

Credit Shocks and Populism

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- ▶ Following the Great Financial Crisis (GFC), populist parties grew in many Western democracies
- ▶ Scholars explored whether financial crises fuel populism via:
 - ▶ Unemployment
 - ▶ Globalisation and trade disruptions
 - ▶ Public finance and fiscal contractions
 - ▶ Policy uncertainty and economic insecurity
 - ▶ Debt and mortgages in foreign currency
- ▶ What about *bank credit*?
 - ▶ The GFC was characterised by a strong decline in bank lending (Ivashina and Scharfstein, 2010)
 - ▶ Credit swings can affect political preferences Literature
 - ▶ To date, we have no clear evidence on whether drops in bank lending contribute to the rise of populists in modern democracies
 - ▶ Main challenge: disentangling the effect of banking crises → need for a suitable natural experiment



Can a credit contraction fuel populism?

- ▶ We study the effect of a negative credit shock on the vote for populist parties during the GFC in Germany
- ▶ We exploit the spatial variation in exposure to an exogenously-driven credit contraction by one of the largest German universal banks in 2008-09
- ▶ Based on survey data, we study the effect of the credit crunch on individual political preferences
- ▶ Using text analysis, we look at whether voters shift in favour of parties
 - ▶ with a populist rhetoric
 - ▶ that discuss banking & crisis issues
 - ▶ that use a populist rhetoric and discuss banking & crisis issues

Background

Credit Shock and Populism in Germany



- ▶ Credit in Germany:
 - ▶ no house prices boom or decline, no endogenous banking panic, relatively little uncertainty and no sovereign debt crisis before or during the GFC
 - ▶ sharp drop in bank lending starting in 2010
- ▶ Commerzbank generated an unexpected credit crunch unrelated to domestic economic conditions (Huber, 2018):
 - ▶ driven by significant losses in the international trading books in 2008-09 that led to a fall in equity capital
 - ▶ the lending cut was necessary to comply with Basel II's regulation
 - ▶ anticipates the wider downturn of domestic credit
- ▶ Following the shock, we observed a rise of populism in Germany:
 - ▶ Germany has both left- and right-wing populist parties
 - ▶ Populist parties gained votes in the elections of 2013 and 2017



- ▶ German Socio-Economic Panel (SOEP) survey data:
 - ▶ Individual preferences on voting and political participation
 - ▶ Individual and household characteristics
 - ▶ Waves: 2000 – 2016
 - ▶ County-level variables (together with DeStatis)
- ▶ Amadeus (Bureau van Dijk) data on firms to compute Commerzbank exposure
 - ▶ Data on bank accounts held by each firm ($\sim 625,000$) established before 2006
 - ▶ $\sim 920,000$ bank relationships, 95,000 of which are Commerzbank's
- ▶ Popu-List (Rooduijn et al., 2019), Norris and Inglehart (2019), and Chapel Hill Expert Survey (CHES) database on populist parties:
 - ▶ Alternative Für Deutschland (AfD)
 - ▶ Die LINKE
 - ▶ National Democratic Party (NPD)

Methodology (I)

Measuring Exposure to the Lending Cut

Distribution Map



Based on Huber (2018), we create a measure of Commerzbank exposure at county-level as a proxy for exposure to the credit shock:

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

- ▶ $\# \text{ Commerzbank Branches}_f$ is the number of relationship banks of firm $f \in F_k$ in county k that are Commerzbank Branches
- ▶ $\# \text{ Total Relationship Banks}_f$ is the total number of relationship banks of firm f
- ▶ We average firm-level exposure across firms within the county to construct an index of exposure at regional level

Methodology (II)

Identification Design: Intensity to Treatment Difference-in-Differences

List of controls



We estimate a model similar to Acemoglu and Johnson (2007) and Cutler et al. (2010) with years replacing cohorts:

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

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

Methodology (III)

