Credit Shocks and Populism

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Introduction

- Populism parties have experienced a spectacular growth in number and consensus

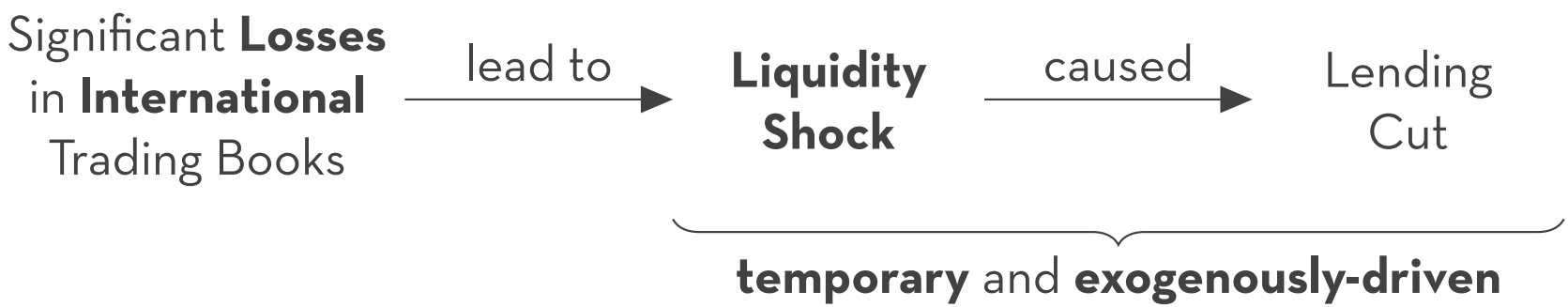
- This "political backlash" is expensive in terms of socio-economic costs in the longer run

Introduction

Relevant Literature

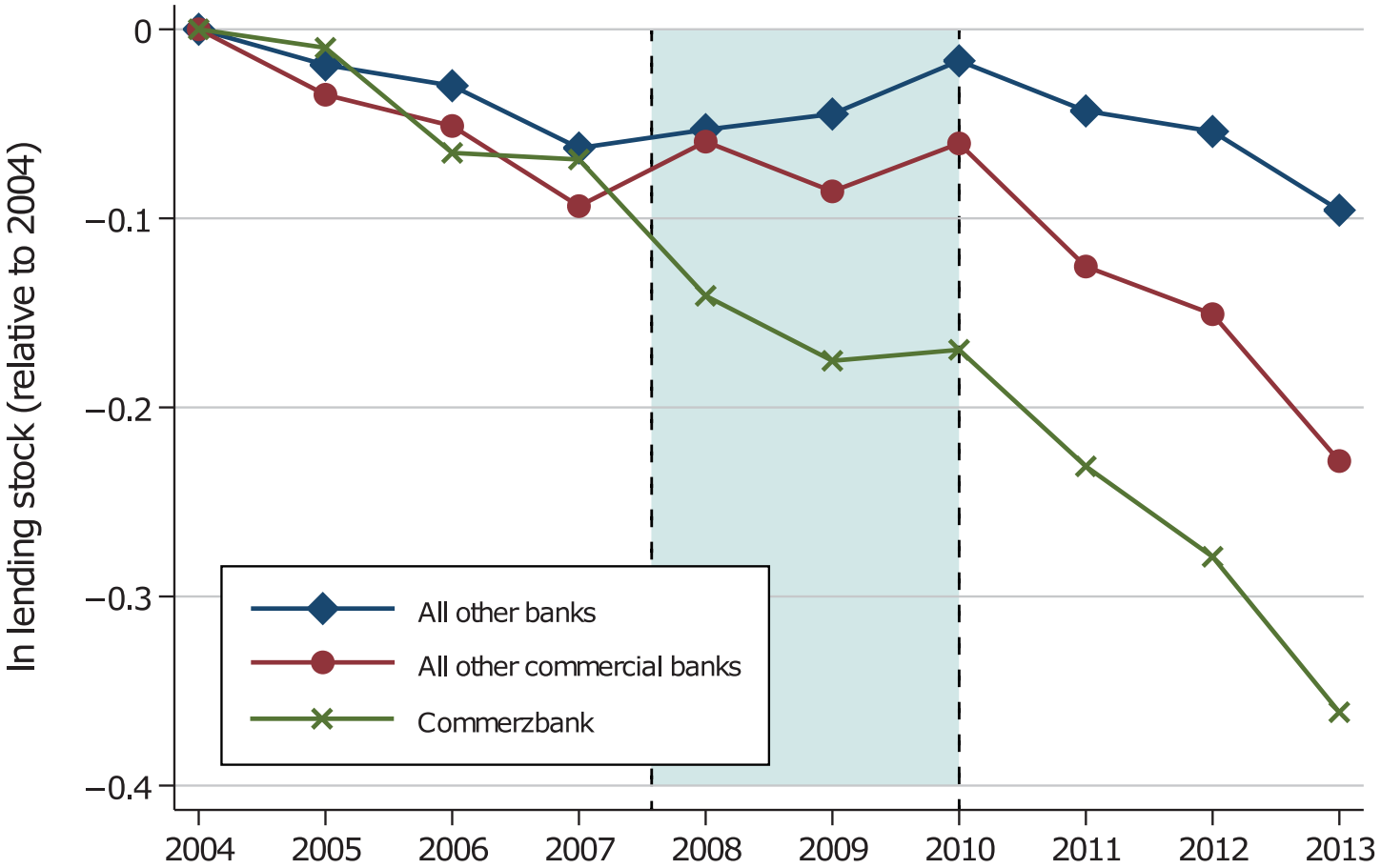
- Divergent trends of bank lending and popularity of such movements at the aftermath of the Great Financial Crisis
- Can credit shocks fuel populism in modern democracies?
- This paper: use Germany as a testing ground for this question as
  a) provides an exogenous **credit shock**, and
  b) offers heterogeneity of populism

Commerzbank's Lending Cut (Q3 2008)



Anticipates the wider downturn of the domestic credit (Huber, 2018)

Lending Stock of German Banks



Notes: The picture describes the ln lending stock to German non-financial customers, relative to the year 2004 in 2010 billions of euros. Source: Huber (2018).

Methodology

- Exploit the spatial variation in exposure to the credit contraction at county level to observe the effect on individual political preferences
- These patterns will be informative about the surplus demand of populism activated by the credit crunch
- Describe the response on the supply side with the help of text analysis techniques, accounting whether voters shift preferences in favour of more populist and topic-biased parties

Summary of Findings

- Positive effect of the credit shock on revealed political preferences and the likelihood to support a populist party
- Credit shock plays a minor but significant role on the rise of populism in Germany
- It produces a sociotropic reaction on voters rather than an egotropic reaction
- Demand shift rewards parties that
  - adopt a more populist rhetoric, and
  - focus more on banking-related topics
- Voters are not "blinded" by the mere populist rhetoric

