Populism and Monetary Policy Transmission*

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Abstract

This paper examines how populism shapes the transmission of monetary policy. Combining credit-registry and firm survey data from Germany with voter shares for the populist party *AfD*, I find that firms in high-populism districts hold elevated inflation expectations and revise them less in response to monetary policy surprises. Most strikingly, their credit demand response is similarly attenuated, indicating a significant weakening of the credit channel. An analysis of over 700,000 German-language tweets is consistent with a distorted information environment: *AfD*-affiliated media cover ECB decisions less promptly and frame them more negatively than conventional outlets. Firms whose managers report lower trust in the ECB exhibit qualitatively identical results, pointing to institutional distrust as part of the underlying mechanism. A New Keynesian model extended to incorporate biased perceptions rationalizes these findings: distorted beliefs weaken policy transmission and exacerbate adverse shocks, posing significant challenges for central banks in increasingly polarized environments.

Keywords: Monetary policy transmission, populism, inflation expectations, credit demand, institutional trust, firm heterogeneity

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1 Introduction

"The public's trust is really the Fed's, and any central bank's, most important asset" (Jerome Powell, 2022).[1] This statement underscores a fundamental challenge for modern central banks: maintaining the credibility necessary to guide the expectations of firms, households, and financial markets. Christine Lagarde (2024) reinforces this view: "For inflation expectations to remain anchored (...), people need to be able to broadly predict our reaction function".[2] Public confidence in the central bank is therefore not merely an asset but a prerequisite for effective monetary policy. Managing expectations has become central to modern central banking, with tools such as forward guidance proving pivotal even beyond zero lower bound scenarios (see, *e.g.*, Blinder et al., 2017). The effectiveness of such tools, however, hinges on two conditions: that economic agents are exposed to central bank communication, and that they trust the institution sufficiently to act on its guidance.

The recent rise of populism across Western democracies puts both conditions under pressure simultaneously. Populist movements, often characterized by skepticism toward established institutions, risk eroding public trust in central banks, potentially weakening monetary policy's influence. Additionally, populist parties frequently rely on alternative media channels to communicate, diverging from mainstream information sources.[3] This fragmentation in media consumption may create systematic differences in how distinct segments of the population process and respond to monetary policy—with potentially significant consequences for the effectiveness of monetary policy.

This paper provides systematic evidence on how populism shapes monetary policy transmission, tracing the mechanism from distorted information environments through biased inflation expectations to muted credit demand responses. The analysis draws on three complementary data sources: over 700,000 German-language tweets about monetary policy analyzed using natural language processing, firm-level survey data from the Bundesbank Online Panel – Firms (BOP-F), and quarterly credit-registry data from Deutsche Bundesbank covering all loans above €1 million granted by German financial institutions from 2013 to 2022, matched to voter shares of the right-wing populist party Alternative für Deutschland (*AfD*) across 299 electoral districts.

The main findings are as follows. First, as a piece of motivating evidence, *AfD*-affiliated media channels provide less timely and more negatively framed information about ECB decisions than conventional media, suggesting that followers of populist channels receive a systematically distorted picture of the current monetary policy stance. Second, firms in high-populism districts hold higher inflation expectations and adjust them less

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

[2] Speech by Christine Lagarde at the 30th Dubrovnik Economic Conference, Dubrovnik, 14 June 2024.

[3] For survey insights on media polarization and partisanship in the U.S., see, *e.g.*, the report by Pew Research Center (2020). In Germany, survey findings on media trustworthiness across different partisan groups can be found in infratest dimap (2016) and infratest dimap (2023).

in response to monetary policy surprises—a one-percentage-point increase in the *AfD* voter share is associated with a differential response of inflation expectations of -0.03 percentage points per one standard deviation shock. Third, and most strikingly, firms in districts with higher *AfD* voter shares exhibit significantly weaker credit demand responses to monetary policy shocks: moving from the bottom to the top quartile of the *AfD* voter share distribution reduces the credit demand response by roughly one percentage point, relative to an unconditional average response of three to seven percent, with corresponding effects on investment. Finally, validating the proposed mechanism, firms whose managers report lower trust in the ECB are significantly less responsive to monetary policy, particularly during tightening episodes.

The empirical setting is Germany, where voter shares of the right-wing populist party Alternative für Deutschland (*AfD*) serve as a proxy for populist exposure. Originally founded on Eurosceptic principles—explicitly opposing the Euro and the ECB—the *AfD* has broadened its platform into a fully populist agenda, positioning itself as a challenger to the 'elites' and established institutions (Berning, 2017; Hansen and Olsen, 2022), in line with Mudde (2007)'s definition of populism as a dichotomy between 'the pure people' and 'the corrupt elite'. Within the German political landscape, the *AfD* stands out as the only major party that exceeds the 7.5 threshold used by Pew Research Center (2018) to classify parties as populist, scoring far higher than any other party according to the 2019 Chapel Hill Expert Survey (Figure A1).[4] Crucially, research consistently finds that *AfD* voters are not typical 'losers of globalization'—economic concerns played only a limited role in predicting *AfD* support (Hansen and Olsen, 2019; Wurthmann et al., 2021). Instead, attitudinal factors are far stronger predictors of *AfD* support than socio-demographic characteristics such as income, education, or employment status: anti-EU sentiment, distrust of political elites, and dissatisfaction with the establishment drive *AfD* voting (Hansen and Olsen, 2019, 2022). This makes the *AfD* voter share a proxy for populist sentiment rather than economic disadvantage, and suggests that firm managers in high-AfD districts are not inherently less likely to resonate with the populist sentiment prevalent in their electoral districts.

Political polarization is closely tied to divergent media consumption habits (see, *e.g.*, DellaVigna and Kaplan, 2007; Martin and Yurukoglu, 2017; Gentzkow et al., 2024; Faia et al., 2024). In the case of the *AfD*, this pattern is particularly pronounced: surveys reveal that only 22 percent of *AfD* supporters consider conventional media credible, compared to majorities among all other major parties, and *AfD* supporters rely far more on social media for political information (infratest dimap, 2023). To examine whether this divergence in media consumption translates into differences in monetary policy information, I compare tweets about monetary policy from *AfD*-affiliated accounts to those from conventional media outlets. Two patterns

[4]The 2019 Chapel Hill Expert Survey, administered in winter 2020 and answered by 421 political scientists, details the political, ideological, and policy positions of 277 parties across 32 countries. For detailed information, see Jolly et al. (2022).

emerge. First, while conventional media exhibit a sharp spike in tweet volume on ECB announcement days, *AfD*-affiliated channels show almost no corresponding increase—even when I focus on tweets containing substantive information about interest rate decisions. Second, *AfD*-related monetary policy tweets are markedly more negative in tone than those from conventional media, where neutral sentiment dominates. While suggestive, this evidence is consistent with the hypothesis that followers of populist channels receive a systematically distorted picture of the current monetary policy stance, and motivates the formal analysis that follows.

