Populism, Institutional Trust, and Monetary Policy: A Firm-Level Analysis

Nora Lamersdorf

May 14, 2025

Populism is on the rise









Introduction Data

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

a Model Conclusion

1/19

- Funke, Schularick, Trebesch (2023): economic cost of populism is high \rightarrow direct effect
- What about indirect effect, i.e. when populist party not in power?

¹Chair Powell's Press Conference, November 2, 2022 in Washington, U.S.

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion 2/19

- $\bullet\,$ Funke, Schularick, Trebesch (2023): economic cost of populism is high $\rightarrow\,$ direct effect
- What about indirect effect, i.e. when populist party not in power?
- Populism characterized by skepticism toward established institutions (Mudde, 2004; Hansen and Olsen, 2022)

¹Chair Powell's Press Conference, November 2, 2022 in Washington, U.S.

- \bullet Funke, Schularick, Trebesch (2023): economic cost of populism is high \rightarrow direct effect
- What about indirect effect, i.e. when populist party not in power?
- Populism characterized by skepticism toward established institutions (Mudde, 2004; Hansen and Olsen, 2022)
 - \rightarrow Distrust in central banks: "... the public's trust is really the Fed's, and any central bank's, most important asset..." (Jerome Powell, 2022)¹

¹Chair Powell's Press Conference, November 2, 2022 in Washington, U.S.

- \bullet Funke, Schularick, Trebesch (2023): economic cost of populism is high \rightarrow direct effect
- What about indirect effect, i.e. when populist party not in power?
- Populism characterized by skepticism toward established institutions (Mudde, 2004; Hansen and Olsen, 2022)
 - \rightarrow Distrust in central banks: "... the public's trust is really the Fed's, and any central bank's, most important asset..." (Jerome Powell, 2022)¹
 - $\rightarrow\,$ Distrust in traditional media: populist voters might not receive full information about monetary policy

¹Chair Powell's Press Conference, November 2, 2022 in Washington, U.S.

- \bullet Funke, Schularick, Trebesch (2023): economic cost of populism is high \rightarrow direct effect
- What about indirect effect, i.e. when populist party not in power?
- Populism characterized by skepticism toward established institutions (Mudde, 2004; Hansen and Olsen, 2022)
 - \rightarrow Distrust in central banks: "... the public's trust is really the Fed's, and any central bank's, most important asset..." (Jerome Powell, 2022)¹
 - $\rightarrow\,$ Distrust in traditional media: populist voters might not receive full information about monetary policy
- $\Rightarrow\,$ Is monetary policy less effective in the presence of populism?

¹Chair Powell's Press Conference, November 2, 2022 in Washington, U.S.

The paper in one slide

Q: Is monetary policy less effective in the presence of populism?

I combine credit-registry data with populist voter shares and survey data to show that

- Firms' credit demand reacts less to monetary policy if the firms are located in high-populist electoral districts,
- Firms with self-reported lack of trust in the ECB adjust their credit demand less,
- Inflation expectations of firms in high-populist districts or with reduced trust in the ECB are higher and react less to MP,
- Differences in media choice and their content seem to play an important role.

I rationalize my empirical findings in a NK model with biased perceptions of monetary policy due to populist agents, showing that

- Monetary policy is less effective,
- Supply shocks have more adverse effects in the presence of populism.

Roadmap

Introduction

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model

Conclusion

Introduction Data and empirical strategy Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

3/19

Credit-registry data from Deutsche Bundesbank

- All loans by financial institutions in Germany $> \in 1$ (1.5) million
- Sample: 2013-22, ca. 130k unique small and medium-sized firms

Credit-registry data from Deutsche Bundesbank

- All loans by financial institutions in Germany $> \in 1$ (1.5) million
- Sample: 2013-22, ca. 130k unique small and medium-sized firms

Bundesbank's firm survey (BOP-F)

- Question on CB trust in 2023Q2 (\approx 2.5k unique firms after merging with credit register)
- Quantitative inflation expectations in all waves since June 2020, perceptions in 2020Q3

4/19

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion

Credit-registry data from Deutsche Bundesbank

- All loans by financial institutions in Germany $> \in 1$ (1.5) million
- Sample: 2013-22, ca. 130k unique small and medium-sized firms