Outline

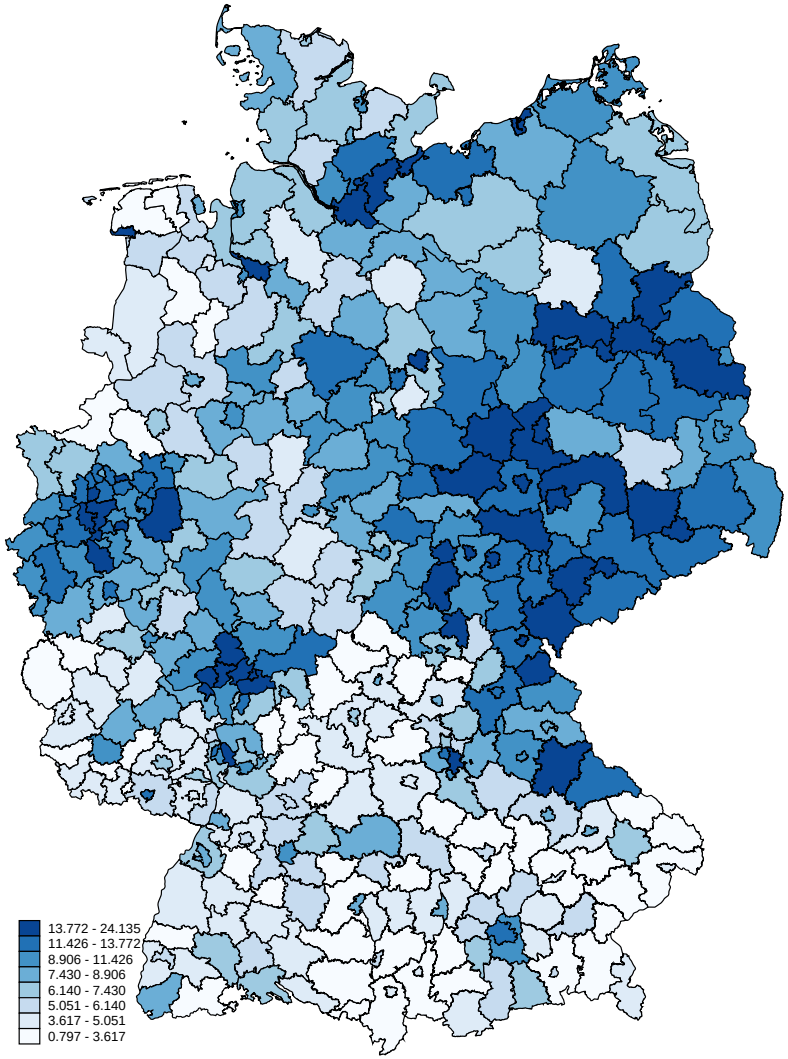
Outline

Exposure to the Credit Shock

Firm-Level Data on Bank Accounts

- Create a measure of Commerzbank exposure at county-level in 2006 as a proxy for the exposure to the credit shock using firm-level data Descriptives Pre-Shock
- AMADEUS: data on bank accounts held by each firm ($\sim$ 640, 000) established before 2006
- $\sim$ 950, 000 bank relationships, 99, 000 of which are Commerzbank's

Spatial Variation of Exposure



Exposure to the Credit Shock

Measuring Commerzbank Dependence

Following Huber (2018),

$$\text{Exposure}_k = \frac{1}{F_k}\left[\sum_{f \in F_k}\left(\frac{\#\text{ Commerzbank Branches}_f}{\#\text{ Total Bank Relationships}_f}\right)\right] \in (0,1)$$

- $\#$ Commerzbank Branches$_f$ is the number of bank relationships of firm $f \in F_k$ in county k that are with Commerzbank branches
- $\#$ Total Bank Relationships$_f$ is the total number of bank relationships of firm f
- We average firm-level exposure across firms within the county to construct an index of exposure at regional level

Individual Political Preferences

Full Sample | 2006 Wave

German Socio-Economic Panel (SOEP) Survey Data

- Individual political preferences
  1. Political Support:"*Many people in Germany lean towards one party in the long term, even if they occasionally vote for another party. Do you lean towards a particular party?*"
  2. Political Preference: pointed out preference conditional on the previous question
- Individual and household characteristics
- Waves: from 2000 to 2016 (Δ: 1 year)
- County-level variables (DeStatis and RegionalStatistik)

German Political Spectrum

- Multi-Party System with Christian-liberal dominance characterised by ruling coalitions
- Populism definition: Popu-List (Rooduijn et al., 2019), Chapel Hill Expert Survey (CHES) and Norris and Inglehart (2019)
  - Alternative Für Deutschland (AfD) (far-right)
  - Die LINKE (far-left)
  - National Democratic Party (NPD) (alt-right, extra-parliamentary)

- Outcome Variables:
  - $\mathbb{1}\left(\text{Party Preference} = \text{Populist Party}\right)$ Populist Map
  - Political Support: equal to one when positive answer Participation Map

Outline

Identification

Two-way fixed effects identification with heterogeneous treatment effects

$$y_{ikt} = \alpha + \beta \left(\text{Exposure}_k \times \text{Post} \right) + \mathbf{X}'_{ik}\Gamma + \mathbf{K}'_k\Pi + \delta_k + \lambda_t + \varepsilon_{ikt}$$

- y_{ikt} denotes the outcomes of interest for individual i resident in county (*kreise*) k in 2006 at time t
- Exposure_k is the pre-shock county-level Commerzbank exposure
- Post equals to one for each period after the end of the credit shock (2009 onward)
- $\mathbf{X}_{ik}$ and $\mathbf{K}_k$ are respectively vectors of pre-shock individual- and household- and county-level characteristics (measured in 2006)

List of Controls

- δ_k and λ_t are respectively county and time fixed effects

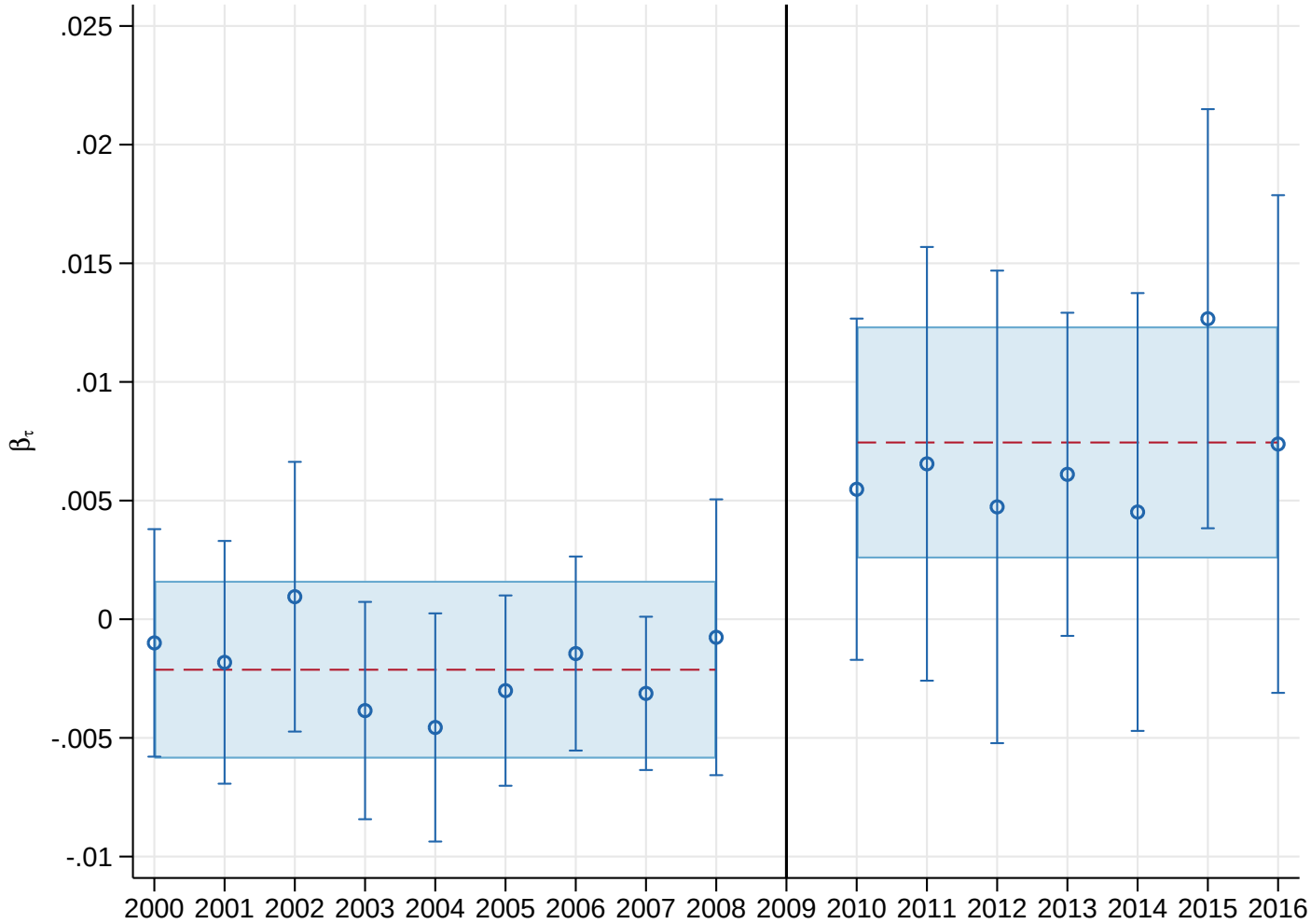
Positive Effect of the Credit Shock

	Political Support			Intention to Vote for Populist Party		
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Exposure}_k \times \text{Post}$	0.011**	0.013***	0.013***	0.007**	0.007***	0.007***
	(0.005)	(0.005)	(0.005)	(0.003)	(0.002)	(0.002)
Number of Observations	229,699	206,604	206,604	229,699	206,604	206,604
Adjusted R-Squared	0.129	0.139	0.139	0.078	0.076	0.076
Number of Counties	396	396	396	396	396	396
County-Level FE	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Household Controls	No	Yes	Yes	No	Yes	Yes
Regional Controls	No	No	Yes	No	No	Yes

Notes: $\text{Exposure}_k \times \text{Post}$ is expressed in standard deviation. Significance Levels: * 10% level, ** 5% level, *** 1% level. Robust standard errors adjusted for clustering at the county of residence in 2006 level in parentheses.