I first examine how populist exposure affects firms' inflation expectations, using firm-level survey data from the Bundesbank Online Panel – Firms (BOP-F). Firms in electoral districts with above-median *AfD* voter shares report significantly higher inflation perceptions and 12-month-ahead inflation expectations than firms in low-populism districts. More importantly, these firms also adjust their inflation expectations less in response to monetary policy surprises: a one-percentage-point increase in the *AfD* voter share is associated with a differential response of inflation expectations of -0.03 percentage points per one standard deviation monetary policy shock. Comparing the 30 districts with the highest *AfD* voter shares to the 30 with the lowest, this implies a reduction in the expectation response of almost half a percentage point—suggesting that populist exposure meaningfully impairs the central bank's ability to steer inflation expectations.

Firms' inflation expectations play a crucial role in shaping investment decisions. Firms apply discount rates substantially above their cost of capital (Jagannathan et al., 2016), adjust these rates only gradually to monetary policy shifts (Gormsen and Huber, 2024), and do not readily revise their nominal rates in response to changing inflation (Fukui et al., 2024)—implying that it is inflation expectations that drive perceived real discount rates, and thereby investment incentives. The implication is direct: if populist exposure impairs a firm's inflation expectation updating, it also impairs the reduction in perceived real discount rates that monetary easing would otherwise produce—and with it, firms' incentive to borrow and invest. Estimating panel local projections following Jordà (2005), I regress cumulative changes in outstanding loans at the firm-bank level on monetary policy surprises—measured as high-frequency changes in 2-year OIS rates around ECB announcement events (Altavilla et al., 2019; Jarociński and Karadi, 2020)—interacted with the *AfD* voter share in firms' electoral districts. Bank-time fixed effects absorb time-varying heterogeneity in credit supply, ensuring that the results capture demand-side behavior.

I find that firms in districts with higher *AfD* voter shares exhibit significantly weaker credit demand responses to monetary policy shocks for up to eight quarters after the initial shock. Moving from the bottom to the top quartile of the *AfD* voter share distribution reduces the credit demand response by roughly one percentage point, relative to an unconditional average response of three to seven percent. The results are robust to controlling for a full set of firm-level characteristics shown to drive heterogeneous monetary policy

responses—including size, age, leverage, liquidity, intangible asset intensity, and debt maturity—as well as time-varying district controls, and interactions of all controls with the monetary policy shock to address potential confounding. The muted credit demand response translates into reduced investment, as confirmed by annual investment regressions.

One natural explanation for these patterns is institutional distrust as populism frequently fosters a 'people versus elites' narrative (Mudde, 2007; Funke et al., 2023) that fuels skepticism toward established institutions. The BOP-F survey provides a rare opportunity to examine this directly: by eliciting firm managers' trust in the ECB, it allows me to test whether distrust—rather than unobserved regional conditions—drives the muted responses documented above. Indeed, firms in high-AfD districts report lower average trust (4.4 versus 4.8), and household-level data from the BOP-HH survey show that *AfD* affiliates display by far the lowest ECB trust among supporters of all major parties—and are the only group for which zero is the modal response.

I find that, first, firms with lower trust in the ECB report higher inflation expectations and adjust them less in response to monetary policy surprises: the interaction of central bank trust with the monetary policy shock is positive and significant, implying that a one-unit increase in trust is associated with a differential response of inflation expectations of 0.03 percentage points per one standard deviation shock. Second, linking the survey to the credit-registry, I find that firms with higher trust adjust their credit demand significantly more strongly in response to policy surprises—an amplification of up to one percentage point per unit of trust for a one standard deviation shock, driven primarily by tightening episodes.

To rationalize these findings, I extend a standard medium-scale New Keynesian model with capital and investment adjustment costs to incorporate biased perceptions of monetary policy. Agents who consume populist media receive noisier signals about monetary policy shocks and update their beliefs by less, captured via a lower Kalman gain. Agents with low central bank trust systematically overestimate deviations of inflation from target, modeled via a behavioral multiplier on inflation expectations following Gabaix (2020).

The model generates two key predictions that are consistent with the empirical findings. First, monetary policy easing produces smaller output responses in the presence of populist influence, as agents perceive the change in the policy rate to be smaller than it actually is. Second, cost-push shocks generate sharper inflation increases in a populist environment, requiring more aggressive central bank tightening to stabilize prices—a prediction consistent with preliminary evidence that inflation increases in recent years were more pronounced in German regions with higher *AfD* voter shares.

Overall, the findings suggest that populism impairs monetary policy transmission through two reinforcing channels: eroded institutional trust and distorted information environments. As populist movements continue to gain traction across democracies, understanding these mechanisms is crucial for central banks aiming to preserve the effectiveness of monetary policy in an increasingly polarized environment.

Related literature. This paper contributes to five strands of literature First, it adds to the growing literature on the economic costs of populism.[5] Funke et al. (2023) use data from 60 countries over 120 years to show that GDP tends to decline under populist leaders, often due to institutional erosion. Born et al. (2019) and Bloom et al. (2019) document the substantial economic costs of Brexit for the UK, while Amiti et al. (2019) show that the 2018 Trump tariffs lowered U.S. real income by $1.4 billion per month. I contribute to this literature by identifying a novel channel through which populism generates suboptimal outcomes even without the populist party holding office: a reduced capacity of the central bank to influence firms' inflation expectations and credit demand.

Second, I contribute to the literature on central bank trust and monetary policy transmission. Bursian and Faia (2018) show that a decline in trust impairs monetary policy transmission by increasing precautionary savings, while Jamilov (2024) links household trust to the perception of prevailing policy interest rates, finding that monetary policy effectiveness depends on the level of institutional trust. Christelis et al. (2020) and Niizeki (2023) document a negative correlation between central bank trust and inflation expectations for the Netherlands and Japan, respectively. While existing work focuses on household trust and its implications for consumption and saving, I extend this literature by providing the first evidence on how central bank trust shapes firm-level credit demand responses to monetary policy.