Bundesbank's firm survey (BOP-F)

- Question on CB trust in 2023Q2 (\approx 2.5k unique firms after merging with credit register)
- Quantitative inflation expectations in all waves since June 2020, perceptions in 2020Q3

4/19

Control variables

• Firm-level data from BvD Amadeus, state-level GDP and CPI from Destatis

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion

Credit-registry data from Deutsche Bundesbank

- All loans by financial institutions in Germany $> \in 1$ (1.5) million
- Sample: 2013-22, ca. 130k unique small and medium-sized firms

Bundesbank's firm survey (BOP-F)

- Question on CB trust in 2023Q2 (\approx 2.5k unique firms after merging with credit register)
- Quantitative inflation expectations in all waves since June 2020, perceptions in 2020Q3

Control variables

• Firm-level data from BvD Amadeus, state-level GDP and CPI from Destatis

Media data

• Tweets on monetary policy, obtained via X API

Data: Voter shares of right-wing populist party AfD

• German federal elections 2017 and 2021 (Federal Returning Officer), 299 electoral districts



Introduction

Data and empirical strategy M

Monetary policy & credit demand

Inflation expectations

ons The role of the media

media Model (

Conclusion 5/19

Data: Voter shares of right-wing populist party AfD

• German federal elections 2017 and 2021 (Federal Returning Officer), 299 electoral districts



Figure: Federal election 2021



Monetary policy & credit demand

Inflation expectations

ns The role of the media

dia Model Con

Conclusion 5/19

Data: Monetary policy shocks from Altavilla et al. (2019)

• High-frequency changes in 2-year overnight indexed swap (OIS) rates around monetary policy announcements



Introduction D

Data and empirical strategy Moneta

Monetary policy & credit demand

Inflation expectations

The role of the media Model Conclusion

6/19

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with AfD voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with *AfD* voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

 $\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \frac{\beta_{1}^{h}}{\beta_{1}^{h}} (MP_{t} \times AfD_{ed(i),t}) + \beta_{2}^{h} AfD_{ed(i),t} + controls + \varepsilon_{i,j,t}^{h}$

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with AfD voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

$$\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h} (MP_{t} \times AfD_{ed(i),t}) + \beta_{2}^{h} AfD_{ed(i),t} + controls + \varepsilon_{i,j,t}^{h}$$

Fixed effects:

- α_i : firm FE \rightarrow control for firm-specific factors influencing credit demand and effect of MP
- $\alpha_{j,t}$: bank-time FE \rightarrow disentangle credit demand from loan supply
- $\alpha_{ind(i),s(i),t}$: industry-state-time FE \rightarrow control for common industry and state trends

Introduction

Data and empirical strategy Monetary p

Monetary policy & credit demand

Inflation expectations

The role of the media Model

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with *AfD* voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

 $\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h} (\textit{MP}_{t} \times \textit{AfD}_{ed(i),t}) + \beta_{2}^{h} \textit{AfD}_{ed(i),t} + \textit{controls} + \varepsilon_{i,j,t}^{h}$

MP shocks and interaction variable:

• MP_t : high-frequency changes in 2Y-OIS rates, $> 0 \equiv$ easing shock

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with AfD voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

 $\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h} (MP_{t} \times AfD_{ed(i),t}) + \beta_{2}^{h} AfD_{ed(i),t} + controls + \varepsilon_{i,j,t}^{h}$

MP shocks and interaction variable:

- MP_t : high-frequency changes in 2Y-OIS rates, $> 0 \equiv$ easing shock
- interaction variable: AfD voter share in the electoral district of firm i in quarter t

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with AfD voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

$$\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h} (MP_{t} \times AfD_{ed(i),t}) + \beta_{2}^{h} AfD_{ed(i),t} + controls + \varepsilon_{i,j,t}^{h}$$

Control variables:

- \bullet firm-time level: yearly assets, age, leverage, liquidity, ST-debt, intangible assets in y(t)-1 of firm i
- electoral-district level: density of electoral district ed(i) of firm i
- electoral-district-time level: yearly avg. sales growth, avg. employment growth, no. of firms in y(t) 1 and electoral district ed(i) of firm i
- $\rightarrow\,$ control variables as single regressors + interacted with MP shock