Robustness: Pre-Trends

Equation



Robustness: Additional Remarks

- Negligible differences in estimates between rural and urban areas
  Rural and Urban Areas
- Results are unconditional on the indication of a political preference to preserve sample size: conditioning still provides robust estimates of higher magnitude
- Results are robust to placebo tests to determine the appropriate timing of the shock

Outline

Intuition

- Account for response in supply side to shift in populism demand with a non-binary classification of parties
- Compare it with supply of policy discourse on the crisis
- Methodology: text-analysis pipeline incorporating topic modelling (`seededLDA`)
  - extract populist rhetoric and banking-related topics from text data
  - create continuous text-based indexes at year-party level
  - match to individual political preferences and re-estimate the main specification
- Robustness: alternative text data + dictionary techniques based on the same seeds of topic model + different seeds

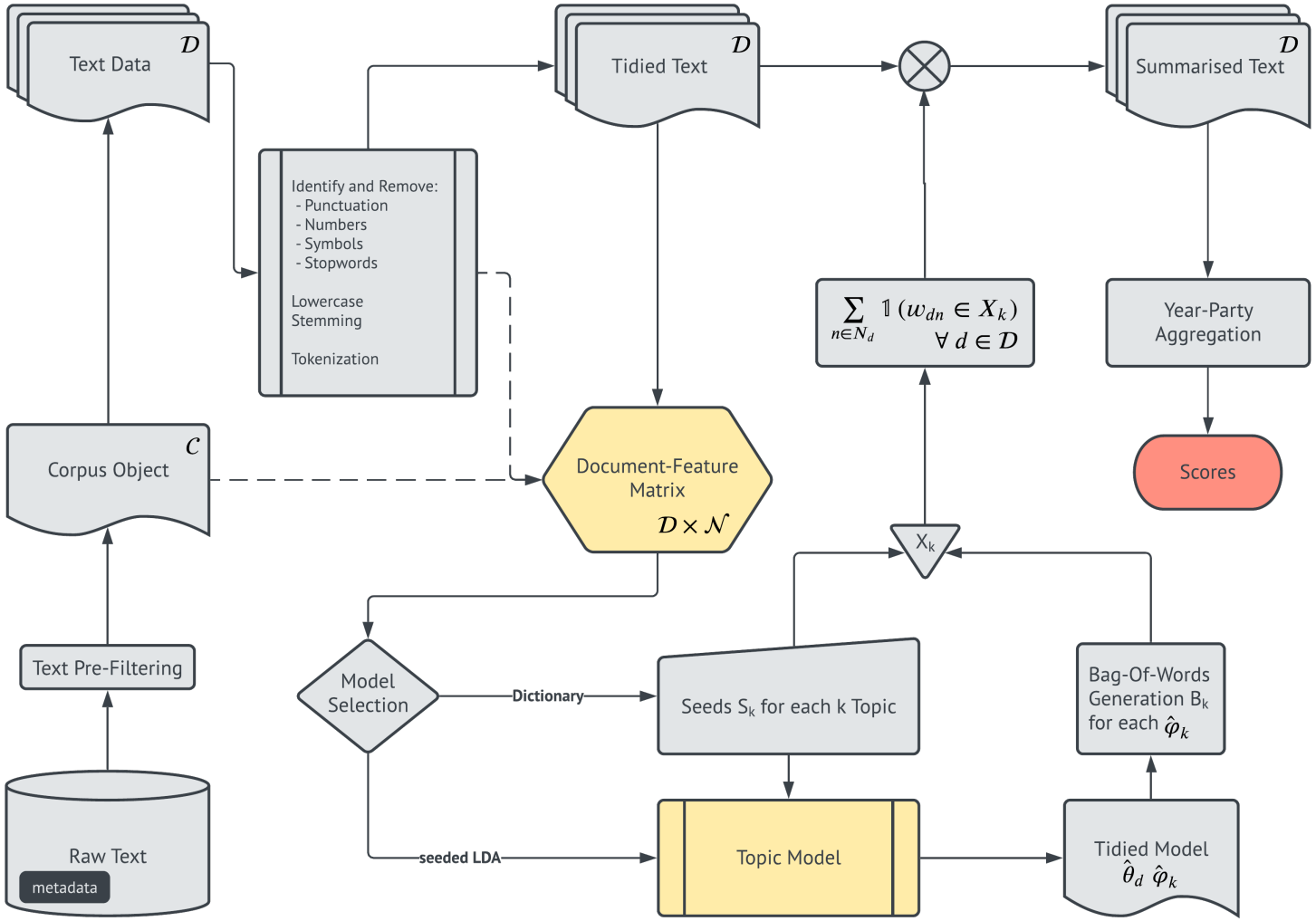
Plenaries and Electoral Campaigns

- Main Text Data: Parliamentary Speeches – ParlSpeech V2
  - Full-Text corpora of 6.3 million parliamentary speeches in the key legislature chambers of 9 representative democracies
  - German *Bundestag*: $>$ 370, 000 speeches of representatives from 1991 to 2018

- Robustness: Electoral Manifestos – Comparative Manifesto Database
  - Corpus of electoral programmes: $\sim$ 50 different countries, $\sim$ 40 languages
  - $\sim$ 2, 750 machine readable programmes
  - German National Elections: 1990, 1994, 1998, 2002, 2005, 2009, 2013 and 2017

