.2	29.4	-0.08	-0.09	-0.00
Δ Capital exp. ratio	18.5	157.1	37.0	218.2	29.0	233.1	-0.07	-0.04	-0.03
Δ Sales Ratio	2.1	14.1	5.0	42.9	0.9	8.1	-0.06	0.07	-0.09
<i>Panel C: Bank Level</i>									
Δ Total assets	2.0	8.8	2.4	9.3	2.2	9.2	-0.03	-0.01	-0.02
Δ Deposit ratio	3.2	2.4	3.4	2.3	3.3	2.4	-0.08	-0.06	-0.02
Δ ROA	112.7	941.3	74.9	859.5	79.0	827.4	0.03	0.03	0.00
Δ Equity ratio	5.3	10.5	5.9	11.2	6.2	10.0	-0.04	-0.06	0.02
Δ Retained earnings	4.1	63.4	4.1	60.9	7.4	11.0	-0.00	-0.05	0.05
Δ Short-term funding	9.6	154.3	12.3	150.4	1.8	23.7	-0.01	0.05	-0.07
Δ Non-performing assets	91.3	787.1	109.2	854.0	90.9	787.1	-0.02	0.00	-0.02

## What else matters for banks: Is it a home bias?

	(1) USA	(2) Europe
Positive × Post	-0.088 (0.157)	0.389** (0.149)
Positive × Post × USBank	<b>-0.030</b> (0.081)	
Positive × Post × EuropeanBank		<b>0.161</b> (0.109)
Negative × Post	0.190*** (0.065)	0.003 (0.118)
Negative × Post × USBank	<b>-0.019</b> (0.032)	
Negative × Post × EuropeanBank		<b>0.036</b> (0.062)
Positive × Post × NegBank	107.349 (116.008)	11.280 (17.688)
Negative × Post × NegBank	-4.387 (8.911)	25.232*** (9.568)
Observations	162,394	93,805
Bank-Firm FE	Yes	Yes
Bank-Time FE	Yes	Yes
ILST FE	Yes	Yes
Adjusted $R^2$	0.890	0.907
Number of banks	96	148
Number of firms	1,637	295
Clustering	Bank	Bank