Panel local projections (Jordà, 2005):

- Regress log changes in outstanding loans of bank j to firm i between quarters t 1 and t + h on MP shocks interacted with AfD voter share in firm's electoral district and controls
- Coefficients on the interaction give differentiated model-free impulse responses

$$\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h} (MP_{t} \times AfD_{ed(i),t}) + \beta_{2}^{h} AfD_{ed(i),t} + controls + \varepsilon_{i,j,t}^{h}$$

General and differential effect:

- $\rightarrow\,$ general response: credit demand increases after MP easing shock
- ightarrow MP less effective in presence of populism if $eta_1^h < 0$

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion 7/19

General response: credit demand increases after MP easing



Introduction

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media Model (

odel Conclusion 8/19

Main result: firms in populism-intensive electoral districts react less to MP



Introduction Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion 9/19

Robustness

Results are robust to:

- using monetary policy shocks identified via sign restrictions
- excluding the largest shocks and the COVID period

Placebo test:

- interacting with other major political parties
- $\rightarrow\,$ results go in the opposite direction for the Greens; otherwise, no significant effects

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion 10/19

Understanding the mechanism: Populism and central bank trust

- Populism: distrust toward "elite", including political institutions
- Distrust in the central bank associated with lower effectiveness of monetary policy and less anchored inflation expectations (Bursian and Faia, 2018; Jamilov, 2024; Mellina and Schmidt, 2018; Christelis et al. 2020; Brouwer and de Haan, 2022)
- No evidence on firm behavior or direct channels, yet
- I link firm managers' trust in the ECB to their economic decisions:
- Bundesbank firm survey, 2023Q2: "On a scale from 0 to 10, how much do you trust that the ECB is able to deliver price stability?" → Matched to credit register
- ightarrow Trust in the ECB and AfD affiliation negatively correlated ightarrow imms ightarrow HH

Firms with higher trust react more to MP (sample: 2019-22)

 $\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h}(MP_{t} \times CBtrust_{i}) + controls + \varepsilon_{i,i,t}^{h}$

Introduction Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

12/19

Firms with higher trust react more to MP (sample: 2019-22)





Introduction

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

Model Conclusion

Roadmap

Introduction

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model

Conclusion

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion 12/19

Channel for differential credit demand responses

- Recent evidence that nominal discount rates are sticky (Fukui, Gormsen, Huber, 2024)
- Firms' real discount rates: $\delta_{i,t}^r = \overline{\delta_{i,t}^n} E_{i,t}\pi_{t+1}$

 \rightarrow Changes in firms' inflation expectations directly influence firms' real discount rates and, hence, investment decisions.

Introduction Data and empirical strategy Monetary policy & credit demand Inflat

Inflation expectations

The role of the media

Model Conclusion

usion 13/19

Channel for differential credit demand responses

- Recent evidence that nominal discount rates are sticky (Fukui, Gormsen, Huber, 2024)
- Firms' real discount rates: $\delta_{i,t}^r = \overline{\delta_{i,t}^n} E_{i,t}\pi_{t+1}$

 \rightarrow Changes in firms' inflation expectations directly influence firms' real discount rates and, hence, investment decisions.

- \Rightarrow In the level: Firms in high-AfD districts and with low ECB trust have higher inflation perceptions and expectations (2020-23)
- $\Rightarrow\,$ How do these expectations react to monetary policy changes in the presence of populism?

Inflation exp. of high-AfD and low-trust firms react less to MP easing

$$\mathbb{E}_{i,t}[\pi_{t,t+12}] = \alpha_i + \alpha_{ind(i),s(i),t} + \frac{\beta_1}{MP_{t-1}} \times AfD_{ed(i)}) + controls + \varepsilon_{i,t}$$

	$E_t \pi_{t,t+12}$	
$MP_{t-1} imes AFD$ voter share _{ed(i)}	-0.03*	
(')	(0.01)	
$MP_{t-1} imes ECB trust_i$		

 $\mathsf{MP}_{t-1} \times \mathsf{ECB} \operatorname{trust}_i$

Firm controls	Y	Y	Ň
Electoral district controls	Y	Ν	Ν
Firm FE	Y	Y	Y
Industry-time-state FE	Y	Y	Y
N	6,900	4,999	31,570
Adj. <i>R</i> ²	0.69	0.72	0.62