Third, I contribute to the literature on media polarization and economic decision-making (see, *e.g.*, DellaVigna and Kaplan, 2007; Martin and Yurukoglu, 2017; Gentzkow et al., 2024; Faia et al., 2024). Coibion et al. (2022) show that economic agents often discount news reports about monetary policy announcements even when these reports are unbiased and easy to understand. I extend this literature through a novel NLP-based analysis of how monetary policy information is conveyed differently across populist and conventional media channels, and link this divergence to biased economic perceptions among firms.

Fourth, I contribute to the literature on firms' expectations and responses to monetary policy. Candia et al. (2024) document a general information gap among U.S. firm managers regarding current inflation and monetary policy, while Born et al. (2024) find that firms underreact to macroeconomic news when forming expectations. Enders et al. (2019) show that German firms' price and production expectations respond to monetary policy surprises, and Di Pace et al. (2024) demonstrate that media coverage plays a crucial role in shaping firms' price expectations following policy announcements. I extend this literature by showing that populist exposure and the associated distrust in the central bank systematically weaken firms' expectation updating in response to monetary policy.

Finally, I contribute to the literature on firm heterogeneity in monetary policy transmission. Ottonello

[5]The literature on the rise of populism is closely connected to the literature on increasing political polarization. Kempf and Tsoutsoura (2024) provide an overview of the widening partisan divide in financial decisions, where partisan alignment influences relationship formation and incurs economic costs.

and Winberry (2020) analyze how financial frictions shape the investment channel of monetary policy, while Cloyne et al. (2023), Döttling and Ratnovski (2023), Jeenas (2024), and Jungherr et al. (2022) document heterogeneous responses related to firm age, intangible assets, liquidity, and debt maturity, respectively. My findings suggest that, beyond these balance sheet characteristics, a firm's exposure to populist sentiment constitutes an additional source of heterogeneity in credit demand responses to monetary policy.

The remainder of the paper is organized as follows. Section 2 describes the data and the empirical strategy. Section 3 investigates the role of media in shaping the information environment facing firms in high-populism districts. Section 4 presents the main results, examining how populist exposure shapes firms' inflation expectations, credit demand, and investment, and validates institutional distrust as an underlying mechanism. In Section 5, I provide a model to rationalize my empirical findings, before concluding in Section 6.

2 Data and empirical strategy

2.1 Data description

Credit register. To measure firms' credit demand, I use credit-registry data from Deutsche Bundesbank. This dataset includes all loans granted by financial institutions in Germany that exceed €1 million (€1.5 million until 2015) in a quarter at the parent corporation level. The main variable of interest is the outstanding loan amount at the end of a quarter at the bank-firm level.[6] I winsorize the data at the 1% and 99% level and exclude financial companies, insurance companies, and public administration from the sample. I focus on small and medium-sized firms, as classified in the Bureau van Dijk database.[7] Larger firms are excluded because they are less likely to be influenced by the populist sentiment in their electoral district: smaller firms are more rooted in their local environment and hence more susceptible to local political attitudes; they typically lack dedicated resources such as press offices or economic analysts to filter and interpret macroeconomic information; and key financial decisions are often made by a limited number of individuals, increasing the likelihood that personal beliefs directly influence business decisions.

Firm exposure to populism. To measure firms' exposure to populism, I use voter shares for the right-wing populist party *Alternative für Deutschland* (AfD) from the German federal elections in 2017 and 2021, sourced from *The Federal Returning Officer* website.[8] I focus on the second vote, which more accurately reflects support for the party's platform and determines the proportion of seats allocated to each party in the federal

[6] This confidential dataset was accessed on site under the project number 2022\0109.

[7] According to this classification, small and medium-sized firms have operating revenues below €10 million, total assets below €20 million, and fewer than 150 employees.

[8] `https://bundeswahlleiterin.de/bundestagswahlen/2021/ergebnisse/opendata.html`

parliament.[9] Since the sample covers 2013 to 2022, I use the 2017 voter shares for the period before September 2017, the 2021 voter shares for the period after September 2021, and linearly interpolate between the two elections.

To match firms to their electoral district, I first map the 299 electoral districts to their municipalities using a table from the Federal Statistical Office of Germany containing the Official Municipality Keys (*Amtliche Gemeindeschlüssel*),[10] and then match municipalities to postal codes using a mapping table from *Geodaten Deutschland*.[11] Where a postal code spans multiple electoral districts, I assign the population-weighted average of the election results. I then link these results to firms based on their postal codes from Bureau van Dijk's Amadeus database, using a mapping table provided by the Research Data and Service Centre of Deutsche Bundesbank.

Firm survey data. Firm-level survey data come from the *Bundesbank Online Panel – Firms* (BOP-F), a monthly survey conducted by Deutsche Bundesbank since June 2020 with approximately 3,000 firms per wave.[12] Data on central bank trust stem from waves 27 to 29 (April to June 2023), in which firm managers were asked: *"On a scale from 0 to 10, how much do you trust that the European Central Bank is able to deliver price stability?"* Approximately one third of respondents can be matched to the credit-registry data, providing a direct link between firm managers' trust in the ECB and their firms' borrowing behavior over time. Data on inflation expectations are available in every wave from June 2020 onward, and inflation perceptions were elicited once in September 2020. For the analysis on central bank trust, I use a sample period from 2019 to 2022, since 70% of German CEOs listed in the second quarter of 2023 had held their roles since 2019 according to the Amadeus Manager dataset.[13]

Household survey data. I additionally use data from the *Bundesbank Online Panel – Households* (BOP-HH), a monthly survey conducted since April 2020 with 2,500 to 5,000 individuals per wave.[14] Specifically, I match responses to two questions across different waves: trust in the ECB's ability to deliver price stability (wave 34, October 2022) and party affiliation (wave 18, June 2021). This allows me to document how central bank trust varies across supporters of different political parties.

Twitter (X) data. To analyze the information environment facing firms in high-populism districts, I collect German-language tweets about monetary policy using the Twitter (X) API. I retrieve tweets containing the German translations of "ECB," "European Central Bank," "monetary policy," "Draghi" (until October 2019),

[9] In the German electoral system, voters cast two votes: one for a specific candidate in their district (first vote) and one for a political party (second vote), ensuring both direct representation and proportional representation in the federal parliament.

[10] The exact source is *Statistisches Bundesamt: Gemeinden in Deutschland nach Bundestagswahlkreisen 2021 mit Fläche, Bevölkerung und Postleitzahl am 31.12.2020 (4. Quartal)*.