Identification Design: Further Details



- ▶ We keep individuals of the 2006 wave fixed for the pre-shock characteristics – excluding all individuals not in voting age to date – and we consider their data before and after the shock Pre-Trends Model
Pre-Trends Graph
- ▶ We use individual sampling weights to overcome survey stratification and non-response rate
- ▶ We cluster standard errors at county level
- ▶ Main Outcome Variables:
 1. Political Support: indicator variable from the question (translated from German) *“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?”* Support Map
 2. Intention to Vote for a Populist Party: indicator variable from the pointed out preference → populist party using the previous source
Populist Map

Results

The Effect of the Credit Shock on Political Preferences



	Political Support			Intention to Vote for Populist Party		
	(1)	(2)	(3)	(4)	(5)	(6)
$\text{Exposure}_k^{\text{pre}} \times \text{Post}_{ik}$	0.011** (0.005)	0.013*** (0.005)	0.013*** (0.005)	0.007** (0.003)	0.007*** (0.002)	0.007*** (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: $\text{Exposure}_k^{\text{pre}} \times \text{Post}_{ik}$ 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.



- ▶ We found that exposure to the shock triggers demand for populism based on a binary classification of parties
- ▶ We now account for the dynamic in the supply of populism and compare it with the supply of policy discourse on the crisis
- ▶ We apply seeded LDA to more than 370,000 speeches of representatives of the German Bundestag from 1991 to 2018 (source: ParlSpeech V2) to track a party's
 - ▶ Focus on Banking and Finance: 4 sub-topics (Bank, Crisis, European Central Bank and Finance) with uninformative seeds
 - ▶ Populist Rhetoric (single topic with seeds from Rooduijn and Pauwels, 2011) [Seeds](#)
- ▶ For robustness, we apply the same procedure to electoral manifestos and we apply a dictionary technique based on the same seeds

Results: Populism as a Continuous Outcome

The Effect of the Credit Shock on Topic Preferences



The Effect of the Credit Shock on Political Preferences: Parliamentary Speeches

	Banking and Finance				Populism			Combined	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exposure _k ^{pre} × Post _{ik}	0.058*** (0.015)	0.060*** (0.016)	0.060*** (0.016)	0.128*** (0.024)	0.120*** (0.025)	0.120*** (0.025)	0.066*** (0.016)	0.067*** (0.017)	0.067*** (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
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: Outcome variables and Exposure_k^{pre} × Post_{ik} are 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.

Conclusion



- ▶ Based on data on Germany, we find that credit shocks increase the support for populist parties
- ▶ The 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
- ▶ Possible mechanism: socio-tropic reaction
 - ▶ No direct impact of credit shock on individuals
 - ▶ Voters react to general economic situation of the region

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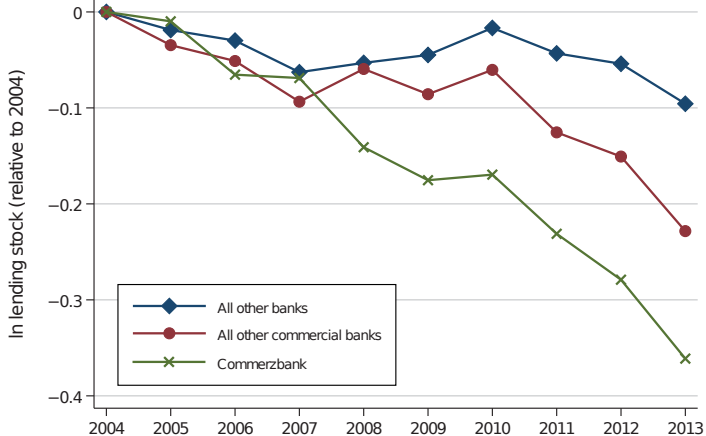
Appendix