Inflation exp. of high-AfD and low-trust firms react less to MP easing

 $\mathbb{E}_{i,t}[\pi_{t,t+12}] = \alpha_i + \alpha_{ind(i),s(i),t} + \beta_1(MP_{t-1} \times CBtrust_i) + controls + \varepsilon_{i,t}$

		$E_t \pi_{t,t+1}$	2
$MP_{t-1} \times AFD$ voter share _{ed(i)}	-0.03*		
	(0.01)		
$MP_{t-1} \times ECB trust_i$. ,	0.03**	
		(0.02)	
$MP_{t-1} \times ECB trust_i$			0.01***
			(0.00)
Firm controls	Y	Y	N
Electoral district controls	Y	N	Ν
Firm FE	Y	Y	Y
Industry-time-state FE	Y	Y	Y
N	6,900	4,999	31,570
Adj. <i>R</i> ²	0.69	0.72	0.62

Introduction Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion 14/19

Roadmap

Introduction

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model

Conclusion

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion 14/19

Populist voters exhibit lower trust in traditional media



Source: infratest dimap: representative survey from November 2023 with 1,322 respondents. Q: "All in all, do you consider the information in the German media to be credible or not credible?"

Introduction

Data and empirical strategy Monetary

Monetary policy & credit demand

Inflation expectations

The role of the media

AfD relies heavily on social media: Analyze tweets about monetary policy

- AfD-affiliated senders and recipients rely much more on social media than other parties.
- $\rightarrow\,$ Analyze tweets on monetary policy
- $\rightarrow\,$ Comparison AfD versus conventional media

AfD relies heavily on social media: Analyze tweets about monetary policy

- AfD-affiliated senders and recipients rely much more on social media than other parties.
- $\rightarrow\,$ Analyze tweets on monetary policy
- $\rightarrow\,$ Comparison AfD versus conventional media
 - Download German tweets via the Twitter API with keywords 'ECB', 'monetary policy', 'Draghi'/'Lagarde' \rightarrow after cleaning 717.112 tweets
 - AfD: 1,307
 - Tweets of other large parties: 140 on average
 - Conventional media outlets: 3,789

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media

Model Conclusion 16/19

AfD relies heavily on social media: Analyze tweets about monetary policy

- AfD-affiliated senders and recipients rely much more on social media than other parties.
- $\rightarrow\,$ Analyze tweets on monetary policy
- $\rightarrow\,$ Comparison AfD versus conventional media
 - Download German tweets via the Twitter API with keywords 'ECB', 'monetary policy', 'Draghi'/'Lagarde' \rightarrow after cleaning 717.112 tweets
 - AfD: 1,307
 - Tweets of other large parties: 140 on average
 - Conventional media outlets: 3,789
 - Sentiment analysis using LLM: *AfD* tweets about monetary policy are much more negative • details

Number of MP tweets around MP announcement days



\rightarrow AfD tweets on monetary policy seem to include a lot of noise

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

17/19

NK model with biased perception of monetary policy - overview

- Lack of trust associated with reduced MP effectiveness
 - ightarrow downward biased perceived Taylor coefficient
- Firms in high-populist districts have higher inflation perceptions and expectations $\rightarrow \mathbb{E}_t^B[\pi] = m_\pi \pi_t$ with $m_\pi > 1$ • details
- Populist media channels not informing accurately about current monetary policy stance

▶ details

 \rightarrow social media signal with large noise \Rightarrow small Kalman gain \Rightarrow downward biased perception of MP shocks

Implications: MP shocks less effective, cost-push shocks more adverse effects

Conclusion

Monetary policy is less effective in the presence of populism.

- A firm's credit demand and inflation expectation react less to monetary policy if the firm is located in an electoral district with high populist voter share.
- Reduced trust in institutions (CB and media) seems to be an important channel
- NK model with biased perception of MP: shocks can have more adverse effects

Conclusion

Monetary policy is less effective in the presence of populism.