[11] `https://www.geodaten-deutschland.de/`

[12] DOI=10.12757/Bbk.BOPF.2023Q3.01, Boddin and Köhler (2024). For further information on the survey design, see Schmidt et al. (2024).

[13] The results remain robust if the sample start date is moved earlier.

[14] DOI = 10.12757/Bbk.BOPHH.202402, see Schmidt et al. (2022).

and "Lagarde" (from November 2019 onward), excluding retweets. Following data cleaning, the final dataset comprises 717,112 tweets covering the period from 2014 to October 2023.[15]

Control variables. Annual firm-level data are obtained from Bureau van Dijk's Amadeus database, which can be linked to the credit-registry data via a unique firm identifier. I winsorize all firm-level variables at the 1% and 99% level. Firm-level controls include total assets, the leverage ratio, the ratio of short-term to long-term debt, cash holdings, intangible fixed assets, and the year of establishment. At the electoral district level, I control for average sales growth, employment growth, and the total number of firms, constructed from the full universe of firms in the Amadeus database. Yearly data on GDP growth and consumer price inflation at the federal-state level are obtained from *Destatis*.

Monetary policy shocks. For monetary policy surprises, I use the updated dataset from Altavilla et al. (2019), which captures high-frequency changes in several OIS rates around ECB monetary policy events. I focus on 2-year OIS rates, as these capture both target rate and forward guidance shocks—particularly relevant given the low interest rate environment during much of the sample period. To obtain a quarterly series, I take the weighted sum of all monetary policy surprises in the current and past quarter, where weights reflect the exact timing of each shock within the quarter. For robustness, I also use the monetary policy shocks from Jarociński and Karadi (2020), which are constructed as the first principal components of high-frequency changes in 1-month, 3-month, 6-month, and 1-year OIS rates, purged of central bank information shocks using sign restrictions.

Sample. The baseline sample spans 2013Q1 to 2022Q4, aligning with the availability of firm-level control variables in the Amadeus dataset. Extending the sample further back could bias the results, as the European sovereign debt crisis had a lasting influence on firms' risk-taking behavior.

2.2 Empirical strategy

This section describes the empirical specifications used throughout the paper. I begin with the inflation expectations regressions, which are estimated on monthly survey data, before turning to the credit demand regressions, which are estimated on quarterly credit-registry data, and the investment regressions, which draw on annual firm-level data from Amadeus. The central bank trust specifications mirror the populism specifications and are presented alongside them.

Inflation expectations. Since data on inflation expectations are available regularly only from June 2020

[15] Further details on the data collection process and NLP methods are provided in Section 3 and Appendix D.

onward and only a subset of respondents are present in a panel dimension, I estimate panel regressions on a monthly basis:

$$\mathbb{E}_{i,t}[\pi_{t,t+12}] = \alpha_i + \alpha_{ind(i),s(i),t} + \beta_1(MP_{t-1} \times AfD_{ed(i)}) + \Gamma(MP_{t-1} \times density_{ed(i)}) + \Phi_1 \mathbf{D}_{ed(i),y(t)} + \Phi_2(MP_{t-1} \times \mathbf{D}_{ed(i),y(t)}) + \Theta_1 \mathbf{Z}_{i,y(t)-1} + \Theta_2(MP_{t-1} \times \mathbf{Z}_{i,y(t)-1}) + \varepsilon_{i,t}, \quad (1)$$

where $\mathbb{E}_{i,t}[\pi_{t,t+12}]$ are 12-month-ahead inflation expectations of firm manager i in month t. α_i and $\alpha_{ind(i),s(i),t}$ denote firm and industry-state-time fixed effects, respectively. MP_{t-1} are monthly monetary policy surprises in the month before the survey response, and $AfD_{ed(i)}$ is the *AfD* voter share in the electoral district of firm i. The voter share has no time subscript since the regression covers June 2020 to October 2023, a period for which I use only the 2021 election results. $\mathbf{D}_{ed(i),y(t)}$ are electoral district-level controls (average sales growth, employment growth, and total number of firms), and $\mathbf{Z}_{i,y(t)-1}$ are the firm-level controls described above. I use the values from the previous year for the first three quarters of a given year and the current year's values for the last quarter. I interact all controls with the monetary policy shock to address potential correlation between populist exposure and firm or district characteristics. When analyzing the role of central bank trust, I replace $AfD_{ed(i)}$ with $CBtrust_i$ and drop the electoral district controls. Standard errors are clustered at the firm level.

Credit demand: general response. I first estimate the general response of firms' credit demand to monetary policy shocks, independent of their exposure to populism, using panel local projections following Jordà (2005):

$$\Delta_h \log(\ell_{i,j,t}) = \alpha_i^h + \alpha_{j,y(t)}^h + \alpha_{ind(i),s(i),q(t)}^h + \beta_1^h MP_t + \sum_{k=1}^{2} \beta_{1+k}^h MP_{t-k} + \sum_{k=1}^{4} \beta_{3+k}^h \log(\ell_{i,j,t-k}) + \beta_8^h BIP_{s(i),t-3} + \sum_{k=1}^{4} \beta_{8+k}^h CPI_{s(i),t-k} + \Theta_1^h \mathbf{Z}_{i,t-3} + \varepsilon_{i,j,t}^h, \quad (2)$$

where $\Delta_h \log(\ell_{i,j,t}) = \log(\ell_{i,j,t+h}) - \log(\ell_{i,j,t-1})$ measures the cumulative percentage change in outstanding loans to firm i from bank j between quarters $t-1$ and $t+h$. α_i^h, $\alpha_{j,y(t)}^h$, and $\alpha_{ind(i),s(i),q(t)}^h$ denote firm, bank-year, and industry-state-quarter fixed effects, all allowed to vary with horizon h. Bank-year fixed effects absorb time-varying unobserved heterogeneity at the bank level, ensuring that results are not driven by changes in credit supply.[16] Industry-state-quarter fixed effects control for industry-specific trends, regional economic conditions, and seasonal fluctuations across 87 industries. MP_t is the weighted sum of Euro Area monetary policy surprises in quarter t, with MP_{t-1} and MP_{t-2} included to account for potential serial

[16] In the regressions that interact monetary policy shocks with central bank trust, I use bank-time fixed effects to disentangle credit supply and demand more precisely.

correlation.[17] I consider horizons h up to 8 quarters. Standard errors are double-clustered at the firm and year-quarter level. The coefficients of interest are β_1^h, which trace the model-free impulse response of firms' credit demand to monetary policy shocks.