- ▶ Scholars identified the economic causes of populism in:
 - ▶ Unemployment (Algan et al., 2017; Hobolt and de Vries, 2016)
 - ▶ Globalisation and trade disruptions (Dippel et al., 2015; Rodrik, 2018; Colantone and Stanig, 2018a,b; Autor et al., 2020)
 - ▶ Public finance (Sartre et al., 2020)
 - ▶ Policy uncertainty and economic insecurity (Funke et al., 2016; Guiso et al., 2017, 2020; Dehdari, 2019)
 - ▶ Debt and mortgages in foreign currency (Gyöngyösi and Verner, 2020; Ahlquist et al., 2020)
- ▶ The literature shows that credit swings can affect political preferences
 - (-) increase polarisation (Mian et al., 2014; Doerr et al., 2020),
punish the incumbent (Antoniades and Calomiris, 2018),
and cause social unrest (Braggion et al., 2020)
 - (+) increase the popularity of the incumbent (Herrera et al., 2020)



The Lending Stock of German Banks

[Back](#)

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



	Mean	SD	Median	Min	Max	Obs.
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
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	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
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
Plenaries Banking and Finance Index (sLDA)	2.699	0.317	2.754	2.017	3.525	112,696
Plenaries Populism Index (sLDA)	0.110	0.025	0.107	0.076	0.221	112,696

Data

Summary Statistics: Pre-Shock Sample (2006)

[Back](#)


	Mean	SD	Median	Min	Max	Obs.
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
Plenaries Banking and Finance Index (sLDA)	2.987	0.116	2.997	2.888	3.411	9,788
Plenaries Populism Index (sLDA)	0.091	0.014	0.099	0.078	0.128	9,788
Panel G: Variable of Interest						
County-Level Commerzbank Exposure	0.083	0.043	0.075	0.008	0.241	395



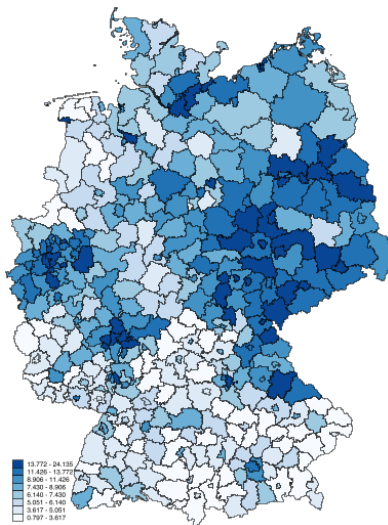
- ▶ From the posterior probabilities of the topic model we create two bags-of-words $B_I, I = \{BF, POP\}$ extracting the tokens with the highest per-topic probability [Top Terms](#)
 - ▶ Banking and Finance (BF) : 5 tokens per sub-topic
 - ▶ Populism (POP) : 20 tokens
- ▶ Let us consider
 - ▶ $D_{pt} \in \mathbb{C}$ collection of speeches for a party p in a year t of a corpus \mathbb{C}
 - ▶ ω_{dn} draw of the observed word $n \in N_d$ in document d
- ▶ the party-year index I_{pt} is calculated as the following frequency ratio

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

- ▶ We match individual political preferences with the obtained indices and we estimate the baseline model using indices as the outcome variable (see Fraccaroli et al., 2020, for a similar application)

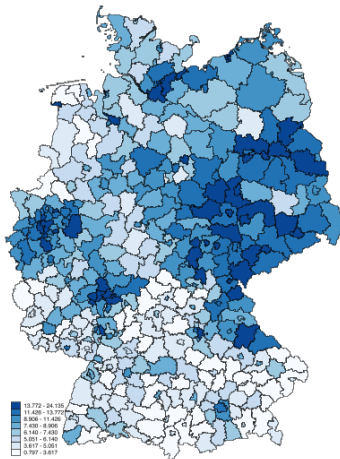


Measuring Exposure to the Lending Cut (Map)