Measuring Rhetoric and Discourse

Plate Diagram | Topic Model Settings | Seeds | Top Terms



Year-Party Aggregation

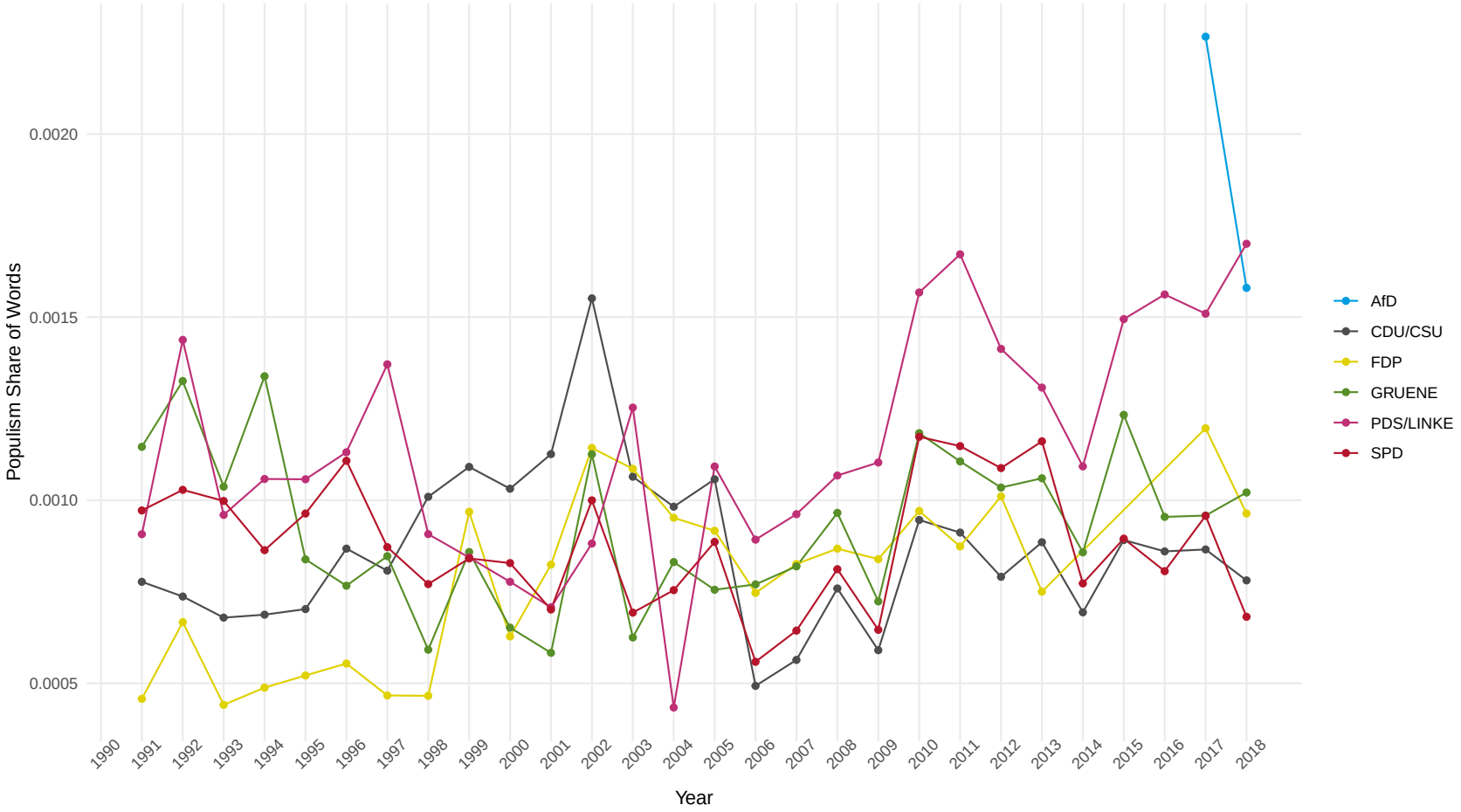
NHH

- Calculate the year-party index L_{pt} for each party p in year t as:

$$L_{pt} = \sum_{d \in D_{pt}} \left[\frac{\sum_{n \in N_d} \mathbb{1}\left(\omega_{dn} \in B_L\right)}{N_d} \right] \quad \forall\, L = \{BF, POP\}$$

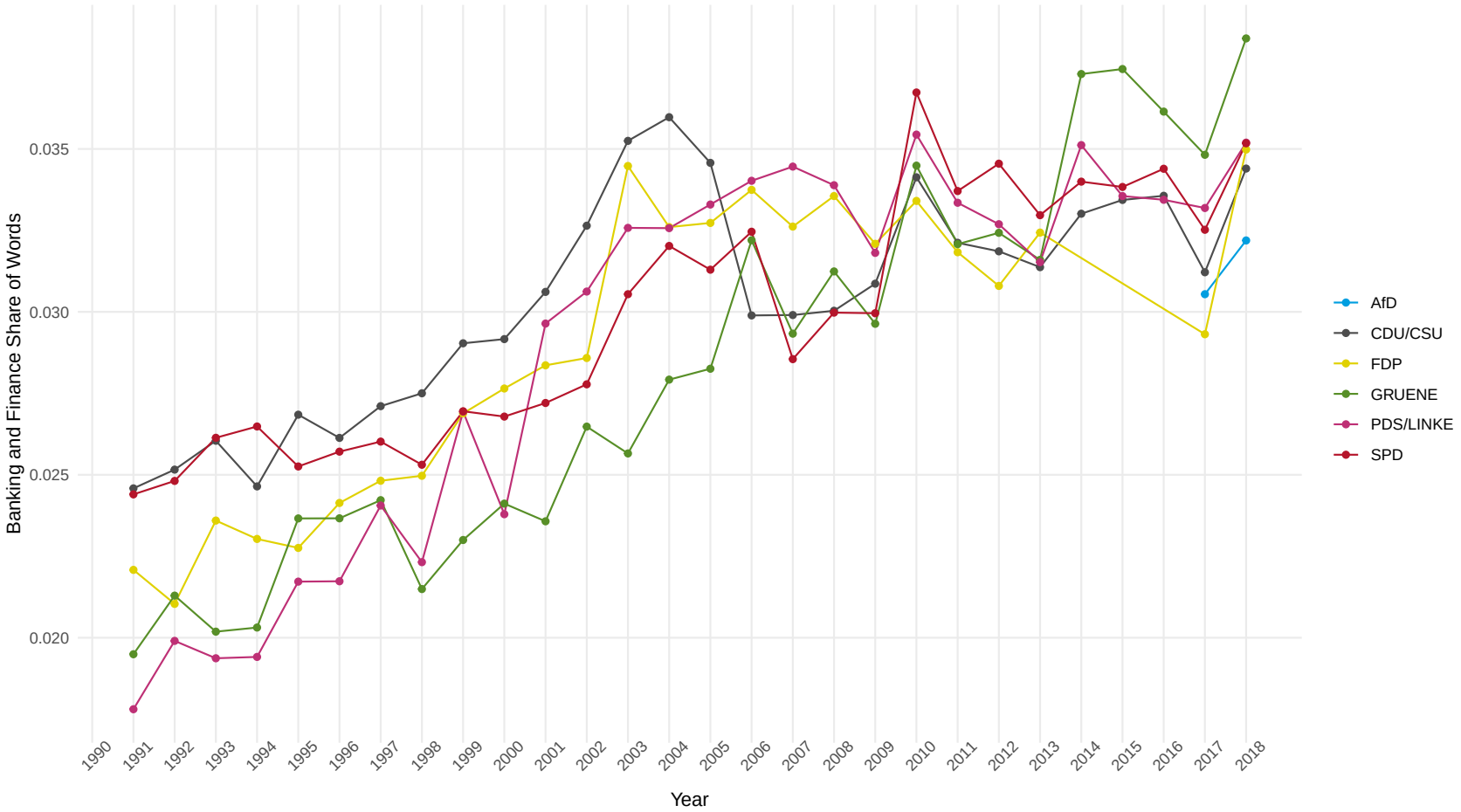
- B_L with $L = \{BF, POP\}$ are bag of words of $\nu = 20$ tokens with the highest per-topic probability $\hat{\varphi}_k$
- $D_{pt} \subset \mathcal{C}$ is the collection of speeches for party p in year t of the corpus $\mathcal{C}$
- ω_{dn} is the observed word $n \in N_d$ in document d, where N_d is the per-document d number of words

Time-Party Variation in Populist Rhetoric



Notes: The picture displays the evolution of the populism rhetoric index by party from 1991 to 2018 as the output of the describe text analysis pipeline with the ParlSpeech V2 (Rauh and Schwalbach, 2020) as input.

Time-Party Variation in Banking-Related Issues



Notes: The picture displays the evolution of the banking and finance index by party from 1991 to 2018 as the output of the describe text analysis pipeline with the ParlSpeech V2 (Rauh and Schwalbach, 2020) as input.

Positive Supply Side Response to the Shock

Dictionary Based Results

	Banking and Financial Crisis				Populism			Combined	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Parliamentary Debates									
$\text{Exposure}_k \times$ Post	0.058***	0.060***	0.060***	0.128***	0.120***	0.120***	0.066***	0.067***	0.067***
	(0.015)	(0.016)	(0.016)	(0.024)	(0.025)	(0.025)	(0.016)	(0.017)	(0.017)
Number of Observations	105,720	93,533	93,533	105,720	93,533	93,533	105,720	93,533	93,533
Adjusted R-Squared	0.590	0.584	0.584	0.556	0.560	0.560	0.570	0.566	0.566
Number of Counties	393	393	393	393	393	393	393	393	393
Panel B: Electoral Manifestos									
$\text{Exposure}_k \times$ Post	0.081***	0.084***	0.083***	0.049***	0.049***	0.050***	0.084***	0.087***	0.086***
	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)	(0.014)
Number of Observations	25,842	22,816	22,816	25,842	22,816	22,816	25,842	22,816	22,816
Adjusted R-Squared	0.601	0.593	0.594	0.341	0.337	0.338	0.593	0.586	0.587
Number of Counties	387	387	387	387	387	387	387	387	387
County-Level FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Regional Controls	No	No	Yes	No	No	Yes	No	No	Yes

Notes: Significance Levels: *** 1% level, ** 5% level, * 10% level. Robust standard errors adjusted for clustering at the county of residence in 2006 level in parentheses. Outcome and treatment are expressed in standard deviation.