Credit demand: populism and central bank trust. To examine how populism shapes the transmission of monetary policy to firms' credit demand, I interact monetary policy shocks with the *AfD* voter share in firms' electoral districts:

$$\begin{aligned}\Delta_h \log(\ell_{i,j,t}) = \alpha_i^h + \alpha_{j,t}^h + \alpha_{ind(i),s(i),t}^h + \beta_1^h(MP_t \times AfD_{ed(i),t}) + \beta_2^h AfD_{ed(i),t} + \sum_{k=1}^{4} \beta_{2+k}^h \log(\ell_{i,j,t-k}) \\ + \Gamma^h(MP_t \times density_{ed(i)}) + \Phi_1^h \mathbf{D}_{ed(i),y(t)} + \Phi_2^h(MP_t \times \mathbf{D}_{ed(i),y(t)}) + \Theta_1^h \mathbf{Z}_{i,t-3} \\ + \Theta_2^h(MP_t \times \mathbf{Z}_{i,t-3}) + \varepsilon_{i,j,t}^h, \end{aligned} \tag{3}$$

where $AfD_{ed(i),t}$ is the voter share in the electoral district of firm i in quarter t, and $density_{ed(i)}$ is the population density of the electoral district. The key coefficient of interest is β_1^h, which captures the differential credit demand response to monetary policy shocks as a function of populist exposure. Upgrading from bank-year to bank-time fixed effects ensures that results capture demand-side behavior by absorbing any time-varying changes in credit supply.[18] I interact all firm-level and district-level controls with the monetary policy shock to address potential correlation between populist exposure and firm or district characteristics. Standard errors are double-clustered at the firm and year-quarter level.

To validate the trust channel, I replace $AfD_{ed(i),t}$ with a direct measure of central bank trust:

$$\begin{aligned}\Delta_h \log(\ell_{i,j,t}) = \alpha_i^h + \alpha_{j,t}^h + \alpha_{ind(i),s(i),t}^h + \beta_1^h(MP_t \times CBtrust_i) + \sum_{k=1}^{4} \beta_{1+k}^h \log(\ell_{i,j,t-k}) \\ + \Theta_1^h \mathbf{Z}_{i,t-3} + \Theta_2^h(MP_t \times \mathbf{Z}_{i,t-3}) + \varepsilon_{i,j,t}^h, \end{aligned} \tag{4}$$

where $CBtrust_i$ is firm manager i's reported trust in the ECB on a scale from 0 to 10, elicited in waves 27–29 of the BOP-F survey. Since the trust sample is shorter, standard errors are clustered at the firm level only.

[17] For the first, second, and third quarter of a given year, I use GDP growth from the previous year; for the fourth quarter, I use the current year's value.

[18] This approach is akin to "reverse" Khwaja and Mian (2008) fixed effects: rather than controlling for credit demand via firm-time fixed effects, I control for credit supply via bank-time fixed effects. The implied restriction is that I can only use banks that lend to multiple firms, which does not constrain my dataset.

Investment. To examine whether the muted credit demand responses translate into real effects, I use annual data from the Amadeus database:

$$Inv_{i,t} = \alpha_i + \alpha_{ind(i),s(i),t} + \beta_1(MP_t \times AfD_{ed(i),t}) + \beta_2(MP_{t-1} \times AfD_{ed(i),t-1}) + \beta_3 AfD_{ed(i),t} + \beta_4 Inv_{i,t-1} + \Gamma(MP_t \times density_{ed(i)}) + \Phi_1 \mathbf{D}_{ed(i),y(t)} + \Phi_2(MP_t \times \mathbf{D}_{ed(i),y(t)}) + \Theta_1 \mathbf{W}_{i,t-1} + \varepsilon_{i,t}, \quad (5)$$

where $Inv_{i,t}$ is the first difference in the natural logarithm of firm i's tangible fixed assets, multiplied by 100. MP_t are 12-month moving sums of monetary policy shocks, aligned with each firm's reporting month. I include one lag of the interaction term since the yearly investment measure may react with a lag to the yearly monetary policy measure. Since fixed assets are a function of a firm's other balance sheet items, I replace the standard firm-level controls with $\mathbf{W}_{i,t-1}$, a set of dummies based on deciles of the firm-size, firm-leverage, and firm-liquidity distributions. All other control variables are defined as in equation (3). Standard errors are clustered at the firm level.

3 Populism and the Information Environment

This section provides suggestive evidence on the information environment facing firms in high-populism districts. As documented in the introduction, *AfD* supporters are markedly more skeptical of conventional media than supporters of other parties: only 22% consider the German media credible, compared to majorities among all other major parties, and they rely far more on social media for political information (infratest dimap, 2023). Figure 1 illustrates this pattern across Germany's six largest parties. To examine whether this divergence in media consumption translates into systematic differences in the monetary policy information received, I analyze tweets about monetary policy from *AfD*-affiliated accounts and compare them to tweets from conventional media outlets. This analysis provides direct evidence that the information environment differs systematically across populist and conventional media channels—consistent with the distorted expectations and muted credit demand responses documented below.

3.1 Data and sentiment analysis

To compare *AfD*-related tweets with those from conventional media channels, I collected tweets about monetary policy using the Twitter (X) API.[19] After data cleaning, the final dataset comprises 717,112 tweets.[20] Within this dataset, tweets affiliated with the *AfD* number 1,307, while tweets from other major

[19] Specifically, I downloaded German tweets containing the German translations of "ECB," "European Central Bank," "monetary policy," "Draghi" (until October 2019), and "Lagarde" (from November 2019 onward), excluding retweets.

[20] For further details on the data collection process, see Appendix D.

political parties average around 140 each. Tweets from conventional media accounts discussing monetary policy total 3,789. I identify tweets likely to contain substantive information about the current monetary policy stance by filtering for those that include the terms "decision," "interest rate," and "meeting." This filtered subset comprises 131,031 tweets. To measure sentiment, I employ a large language model specifically trained on multilingual tweets and fine-tuned for sentiment analysis.[21] The model assigns to each tweet the probability that its content conveys positive, negative, or neutral sentiment.

3.2 AfD channels versus conventional media

I compare *AfD*-affiliated and conventional media tweets along two dimensions: tweet volume around ECB announcement days, and sentiment of informative tweets on those days.