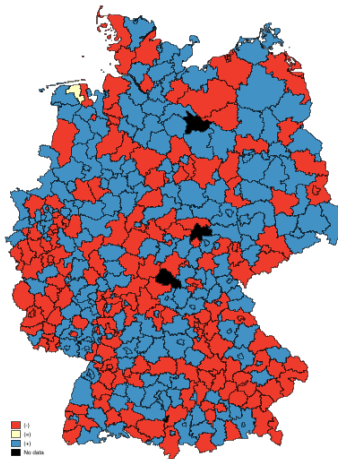




Credit Shock Exposure



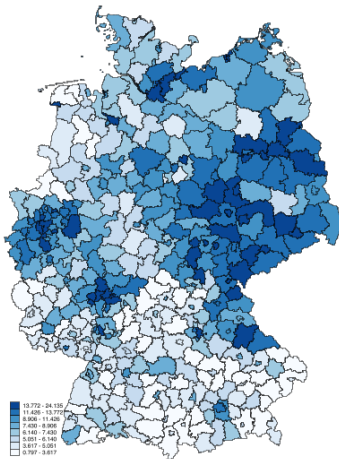
Pre-Post Change



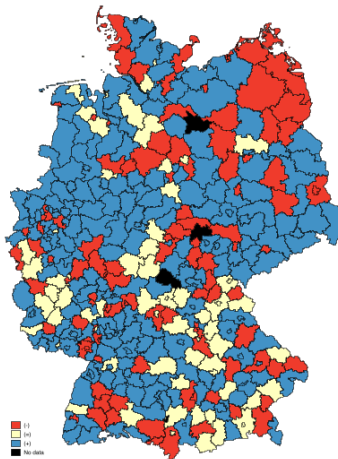
Intention to Vote for Populist Party (Map)



Credit Shock Exposure



Pre-Post Change



Main Results: Sample Restrictions [Back](#)

The Effect of the Credit Shock on Political Preferences: Rural and Urban Areas



	Political Support			Intention to Vote for Populist Party		
	Full Sample (1)	Rural Areas (2)	Urban Areas (3)	Full Sample (4)	Rural Areas (5)	Urban Areas (6)
$\text{Exposure}_k^{\text{pre}} \times \text{Post}_{ik}$	0.013*** (0.005)	0.010 (0.007)	0.013 (0.010)	0.007*** (0.002)	0.007** (0.003)	0.009* (0.005)
Number of Observations	206,604	147,592	59,012	206,604	147,592	59,012
Adjusted R-Squared	0.139	0.144	0.125	0.076	0.076	0.079
Number of Counties	396	292	104	396	292	104
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: $\text{Exposure}_k^{\text{pre}} \times \text{Post}_{ik}$ is expressed in standard deviation. Significance Levels: *** 1% level, ** 5% level, * 10% level. Robust standard errors adjusted for clustering at the county of residence in 2006 level in parentheses.

Baseline Results: Robustness

[Back](#)

Pre-Trends Validation: Model

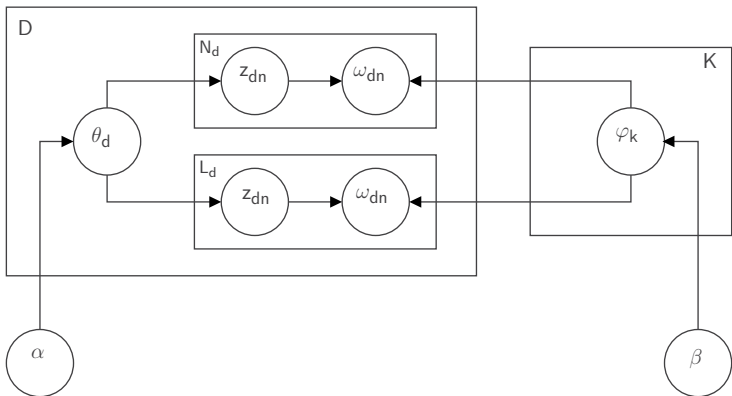


We propose a model to validate pre-trends similar to Autor (2003) estimating year-by-year point estimates using the first year of the shock as reference year:

$$\begin{aligned} y_{ikt} = & \alpha + \sum_{\tau \in [2000, 2009)} \beta_{\tau} \cdot \text{Exposure}_k^{\text{pre}} \cdot \mathbb{1}(t = \tau) \\ & + \sum_{\tau \in (2009, 2016]} \beta_{\tau} \cdot \text{Exposure}_k^{\text{pre}} \cdot \mathbb{1}(t = \tau) \\ & + \mathbf{\Gamma}' \mathbf{x}_{ik}^{2006} + \mathbf{\Pi}' \mathbf{\kappa}_k^{2006} + \delta_k + \lambda_t + \varepsilon_{ikt} \end{aligned}$$