Outline

Conclusion

- Based on data on Germany, credit shocks increase the support for populist parties
- Credit shock of 2008–09 increased the electoral support for parties that a) use a populist rhetoric, and b) focus more on banking
- These findings show that a populist rhetoric pays off when a credit shock hits
- However, they also suggest that voters are not "blinded" by populist rhetoric, as they are sensitive to the topics populist discuss

Appendix

Relevant Literature

Back

- **Economic causes of populism**
  Globalisation and trade (Colantone and Stanig, 2018b; Autor et al., 2020; Dippel et al., 2021); labour market distress (Algan et al., 2017; Hobolt and de Vries, 2016; Dal Bó et al., 2020; Dippel et al., 2021); policy uncertainty (Funke et al., 2016); economic insecurity (Guiso et al., 2020; Dehdari, 2021); austerity (Fetzer, 2019); public finance (Sartre et al., 2020); migration (Colantone and Stanig, 2018a; Alabrese et al., 2019; Dinas et al., 2019; Steinmayr, 2021); debt and mortgages in foreign currencies (Gyöngyösi and Verner, 2020; Ahlquist et al., 2020)

→ investigate the direct effect of the rise of populist parties through different channels

- **Consequences of credit swings on political preferences**
  polarization (Mian et al., 2014); incumbent (Antoniades and Calomiris, 2020; Herrera et al., 2020)

→ investigate the role of credit swings on voting behaviour, no direct effect on populism or mutual consensus

- **Historical banking crises and political preferences**
  (Braggion et al., 2020; Doerr et al., 2020)

→ social consequences of bank defaults on radicalisation towards Nazi and Communist Party

Data: Summary Statistics

Full Sample: 2000–2016

Firm-Level Data | Individual-Level Data | Identification

	Mean	SD	Median	Min	Max	N
Panel A: Demographic Variables						
Male	0.475	0.499	0.000	0.000	1.000	251,858
Age	50.335	17.681	51.000	16.000	105.000	251,858
Residence in GDR in 1989	0.273	0.446	0.000	0.000	1.000	250,820
Married	0.618	0.486	1.000	0.000	1.000	250,892
Direct/Indirect Migrant	0.131	0.338	0.000	0.000	1.000	251,858
Panel B: Education						
Years of Education	12.270	2.659	11.500	7.000	18.000	242,092
Panel C: Occupational Status						
Currently Unemployed	0.057	0.233	0.000	0.000	1.000	251,851
Officially Unemployed Prev. Yr. No. Months	0.806	2.705	0.000	0.000	12.000	190,061
Panel D: Household Variables						
Household Size	2.089	0.879	2.000	1.000	9.000	251,858
Number of Children in HH	0.451	0.847	0.000	0.000	9.000	251,858
Home-Ownership	0.561	0.496	1.000	0.000	1.000	251,854
Presence of Outstanding Loans	0.398	0.490	0.000	0.000	1.000	251,772
Annual Household Disposable Income (in 2016 EUR)	25123.126	22215.925	23361.701	-8.65e+04	6.91e+05	251,858
Panel E: County-Level Variables						
County GDP (in 2016 mln EUR)	7,163.390	10925.742	4,405.542	998.818	1.31e+05	6,673
Population Density	526.043	680.460	199.617	36.263	4,712.758	6,673
Unemployment Rate	8.149	4.303	7.100	1.200	25.400	6,673
Share of Foreigners	7.471	4.673	6.600	0.800	33.900	6,673
Average Household Income (in 2016 EUR)	1.911	15.244	1.713	1.254	1,246.867	6,673
Panel F: Outcome Variables						
Political Supporter	0.467	0.499	0.000	0.000	1.000	250,809
Intention to Vote for Populist Party	0.035	0.184	0.000	0.000	1.000	250,809
Banking and Financial Crisis Index (sLDA)	3.167	0.271	3.202	2.357	3.745	112,696
Populism Index (sLDA)	0.089	0.024	0.089	0.043	0.167	112,696

Data: Summary Statistics

Pre-Shock Sample: 2006

Firm-Level Data | Individual-Level Data | Identification

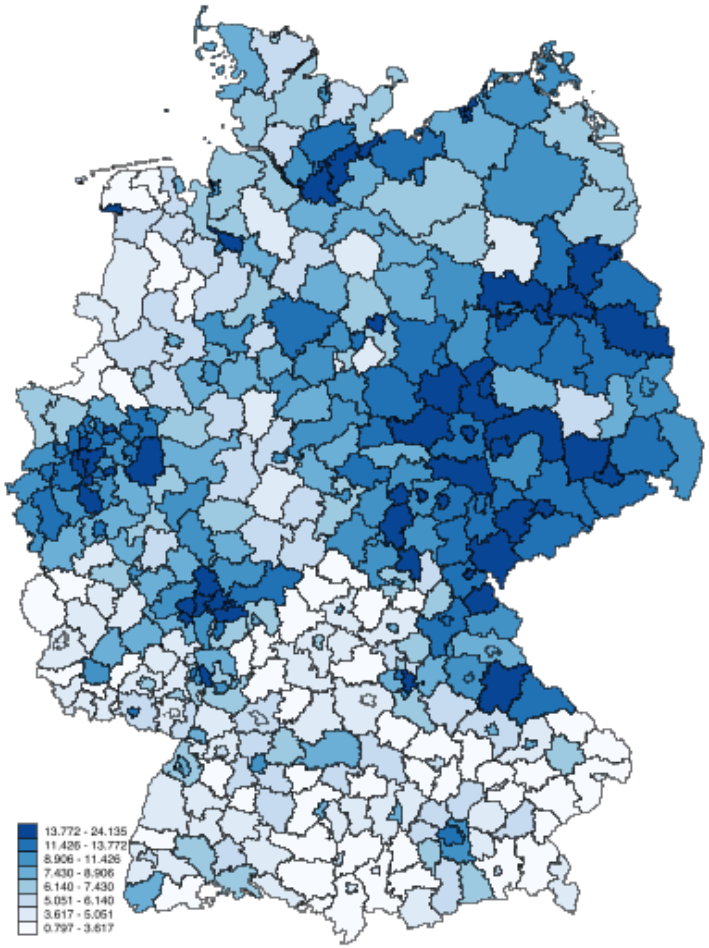
	Mean	SD	Median	Min	Max	N
Panel A: Demographic Variables						
Male	0.477	0.499	0.000	0.000	1.000	20,836
Age	49.281	17.565	49.000	17.000	97.000	20,836
Residence in GDR in 1989	0.267	0.442	0.000	0.000	1.000	20,205
Married	0.610	0.488	1.000	0.000	1.000	20,751
Panel B: Education						
Years of Education	12.192	2.646	11.500	7.000	18.000	20,031
Panel C: Occupational Status						
Currently Unemployed	0.073	0.260	0.000	0.000	1.000	20,836
Officially Unemployed Prev. Yr. No. Months	1.001	3.007	0.000	0.000	12.000	15,957
Panel D: Household Variables						
Household Size	2.128	0.867	2.000	1.000	8.000	20,836
Number of Children in HH	0.471	0.863	0.000	0.000	7.000	20,836
Home-Ownership	0.554	0.497	1.000	0.000	1.000	20,835
Presence of Outstanding Loans	0.391	0.488	0.000	0.000	1.000	20,828
Annual Household Disposable Income (in 2016 EUR)	26606.992	23533.190	24453.598	-4.99e+04	6.28e+05	20,836
Panel E: County-Level Variables						
County GDP (in 2016 mln EUR)	7,000.992	10651.569	4,275.341	1,154.023	1.05e+05	395
Population Density	525.876	676.956	201.102	39.465	4,166.612	395
Unemployment Rate	10.353	4.493	9.200	3.400	23.700	395
Share of Foreigners	7.324	4.553	6.500	1.100	25.100	395
Panel F: Outcome Variables						
Political Supporter	0.489	0.500	0.000	0.000	1.000	20,732
Intention to Vote for Populist Party	0.035	0.184	0.000	0.000	1.000	20,732
Banking and Financial Crisis Index (sLDA)	3.150	0.146	3.220	2.989	3.402	9,788
Populism Index (sLDA)	0.058	0.012	0.056	0.049	0.089	9,788
Panel G: Variable of Interest						
County-Level Commerzbank Exposure	0.083	0.043	0.075	0.008	0.241	395