Panel (a) of Figure 2 shows the volume of monetary policy-related tweets from *AfD*-affiliated accounts (left) and conventional media accounts (right) around ECB announcement days. Both the total number of tweets and the informative subset are measured in standard deviations relative to their mean. The contrast is stark: conventional media accounts exhibit a sharp spike in tweet volume on announcement days, particularly for informative tweets that directly address the content of ECB decisions. *AfD* accounts, by contrast, show almost no corresponding increase—even in the informative subset. This suggests that *AfD*-affiliated channels are largely unresponsive to ECB policy announcements and provide little substantive information about the current monetary policy stance.

Panel (b) of Figure 2 shows the sentiment distribution of informative tweets on announcement days. Conventional media tweets predominantly exhibit neutral sentiment, with only a small share displaying negative sentiment. *AfD* tweets, in contrast, show a substantially higher proportion of negative sentiment, with a more balanced mix of neutral and negative content. These findings indicate that when *AfD*-affiliated channels do cover monetary policy, they tend to frame it negatively—potentially reinforcing skepticism toward the ECB among their followers.

Taken together, these two patterns suggest that followers of *AfD*-affiliated social media channels receive less timely and more negatively framed information about ECB decisions than consumers of conventional media. While suggestive, this evidence is consistent with the empirical findings in the following sections: if populist media channels distort the information environment around monetary policy, this could contribute to the higher and stickier inflation expectations and the muted credit demand responses observed in high-populism districts.

[21] The model is *twitter-xlm-roberta-base-sentiment* from Barbieri et al. (2022), obtained from *Hugging Face*.

4 Empirical Results

4.1 Inflation Expectations

Section 3 establishes that firms in high-populism districts are exposed to a systematically different information environment: -affiliated channels cover ECB decisions less promptly and frame them more negatively than conventional media. A natural implication is that this translates into distorted beliefs. If firms in high-populism districts receive less accurate and more negatively framed signals about monetary policy, they may form inflation expectations that are both higher in level and less responsive to policy surprises—precisely because the signals they consume provide weaker evidence that the central bank is responding effectively to inflationary pressures.

This motivates a direct examination of whether firms in high-populism districts hold distinct inflation expectations and update them differently in response to monetary policy. I proceed in two steps: I first compare the *levels* of inflation perceptions and expectations across firms with differing populist exposure, and then estimate the *differential responses* of expectations to monetary policy shocks. To preview the mechanism formally validated in Section 4.3, I present parallel results for central bank trust throughout this section.

4.1.1 Differences in levels

I compare inflation perceptions and expectations of firm managers based on the *AfD* voter share in their electoral district and on their reported level of trust in the ECB. Inflation perceptions are elicited once in the BOP-F survey in September 2020; quantitative inflation expectations are available in every wave from June 2020 onward.

Splitting firms at the median *AfD* voter share in their district, Panel A of Table 1 shows that firms in above-median populism districts report significantly higher inflation perceptions and expectations than those in below-median districts. This pattern is consistent with the *AfD*'s sustained negative framing of the German economic situation and the well-documented association between inflation and negative sentiment.[22]

As a first indication of whether distrust may underlie this pattern, I additionally split firms by their reported level of trust in the ECB, elicited in BOP-F waves 27–29 (April–June 2023). Panel B of Table 1 shows that firms with below-median trust expect an inflation rate of 6.36% over the next twelve months, compared to 5.37% for firms with above-median trust—a gap of nearly one percentage point that is statistically significant at conventional levels. Low-trust firms also perceive current inflation as higher. Taken together, firms that are more exposed to populism or whose managers distrust the ECB tend to hold elevated inflation expectations, suggesting that they doubt the central bank's capacity to deliver price stability.

[22]For evidence on why people dislike inflation, see Stantcheva (2024).

4.1.2 Differential responses to monetary policy

Having established that inflation expectations differ in levels, I now ask whether they also respond differently to monetary policy shocks. I estimate equation (1), interacting lagged monetary policy surprises with either the *AfD* voter share or the firm manager's ECB trust.

The results are reported in Table 2. The first column shows that the interaction between the monetary policy shock and the *AfD* voter share is negative and significant. A one percentage point increase in the *AfD* voter share attenuates the inflation expectation response to a one standard deviation monetary policy shock by 0.03 percentage points. Comparing the 30 electoral districts with the highest *AfD* voter shares to the 30 with the lowest, this implies a reduction in the expectation response of almost half a percentage point for a one standard deviation shock—a meaningful magnitude relative to the average response of firms in low-populism areas.[23] In line with Di Pace et al. (2024), who show that firms update price expectations in response to rate changes following policy announcements, the negative coefficient implies that firms in high *AfD*-share districts increase their expectations by *less* in response to easing shocks: a high exposure to populism weakens the capacity of monetary policy to steer firm managers' inflation expectations.

As a further preview of the mechanism validated in Section 4.3, the second and third columns replace the voter share interaction with the firm manager's reported ECB trust. The interaction coefficient is positive and significant regardless of whether firm-level balance sheet controls from the Amadeus database are included, with the larger sample available when controls are excluded confirming the pattern. Firms with higher trust in the ECB adjust their inflation expectations more strongly in response to easing monetary policy; conversely, distrust dampens this responsiveness. This result directly parallels the populism finding and points to trust as a key mechanism linking populist exposure to muted expectation updating.

In sum, firms in high-populism districts and firms whose managers distrust the ECB hold elevated inflation expectations and revise them less in response to monetary policy shocks. These findings suggest that distorted and sticky inflation expectations constitute a channel through which populist exposure impairs monetary policy transmission—a mechanism I explore further in the context of credit demand in the following section.

4.2 Firms' Credit Demand Response

The results in Section 4.1 establish that firms in high-populism districts revise inflation expectations less in response to monetary policy. A natural next question is whether this differential updating carries real economic consequences. For monetary policy to effectively shape investment, it must alter firms' discount and hurdle rates—the internal benchmarks that determine the attractiveness of potential projects. Jagannathan

[23] That firms respond relatively quickly to monetary policy information is consistent with evidence that inflation perceptions and expectations adjust rapidly upon receipt of relevant new information; see, e.g., Yotzov et al. (2024).

et al. (2016) document that firms routinely apply discount rates well above their actual cost of capital, and Gormsen and Huber (2024) show that these hurdle rates adjust only slowly in response to changes in the cost of capital. Compounding this, Fukui et al. (2024) demonstrate that nominal discount rates are sticky with respect to inflation: when inflation expectations rise, real discount rates fall, increasing the incentive to invest—but firms do not readily revise their nominal rates in response to changing inflation expectations. The implication is direct: if populist exposure impairs a firm's inflation expectation updating, it also impairs the reduction in real discount rates that monetary easing would otherwise produce—and with it, firms' incentive to borrow and invest.