Measuring Populism [Back](#)

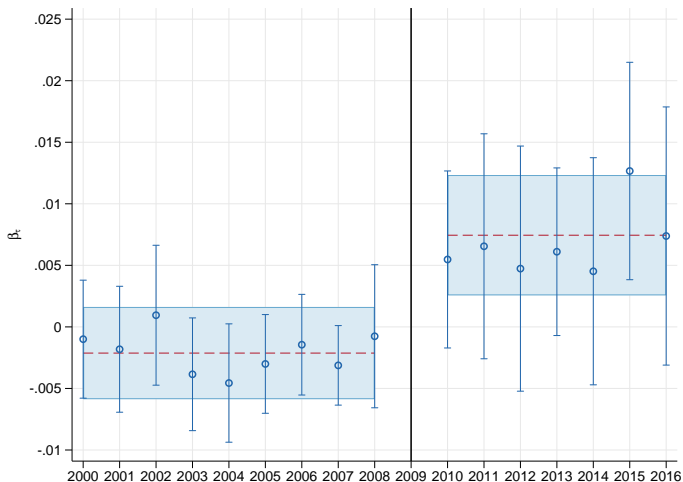
Plate Diagram: seededLDA Topic Model



Baseline Results: Robustness

[Back](#)

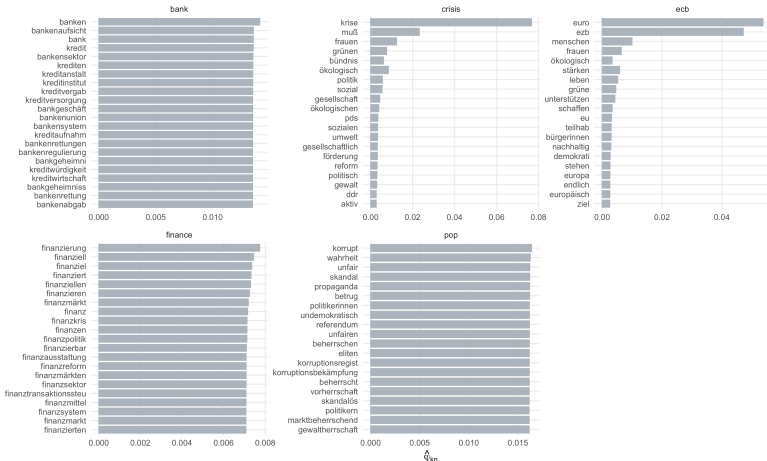
Pre-Trends Validation: Graph (Populist Party)



seededLDA Topic Model

[Back](#)

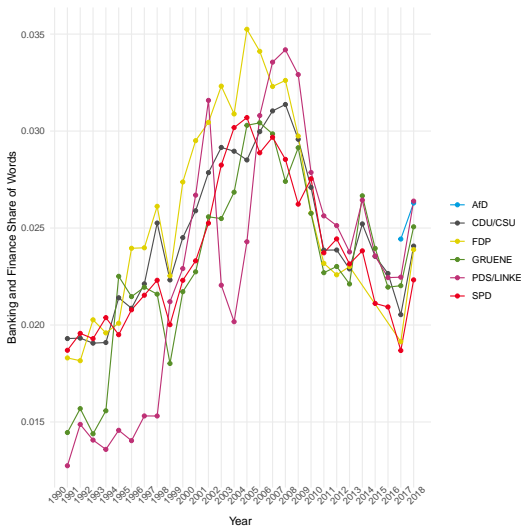

Per-Topic Top Terms



Banking and Finance Party-Year Index

[Back](#)