Outcome Variables Spatio-Temporal Variation

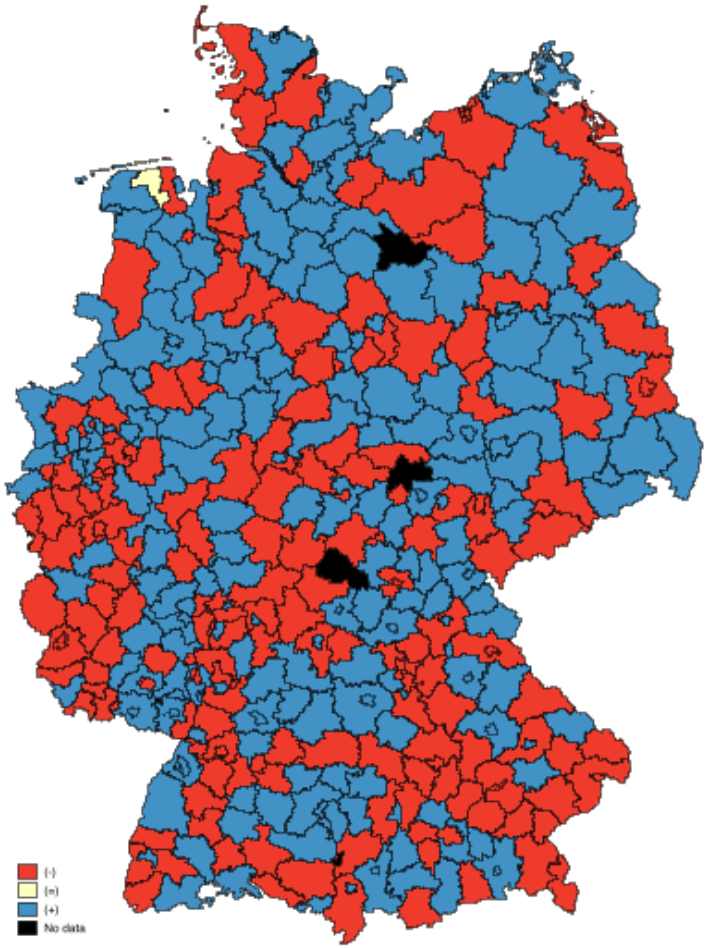
Back

Political Participation

Credit Shock Exposure



Pre-Post Change

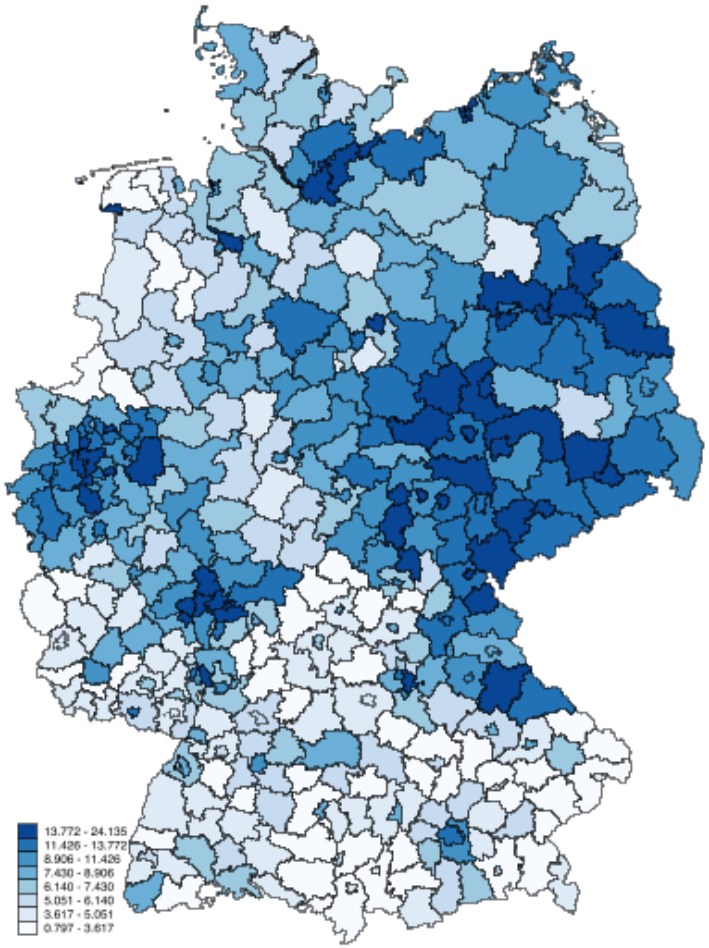


Outcome Variables Spatio-Temporal Variation

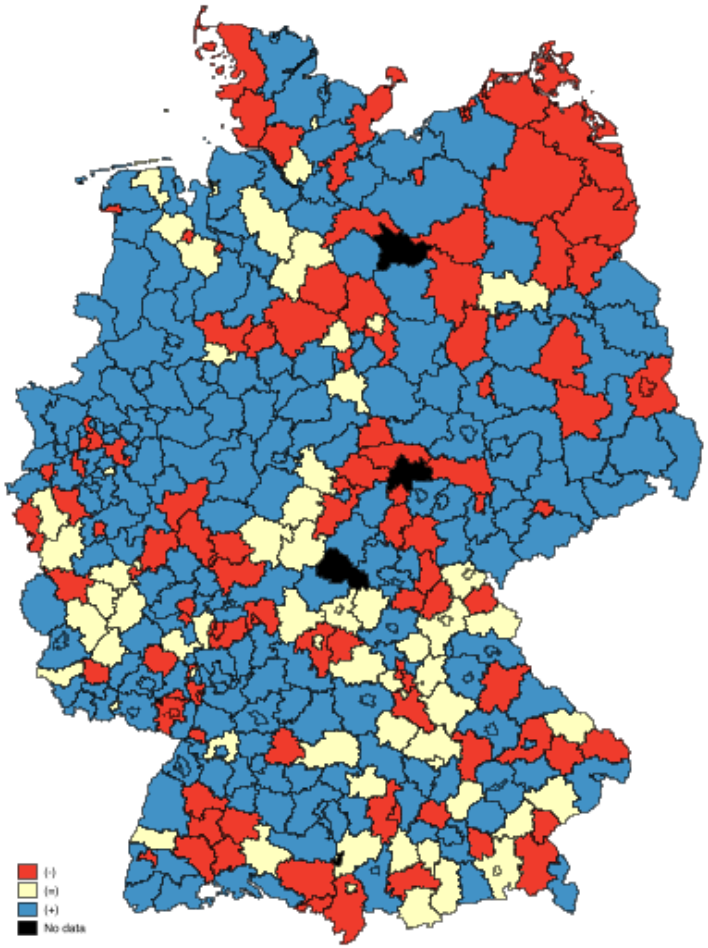
Back

Intention to Vote for Populist Party

Credit Shock Exposure



Pre-Post Change



Robustness: Pre-Trends Equation

Back

We propose a model to validate pre-trends similar to Autor (2003) estimating year-by-year point estimates using the first year of the shock as reference year:

$$
\begin{aligned}
y_{ikt} = \alpha &+ \sum_{\tau \in [2000,2009)} \left[\beta_\tau \times \text{Exposure}_k \times \mathbb{1}\left(t = \tau\right)\right] \\
&+ \sum_{\tau \in (2009,2016]} \left[\beta_\tau \times \text{Exposure}_k \times \mathbb{1}\left(t = \tau\right)\right] \\
&+ \mathbf{X}_{ik}\Gamma + \mathbf{K}_k\Pi + \delta_k + \lambda_t + \varepsilon_{ikt}
\end{aligned}
$$

Effect of the Credit Shock on Political Preferences

Rural and Urban Areas Sample Split

Back

	Political Support			Intention to Vote for Populist Party		
	Full Sample (1)	Urban Areas (2)	Rural Areas (3)	Full Sample (4)	Urban Areas (5)	Rural Areas (6)
$\text{Exposure}_k \times \text{Post}$	0.014***	0.013	0.011	0.008***	0.009*	0.009**
	(0.005)	(0.009)	(0.008)	(0.003)	(0.005)	(0.004)
Number of Observations	151,524	43,100	108,424	151,524	43,100	108,424
Adjusted R-Squared	0.143	0.139	0.144	0.086	0.087	0.089
Number of Counties	395	104	291	395	104	291
County-Level FE	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Full Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: $\text{Exposure}_k \times \text{Post}$ is expressed in standard deviation. Significance Levels: *** 1% level, *** 5% level, *** 1% level. Robust standard errors adjusted for clustering at the county of residence in 2006 level in parentheses.