I now test this directly. I first document the average response of firms' credit demand to monetary policy shocks, and then show that this response is systematically weaker for firms in electoral districts with higher *AfD* voter shares. I close by examining whether the impaired credit channel has real consequences for investment.

4.2.1 General response

Figure 3 presents the impulse responses of firms' credit demand to monetary policy shocks, showing the β_1^h coefficients from equation (2). The coefficients are positive and statistically significant across all horizons, with a one standard deviation easing shock raising credit demand by between 3 and 7 percent depending on the horizon. The response is also persistent, remaining significantly positive eight quarters after the initial shock. Figure A2 in the Appendix confirms that the result is driven by both tightening and easing shocks: credit demand rises in response to easing and contracts in response to tightening.

4.2.2 Populism and credit demand

Figure 4 presents the main result of the paper. The coefficients β_1^h on the interaction between monetary policy shocks and the *AfD* voter share in equation (3) are negative and significant across most horizons. Given the positive average response documented above, a negative interaction coefficient implies that firms in districts with higher populist support react less to monetary policy—easing raises their credit demand by less, and tightening contracts it by less.

The economic magnitude is meaningful. Each percentage point increase in the *AfD* voter share attenuates the credit demand response by approximately 20 basis points per horizon. Moving from the bottom to the top quartile of the *AfD* voter share distribution, an increase of around 5 percentage points, implies a reduction in the credit demand response of approximately 1 percentage point relative to an unconditional response of 3 to 7 percent. Comparing the 30 electoral districts with the highest *AfD* voter shares to the 30 with the lowest,

the attenuation exceeds 2.5 percentage points—a reduction of roughly one third to one half of the average response.

The result is robust to alternative shock measures. Figure A4 in the Appendix shows that the attenuation holds for both tightening and easing shocks separately, though it is only partly significant for easing shocks in isolation. Figure A5 confirms the finding using monetary policy shocks identified with sign restrictions.

4.2.3 Real effects

The attenuated credit demand response raises the question of whether populist exposure also dampens real investment. Therefore, I regress the log change in firms' tangible fixed assets on annual monetary policy shocks interacted with the *AfD* voter share, following equation (5). Because balance sheet data are annual, I aggregate monetary policy shocks to twelve-month moving sums, timed to match each firm's fiscal year-end.

Table 3 shows that the interaction coefficient is negative and significant in both samples: the set of firms that obtained new credit in the current or prior year, and the full universe of Bureau van Dijk firms. Consistent with the credit demand findings, monetary policy easing raises investment by less for firms in districts with higher *AfD* voter shares.[24] Although the effects are quantitatively small, they confirm that the impaired credit channel has downstream consequences for capital accumulation: populist exposure weakens not only the financial but also the real transmission of monetary policy.

4.3 The Role of Central Bank Trust

The preceding results establish that firms in high-populism districts adjust their inflation expectations less and expand credit demand less in response to monetary policy shocks. A natural interpretation is that the *AfD*'s sustained anti-ECB rhetoric erodes trust in the central bank among firms in its electoral strongholds, and that this distrust weakens the monetary transmission mechanism. I now provide direct evidence linking populist exposure to institutional distrust, and show that this distrust directly replicates the muted credit demand responses documented above.

I first document that populist exposure is negatively correlated with ECB trust at the firm and household level, and then show that firms whose managers distrust the ECB exhibit the same muted credit demand responses as firms in high *AfD*-share districts—consistent with trust as the operative channel linking populist sentiment to impaired policy transmission.

[24] That investment responds positively to easing and negatively to tightening on average is well established; see, for example, Durante et al. (2022), who document this pattern for firms across the four largest Euro Area economies including Germany. Results for the unconditional investment response are available upon request.

4.3.1 Populism and central bank trust

Figure 5 shows the distribution of ECB trust among firm managers in the BOP-F survey (waves 27–29, April–June 2023), split by whether firms are located in above- or below-median *AfD* voter share districts in the 2021 federal election. Two patterns stand out. First, survey participation is lower in high *AfD* districts, consistent with broader institutional disengagement in high-populism areas. Second, and more importantly, the trust distribution is shifted downward in high-populism districts: the average trust score is 4.4 in above-median districts compared to 4.8 in below-median districts.

To establish this link more directly, I exploit two waves of the Bundesbank's household survey (BOP-HH), matching respondents' reported political party affiliation in June 2021 to their ECB trust scores in October 2022. Figure 6 displays the trust distribution by party affiliation across Germany's six largest parties.[25] Trust levels are broadly similar across five of the six parties—with only modest variation for *Die Linke*—but *AfD*-affiliated households are a strong outlier. They are the only group for whom the mode of the trust distribution is zero, and their overall distribution is shifted sharply toward the lower end of the scale. This stark contrast validates the use of *AfD* voter shares as a proxy for populist sentiment that operates, at least in part, through reduced institutional trust.

4.3.2 Trust and credit demand

If distrust in the ECB is the mechanism through which populist exposure dampens monetary policy transmission, then directly measuring trust at the firm level should replicate the credit demand patterns found above. I test this by interacting monetary policy shocks with the firm manager's reported trust in the ECB, following equation (4). Since BOP-F respondents are predominantly CEOs involved in lending decisions, this measure captures decision-maker beliefs directly, rather than inferring them from electoral geography.

Figure 7 shows that the interaction coefficients are positive and significant up to four quarters after the initial shock, peaking at approximately one percentage point. Because the unconditional credit demand response to monetary policy is positive, a positive interaction coefficient implies amplification: firms whose managers trust the ECB expand credit demand more strongly in response to easing shocks. Conversely, and mirroring the populism result in Section 4.2, firms with low trust are significantly less responsive. The pattern is particularly pronounced for tightening shocks (Figure A6), suggesting that distrust most strongly disrupts the contractionary arm of monetary policy.

Taken together, these results validate the populism findings through a direct lens: firms whose managers distrust the ECB exhibit the same muted credit demand responses as firms in high-AfD districts, and firms in

[25]These are the CDU/CSU, SPD, FDP, Alliance 90/The Greens, The Left, and the .

high-AfD districts trust the ECB less. That the direct trust measure produces qualitatively identical results to the voter share measure lends credibility to the populism findings more broadly: the geographic variation in credit demand responses is unlikely to reflect unobserved local economic conditions, but rather differences in how firm managers perceive and respond to the central bank—of which institutional distrust is a direct and measurable expression.