- A firm's credit demand and inflation expectation react less to monetary policy if the firm is located in an electoral district with high populist voter share.
- Reduced trust in institutions (CB and media) seems to be an important channel
- NK model with biased perception of MP: shocks can have more adverse effects
- \Rightarrow It is important to understand the level of trust in institutions to better evaluate the effectiveness of monetary policy.
- \Rightarrow Central banks may need to adopt broader communication strategies to effectively reach diverse audiences in an increasingly polarized environment.

Appendix

Data: Voter shares of right-wing populist party AfD

- German federal elections in 2017 and 2021, data from Federal Returning Officer website
- 299 electoral districts, mapped to firms using firms' postcodes from Amadeus



19/19

Empirical set-up: Panel local projections with interacted MP shocks

$$\Delta_h \log(\ell_{i,j,t}) = \alpha_i + \alpha_{j,t} + \alpha_{ind(i),s(i),t} + \beta_1^h (MP_t \times AfD_{ed(i),t}) + \beta_2^h AfD_{ed(i),t} + \sum_{n=1}^4 \beta_{2+n}^h \log(\ell_{i,j,t-n})$$

 $+\Gamma^{h}(MP_{t}\times \mathbf{W}_{ed(i)}) + \Phi_{1}^{h}\mathbf{D}_{ed(i),y(t)} + \Phi_{2}^{h}(MP_{t}\times \mathbf{D}_{ed(i),y(t)}) + \Theta_{1}^{h}\mathbf{Z}_{i,t-3} + \Theta_{2}^{h}(MP_{t}\times \mathbf{Z}_{i,t-3}) + \varepsilon_{i,j,t}^{h}$

- Δ_hlog(ℓ_{i,j,t}): cumulative percentage changes in outstanding loans to firm i from bank j between quarters t − 1 and t + h,
- $\alpha_i, \alpha_{ind(i),s(i),t}, \alpha_{j,t}$: firm FE, bank-time FE, industry-state-time FE,
- *MP_t* is the weighted sum of Euro Area monetary policy surprises in quarter *t* (high-frequency changes in 2-year OIS rates around monetary policy events),
- $AfD_{ed(i),t}$: AfD voter share in the electoral district of firm *i* in quarter *t*,
- W_{ed(i)}: density of electoral district of firm *i*,
- $D_{ed(i),y(t)}$: Avrg. sales growth, avrg. employment growth, no. of firms; all for year y(t) and electoral district ed(i) of firm i,
- $Z_{i,t-3}$: yearly assets, age, leverage, liquidity, maturity, intang. assets in t-3 of firm *i*.

Model

Specification for general effect (no interaction yet)

General effect of monetary policy on credit demand:

$$\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,y(t)} + \alpha_{ind(i),s(i),t} + \beta_{1}^{h} MP_{t} + \sum_{m=1}^{2} \beta_{1+m}^{h} MP_{t-m} + \sum_{n=1}^{4} \beta_{3+n}^{h} log(\ell_{i,j,t-n}) + \beta_{8}^{h} BIP_{s(i),t-3} + \sum_{n=1}^{4} \beta_{9+n}^{h} CPI_{s(i),t-n} + \Theta_{1}^{h} \mathbf{Z}_{i,t-3} + \varepsilon_{i,j,t}^{h},$$

- log(ℓ_{i,j,t}) = log(ℓ_{i,j,t+h}) − log(ℓ_{i,j,t-1}) measure cumulative percentage changes in outstanding loans to firm *i* from bank *j* between quarters *t* − 1 and *t* + *h*,
- $\alpha_i, \alpha_{ind(i),s(i),t}, \alpha_{j,t}$: firm FE, bank-time FE, industry-state-time FE,
- *MP*_t is the weighted sum of Euro Area monetary policy surprises in quarter t (high-frequency changes in 2-year OIS rates around monetary policy events),
- $BIP_{s(i),t-3}$ and $CPI_{s(i),t-3}$ is the yearly GDP growth and CPI at t-3 in the federal state s(i) of the respective firm i,
- $Z_{i,t-3}$: yearly assets, leverage, liquidity, maturity, intang. assets in t-3 of firm *i*.