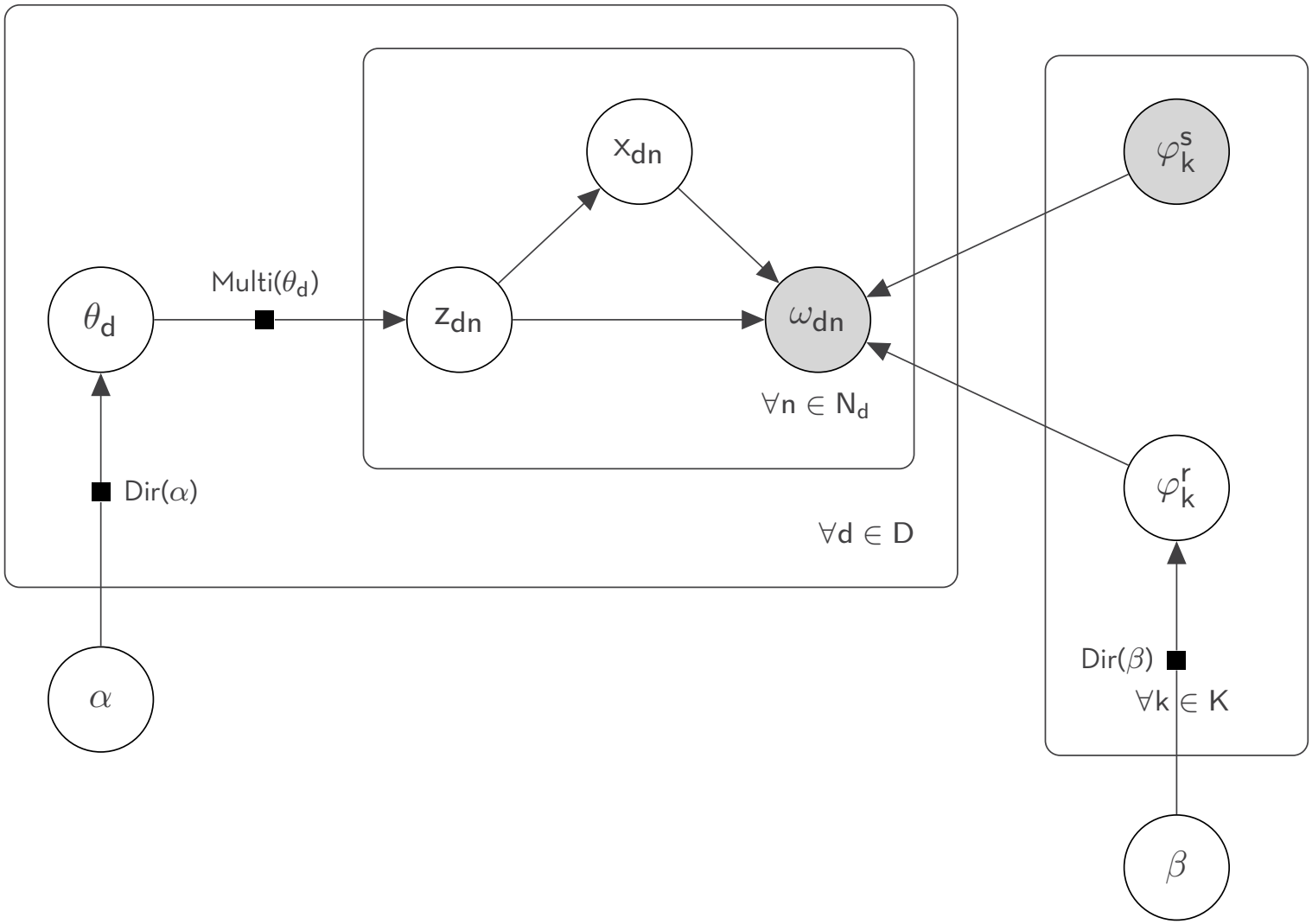
seededLDA Topic Model: Settings and Seed Selection

Flowchart | Plate Diagram

- seededLDA settings:
  - Standard Dirichlet(x) priors (uninformative: $\alpha = 0.5$, $\beta = 0.1$)
  - MCMC Algorithm: Gibbs Sampling
- Seeds selection: Seeds
  - Banking and Finance: 4 sub-topics (Bank, Crisis, European Central Bank and Finance) with uninformative seeds
  - Populism: single topic with seeds from Rooduijn and Pauwels (2011), eliciting the anti-elitism dimension of the duality of populism as a "thin" ideology (Mudde, 2004) of the "pure people" versus the "corrupt elite" (Freeden, 1998). We use Cantarella et al. (2020) seeds for robustness.

Plate Diagram: seededLDA Topic Model

Flowchart | Settings | Year-Party Aggregation



seededLDA Topic Model: Data Generating Process

- $\mathcal{D}$ and $\mathcal{N}$ are respectively the row and column dimensions of the document-feature matrix $\mathcal{D} \times \mathcal{N}$ obtained from the corpus $\mathcal{C}$
- $\theta_d \sim \text{Dir}(\alpha)$ and $\theta_k^r \sim \text{Dir}\left(\beta\right)$ are respectively independent draws for each document $d \in \mathcal{D}$ and for each topic $k \in K$ to generate the document-specific topic distribution and the per-topic general words distribution
- each (observed) word ω_{dn} in document d is generated from a *two-step* process:
  - draw the topic assignment $z_{dn} \sim \text{Multinomial}\left(\theta_d\right)$ which gives a Markov blanket with α as parent and z_{dn} $\forall$ $n \in N_d \subset \mathcal{N}$ as children;
  - draw $\omega_{dn} \sim \text{Multinomial}\left(\varphi_k^f \mid x_{dn}\right)$ with $f = \{r, s\}$
- x_{dn} is a switch variable drawn from a Beta distribution for each topic and on the basis of the value of x_{dn} either the draw from the general per-topic words distribution φ_k^r or the draw from the prioritised named entity words distribution from the (observed) seeds φ_k^s is selected

seededLDA Topic Model: Posterior Probabilities

From the Bayesian network we obtain two main important predictions for our purpose:

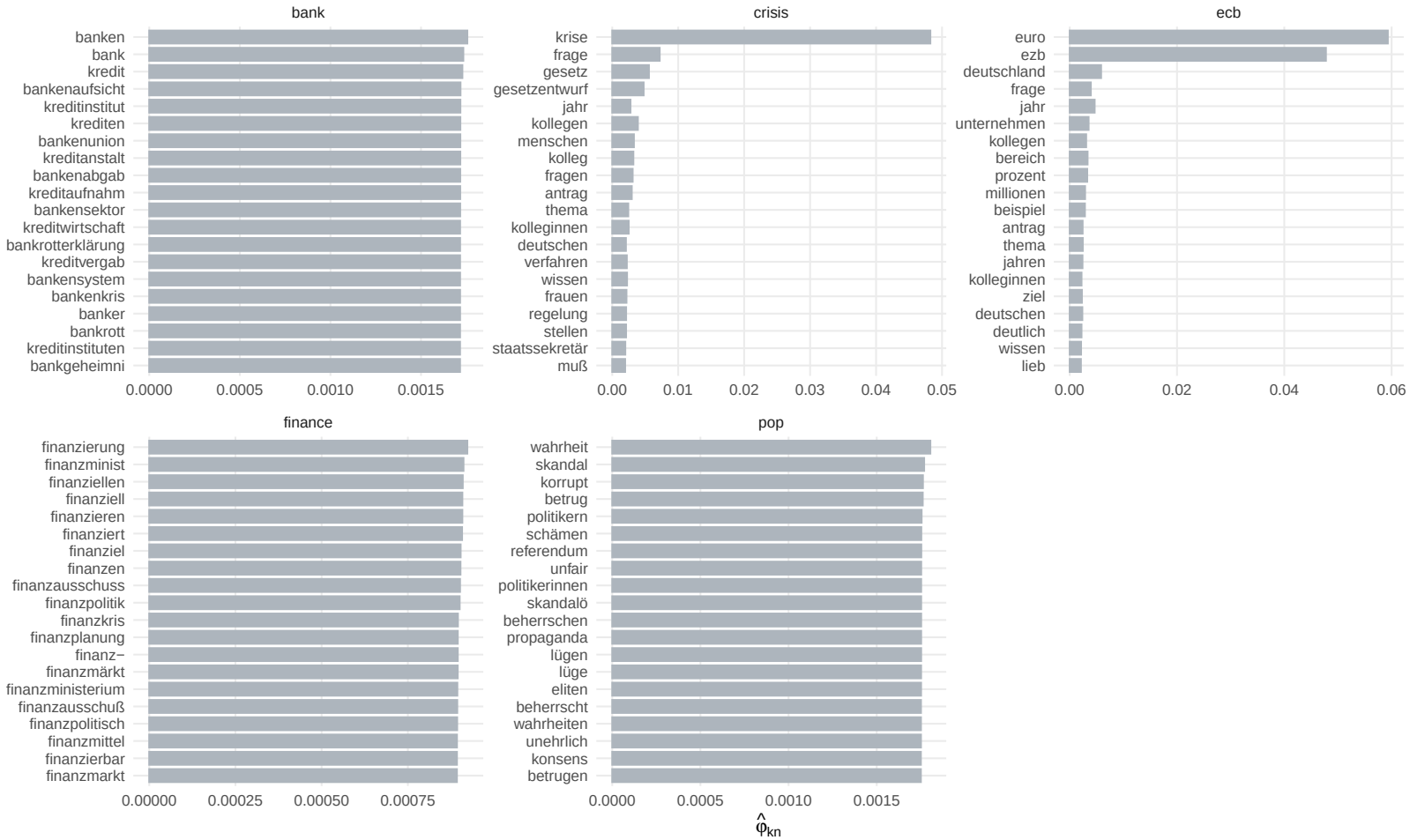
1. $\hat{\theta}_d$ the document-specific posterior probability distribution of topics, which we use to identify the most salient documents for each topic k.