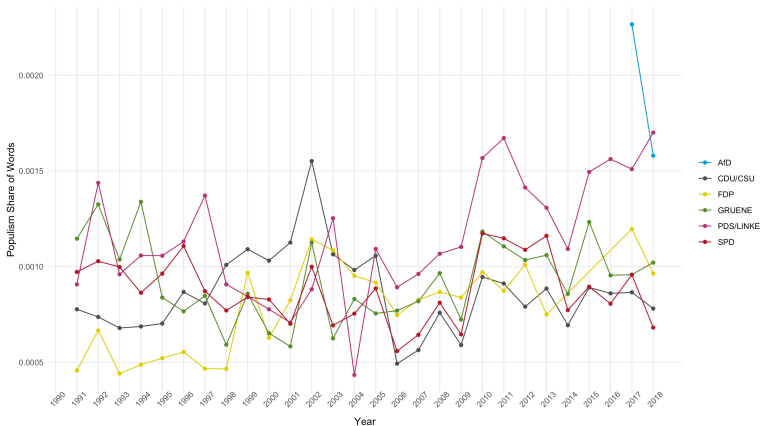
BF Time Series



Populism Party-Year Index

[Back](#)

POP Time Series





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

- ▶ Banking and Finance
 - ▶ "bank":["bank*", "kredit*"], "finance":["finanz*"], "ecb":["ezb", "europaeische zentralbank", "euro"], "crisis":["krise", "finanzkrise", "bankenkrise"]
- ▶ Populism (based on Rooduijn and Pauwels, 2011)
 - ▶ "elit*", "konsens*", "undemokratisch*", "referend*", "korrupt*", "propagand*", "politiker*", "täusch*", "betrüg*", "betrug*", "*verrat*", "scham*", "schäm*", "skandal*", "wahrheit*", "unfair*", "unehrlich*", "establishm*", "*herrschr*", "lüge*"

Dictionary-Method-Like Approach [Back](#)

The Effect of the Credit Shock on Topic Preferences



Robustness – Parliamentary Speeches: Dictionary Approach

	Banking and Finance				Populism			Combined	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exposure _k ^{pre} × Post _{ik}	0.038*** (0.007)	0.036*** (0.007)	0.036*** (0.007)	0.127*** (0.024)	0.119*** (0.025)	0.120*** (0.025)	0.051*** (0.009)	0.048*** (0.009)	0.048*** (0.009)
Adjusted R-Squared	0.909	0.907	0.908	0.510	0.515	0.515	0.883	0.883	0.883
Number of Observations	105,720	93,533	93,533	105,720	93,533	93,533	105,720	93,533	93,533
Number of Counties	393	393	393	393	393	393	393	393	393
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: Outcome variables and Exposure_k^{pre} × Post_{ik} are 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.

Electoral Political Manifestos

[Back](#)

The Effect of the Credit Shock on Topic Preferences



The Effect of the Credit Shock on Political Preferences: Electoral Manifestos

	Banking and Finance				Populism			Combined	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Exposure _k ^{pre} × Post _{ik}	0.081*** (0.013)	0.084*** (0.014)	0.083*** (0.014)	0.049*** (0.014)	0.049*** (0.014)	0.050*** (0.014)	0.084*** (0.014)	0.087*** (0.015)	0.086*** (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: Outcome variables and Exposure_k^{pre} × Post_{ik} are 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.

Results

Robustness Checks



- ▶ Negligible differences in estimates between rural and urban areas
Rural and Urban Areas
- ▶ No pre-trends before the shock allow parallel trends to hold
Pre-Trends Model Pre-Trends Graph
- ▶ Results are ITT, thus they provide a conservative lower bound of the true effect as we are estimating a reduced form
- ▶ 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