General response: driven by both tightening and easing shocks





Introduction Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

sion 19/19

Driven by both tightening and easing shocks





Introduction Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion 19/19

Robustness: MP shocks after sign restrictions



Back

Introduction Data and empirical strategy

ipirical strategy ivionetary po

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

ion 19/19

Household surveys: AfD affiliates have lower trust in the ECB



Figure: "On a scale from 0 to 10, how much do you trust that the ECB is able to deliver price stability?", wave 34 (Oct 2022) and "A lot of people have a lengthy affiliation with a particular political party, [...] do you – generally speaking – have an affiliation with a certain party?", wave 18 (June 2021)

Introduction Da

Data and empirical strategy N

Monetary policy & credit demand

Inflation expectations

Populism and central bank trust

• A firm's trust in the ECB and the AfD voter share in a firm's electoral district negatively correlated



Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

19/19

Empirical set-up: specifications for interaction effect using BOP-F data

$$\Delta_{h} log(\ell_{i,j,t}) = \alpha_{i} + \alpha_{j,t} + \alpha_{ind(i),t} + \theta^{h} (MP_{t} \times CBtrust_{i}) + \sum_{n=1}^{4} \gamma_{t-n}^{h} log(\ell_{i,j,t-n}) \\ + \Theta_{1}^{h} \mathbf{Z}_{i,t-3} + \Theta_{2}^{h} (MP_{t} \times \mathbf{Z}_{i,t-3}) + \varepsilon_{i,j,t}^{h}, \text{ where}$$
(1)

- $\alpha_i, \alpha_{ind(i),s(i),t}, \alpha_{j,t}$: firm FE, bank-time FE, industry-state-time FE,
- *CBtrust_i* is the central bank trust of firm *i* from BOP-F survey 2023Q2
- $Z_{i,t-3}$: yearly assets, age, leverage, liquidity, maturity, intang. assets in t-3 of firm *i*.
- Standard errors are double-clustered at the firm level

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media

Model Conclusion 19/19

Driven more by tightening shocks



▲ Back

Introduction Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion 19/19

Channel: Inflation perceptions & expectations - HHs

Table: Inflation perceptions and expectations of low and high trust households (April 2019-Dec 2022)

	All waves (Apr. 2019 - Dec. 2022)			Wave 34 (Oct. 2022)				
	low	high	p-value	N	low	high	p-value	N
Inflation Perceptions, $\pi_{t-12,t}$	6.03	4.59	0.00	77,373	8.62	7.94	0.00	5,362
Inflation Expectations, $E_t \pi_{t,t+12}$	7.24	5.26	0.00	137,669	10.05	8.75	0.00	5,345

 \rightarrow Low-trust households and firms have significantly higher inflation perceptions and, especially, expectations

◀ Back

Channel: Inflation expectations & monetary policy

	$E_t \pi_{t,t+12}$	$E_t \pi_{t,t+12}$	$E_t \pi_{t,t+12}$
$E_{t-1}\pi_{t-1,t+11}$	0.26***	0.26***	0.26***
	(0.02)	(0.02)	(0.02)
$E_{t-2}\pi_{t-2,t+10}$	0.13***	0.13***	0.13***
	(0.02)	(0.02)	(0.02)
$\Delta DFR_{t-1} imes CBtrust$	-0.11		
	(0.08)		
$\Delta DFR_{t-2} imes CBtrust$	-0.20*		
	(0.11)		
$1M ext{-OIS}_{t-1} imes CBtrust$		0.00	
		(0.01)	
1 M-OIS $_{t-2} \times$ CBtrust		-0.03**	
		(0.01)	
$2Y-OIS_{t-1} \times CBtrust$		```	0.01
			(0.00)
$2Y-OIS_{t-2} \times CBtrust$			0.00
			(0.00)
HH & Time FE	Y	Y	Ŷ

 \rightarrow High-trust households react more to MP: reduce their inflation expectations by more after MP tightening



Introduction Data and empirical strategy

Inflation expectations

The role of the media

Sentiment in tweets about monetary policy decisions



 \rightarrow AfD tweets on monetary policy are much more negative

back 19/19

Introduction

Data and empirical strategy Me

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

Perceived monetary policy shocks

• Current MP shock, ξ_t , perceived through media signals:

$$s_t^j(\xi_t) = a^j \xi_t + b^j(\xi_t) + \varepsilon_{j,t},$$

 $a^j \equiv$ accuracy of signal, $b^j \equiv$ bias of signal, $\varepsilon_{j,t} \equiv$ noise:

Introduction Data and empirical strategy Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

usion 19/19

Perceived monetary policy shocks

• Current MP shock, ξ_t , perceived through media signals:

$$s_t^j(\xi_t) = a^j \xi_t + b^j(\xi_t) + \varepsilon_{j,t},$$

 $a^{j} \equiv$ accuracy of signal, $b^{j} \equiv$ bias of signal, $\varepsilon_{i,t} \equiv$ noise:

 \rightarrow Bayesian updating of agent *i*'s perception of ξ_t :

$$\mathbb{E}_{t}^{i}[\xi_{t}] = K\left(s_{t}^{j}(\xi_{t}) - \mathbb{E}_{t-1}^{i}[\xi_{t}]\right) + \mathbb{E}_{t-1}^{i}[\xi_{t}]$$

• If social media (S) has larger bias and noise than conventional media (C):

$$\Rightarrow \text{ Kalman gain } \mathcal{K}^{S} = \frac{\sigma_{\xi}^{2}}{\sigma_{\xi}^{2} + \sigma_{b}^{2} + \sigma_{\epsilon}^{2}} < \mathcal{K}^{C} = \frac{\sigma_{\xi}^{2}}{\sigma_{\xi}^{2} + \sigma_{b}^{2} - \sigma_{\epsilon}^{2}}$$

 \Rightarrow Recipients of social media update less, have downward biased perception of ξ_t

Data and empirical strategy

Inflation expectations

19/19

Perceived inflation and monetary policy rule

- Data shows that populism and central bank distrust associated with higher inflation perceptions and expectations
- As in Gabaix (2020), agents are partially behavioral (B): $\pi_t^B = m_\pi \pi_t$ with $m_\pi > 1$
- Each period, agents observe \hat{i}_t , while CB's reaction function (ϕ_{π}) hard to observe.
- From $i_t = i^* + \phi_\pi \pi_t + \nu_t$, it follows that $\phi_\pi = rac{i_t i^* \nu_t}{\pi_t}$

• Agents' perception:
$$\phi^B_{\pi} = \lim_{t \to \infty} \int_0^t \mathbb{E}^B_{\tau} \left(rac{i_{\tau} - i^* - \hat{v}_{\tau}}{\hat{\pi}_{\tau}} \right) d\tau \Rightarrow \phi^B_{\pi} < \phi_{\pi}$$

 \Rightarrow Agents perceive a different reaction function: they belief that CB is reacting less to inflation gap, in line with distrust from BOP-F survey

Monetary policy perception in NK model

• Representative agent perceives biased policy rate:

$$\begin{split} \hat{i}_t &= i^* + \hat{\phi}^B_\pi \hat{\pi}^B_t + \hat{v}^B_t \\ \text{og } \hat{v}^B_t &= \rho \ \text{log } \hat{v}^B_{t-1} + \hat{\zeta}^B_t, \end{split}$$

where $\hat{\xi}^B_t = (1-\gamma)\xi_t$ and $\gamma \equiv$ share of populist voters

• Furthermore: log-linearized Phillips curve becomes

$$\pi_t = \beta M^f \mathbb{E}_t[\pi_{t+1}] + \Psi^f \hat{\chi}_t,$$

19/19

where $\hat{\chi}_t$ are marginal costs and $M^f > 1$ and $\Psi^f > \Psi$ (rational case)

• Use NK model to show how this influences

- the economy's reaction to MP shocks,
- the economy's reaction to cost-push shocks and implications for the CB.

Introduction Data and empirical strategy Monetary policy & credit demand Inflation expectations The role of the media Model Conclusion

Monetary policy shock is less effective in the presence of populism





Introduction Da

Data and empirical strategy N

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

on 19/19

Cost-push shock has more adverse effects in the presence of populism



 \Rightarrow CB needs to tighten more to reduce inflation in the presence of populism.

Introduction

Data and empirical strategy

Monetary policy & credit demand

Inflation expectations

The role of the media

Model Conclusion

ion 19/19

Model implications: inflation increases more after cost-push shock in the presence of populism \rightarrow going back to the data



Introduction Data and empirical strategy

cal strategy Monetary po

Monetary policy & credit demand

Inflation expectations

The role of the media