2. $\hat{\varphi}_k$ the per-topic posterior probability distribution of (unique) words, which we use to create the bag-of-words for the creation of the time-party index for each topic.

Per-Topic Top Terms: Parliamentary Speeches

based on $\hat{\varphi}_k$ probabilities

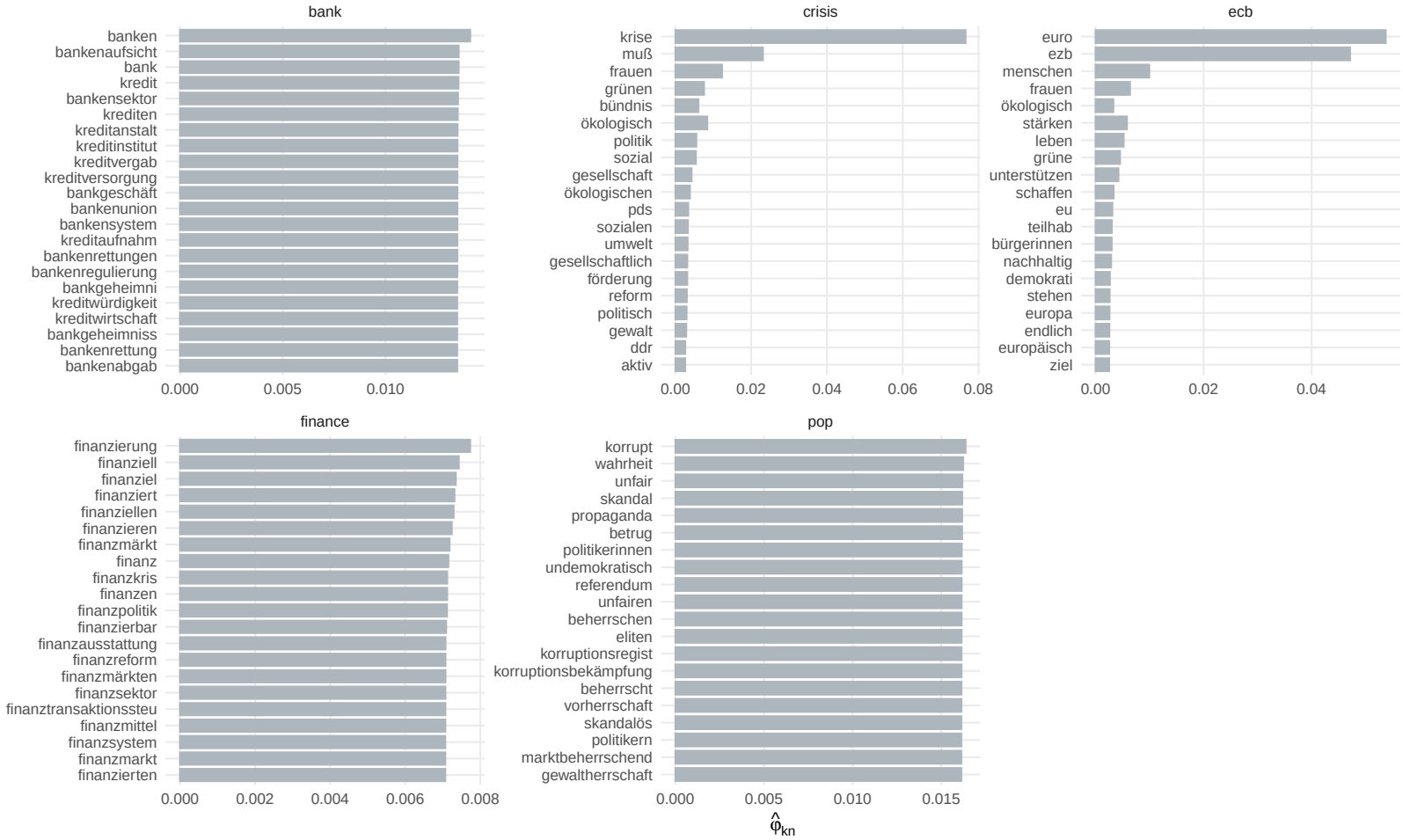
Flowchart | Year-Party Aggregation



Per-Topic Top Terms: Electoral Manifestos

based on $\hat{\varphi}_k$ probabilities

Flowchart | Year-Party Aggregation



Seed Selection: Tokens

Flowchart

We use the following keywords both as seeds for seeded LDA and as lexicon for the dictionary approach:

- Banking and Finance: a) bank: “bank*”, “kredit*”; b) finance: “finanz*”; c) ECB: “ezb”,“europaeische zentralbank”, “euro”; d) crisis: “krise”, “finanzkrise”, “bankenkrise”;
- Populism:
  - Rooduijn and Pauwels (2011): “elit*”, “konsens*”, “undemokratisch*”, “referend*”, “korrupt*”, “propagand*”, “politiker*”, “taüsch*”, “betrüg*”, “betrug*”, “*verrat*”, “scham*”, “schäm*”, “skandal*”, “wahrheit*”, “unfair*”, “unehrlich*”, “establishm*”, “*herrsch*”, “lüge*”
  - Cantarella et al. (2020): “elit*”, “establishment”, “mensch”, “menschenmeng”, “einrichtung”, “lieg”, “lugner”, “privileg”, “kast”, “wutend”, “fick dich”, “wohlfuhl”, “zu hause”, “job”, “skandal”, “scham”, “verspatet”, “arschloch”, “aufwach”, “angst”, “traditionell”, “wut”, “ubergab”, “voreingenomm”, “saugt”, “asphaltierung”, “beruchtigt”, “wahnsinn”, “verrat”, “betrug”, “stuhl”, “geheimnis”, “heimlich”, “konsistenz”, “dinosaur”, “paladin”, “gehalter”, “ehrlichkeit”, “genug”, “gestohlen”, “diebe”, “brechen”, “trolle”, “korrupt”

Supply Side Response to Shift in Populism Demand

Results using Dictionary Scores

Intuition and Data

	Banking and Financial Crisis			Populism			Combined		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Parliamentary Debates									
$Exposure_k \times Post$	0.038***	0.036***	0.036***	0.127***	0.119***	0.120***	0.051***	0.048***	0.048***
	(0.007)	(0.007)	(0.007)	(0.024)	(0.025)	(0.025)	(0.009)	(0.009)	(0.009)
Number of Observations	105,720	93,533	93,533	105,720	93,533	93,533	105,720	93,533	93,533
Adjusted R-Squared	0.909	0.907	0.908	0.510	0.515	0.515	0.883	0.883	0.883
Number of Counties	393	393	393	393	393	393	393	393	393
Panel B: Electoral Manifestos									
$Exposure_k \times Post$	0.169***	0.171***	0.171***	0.027*	0.031**	0.032**	0.173***	0.176***	0.177***
	(0.028)	(0.029)	(0.028)	(0.016)	(0.015)	(0.015)	(0.030)	(0.030)	(0.030)
Number of Observations	25,842	22,816	22,816	25,842	22,816	22,816	25,842	22,816	22,816
Adjusted R-Squared	0.486	0.475	0.476	0.316	0.313	0.314	0.404	0.397	0.398
Number of Counties	387	387	387	387	387	387	387	387	387
County-Level FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Basic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Regional Controls	No	No	Yes	No	No	Yes	No	No	Yes

Notes: Significance Levels: *** 1% level, ** 5% level, * 10% level. Robust standard errors adjusted for clustering at the county of residence in 2006 level in parentheses. Outcome and treatment are expressed in standard deviation.