5 Model

In this section, I rationalize the empirical findings that firms in high-populism districts appear less responsive to monetary policy and examine the broader implications for monetary policy. Specifically, I build on three key findings that suggest potential channels through which populism may weaken the impact of monetary policy. First, populist media channels convey less accurate and more negatively framed information about monetary policy. Second, firms in high-populism districts hold elevated inflation expectations and revise them less in response to monetary policy shocks. Third, a lack of trust in the ECB is associated with muted credit demand responses to monetary policy.

To rationalize these empirical findings, I incorporate biased perceptions of monetary policy in an otherwise standard medium-scale New-Keynesian (NK) model with capital and investment adjustment costs. In this framework, monetary policy can be divided into two components. The first component consists of monetary policy shocks, defined as deviations from the systematic policy rule. These shocks have been used in the empirical analysis to examine firms' responses to monetary policy in terms of their credit demand and inflation expectations. I model agents' perceptions of these shocks as influenced by their media consumption, with different media channels having varying degrees of noise in their reporting.

The second component is the systematic element of monetary policy, represented by the Taylor rule, which describes how the central bank systematically adjusts the policy interest rate in response to deviations from the inflation target. This rule-based component captures the predictable, stabilizing adjustments in monetary policy aimed at managing inflation and output. I link agents' perceptions of this systematic component to their inflation expectations and their trust in the central bank, suggesting that higher trust is associated with a more accurate understanding of the central bank's policy intentions.

5.1 Perceived monetary policy shocks

Following standard NK models, I assume that the short-term interest rate is set by the central bank according to the Taylor rule:

$$i_t = i^* + \phi_\pi \pi_t + \nu_t \tag{6}$$

$$\log \nu_t = \rho \log \nu_{t-1} + \xi_t, \tag{7}$$

where i^* is an interest rate target, $\phi_\pi > 1$ is the Taylor coefficient, and π_t is the percentage deviation of inflation from the steady state. Furthermore, the exogenous component of (6) follows an AR(1) process with $\rho \in [0, 1)$ and where ξ_t is a mean-zero random disturbance.

In modeling how firms perceive monetary policy shocks, ξ_t, I consider that these shocks are communicated through media signals, which vary in accuracy, bias, and, importantly, noise. The perceived monetary policy shock received by agent i from media source j is represented as:

$$s_t^j(\xi_t) = a^j \xi_t + b^j(\xi_t) + \varepsilon_{j,t}, \tag{8}$$

where a^j represents the accuracy of the signal, b^j is the bias of the signal, and $\epsilon_{j,t}$ captures the noise associated with the signal.

Agents update their perceptions of ξ_t, $\mathbb{E}_t^i[\xi_t]$, using Bayesian updating. The updated perception of agent i regarding the monetary policy shock ξ_t depends on the signal $s_t^j(\xi_t)$ and can be expressed as:

$$\mathbb{E}_t^i[\xi_t] = K\left(s_t^j(\xi_t) - \mathbb{E}_{t-1}^i[\xi_t]\right) + \mathbb{E}_{t-1}^i[\xi_t], \tag{9}$$

where K denotes the Kalman gain, which determines the weight given to new information, specifically, the signal $s_t^j(\xi_t)$, relative to previous beliefs.

Suppose there are two types of media channels in the economy: social media (S) and conventional media (C). One portion of the population follows social media channels, while the other follows conventional media

channels.[26] If social media (S) conveys higher bias and noise compared to conventional media (C), then the Kalman gain for social media, K^S, will be smaller than the Kalman gain for conventional media, K^C:[27]

$$K^S = \frac{\sigma_\xi^2}{\sigma_\xi^2 + \sigma_{b^S}^2 + \sigma_{\varepsilon^S}^2} < K^C = \frac{\sigma_\xi^2}{\sigma_\xi^2 + \sigma_{b^C}^2 + \sigma_{\varepsilon^C}^2}, \tag{10}$$

where σ_ξ^2 is the variance of the actual monetary policy shock, $\sigma_{b^S}^2$ and $\sigma_{b^C}^2$ represent the bias variances for social and conventional media, respectively, while $\sigma_{\varepsilon^S}^2$ and $\sigma_{\varepsilon^C}^2$ denote the noise variances for social and conventional media, respectively. This implies that recipients of social media signals adjust their perceptions less in response to monetary policy announcements and are more likely to hold a downward-biased perception of the monetary policy shock ξ_t.

5.2 Biased inflation expectations and distrust in the central bank

The data indicate that populism and distrust in the central bank are associated with higher inflation expectations. To reflect this in the model, I draw on the framework of Gabaix (2020), in which agents are partially behavioral. In this context, agents form their inflation expectations, denoted as π_t^B, with a behavioral multiplier $m_\pi > 1$, such that $\pi_t^B = m_\pi \pi_t$, where π_t denotes again the percentage deviation from the steady state. This multiplier implies that agents with populist leanings or low trust in the central bank tend to expect inflation to be further away from the target.

The central bank's true reaction function, characterized by the Taylor coefficient ϕ_π, is challenging for agents to discern, so they form beliefs about it based on their observations of the nominal interest rate. Over time, these observations approximate the true rate as monetary policy shocks average out to zero. I assume that agents observe policy rates over multiple periods, eventually establishing a stable level of trust in the central bank (therefore, ϕ_π^B has no time subscript). This approach aligns with findings in the literature, which indicate that individual trust in the central bank remains stable over time (see Dreher, 2024).[28]

By rearranging (6) and accounting for agents' behavioral bias, I can write their perception of the Taylor coefficient as:

$$\phi_\pi^B = \lim_{t\to\infty} \int_0^t \mathbb{E}_\tau^B \left(\frac{i_\tau - i^* - \nu_\tau}{\pi_\tau} \right) d\tau = \int_0^t \left(\frac{i_\tau - i^*}{\pi_\tau^B} \right) d\tau. \tag{11}$$

[26] For a microfoundation explaining why different agents trust different information sources, based on the framework in Gentzkow et al. (2024), see Appendix E.

[27] The role of the media channel's bias is not particularly important here. As long as the bias variance of conventional media is not much larger than that of social media, one reaches the same conclusion: greater noise in the social media channel, resulting in higher variance, leads to a smaller Kalman gain.

[28] This process is similar to a multi-armed bandit problem in game theory, where there is an initial exploration phase for gathering information, followed by an exploitation phase in which the player uses this information to maximize payoffs.

As $\pi_t^B = m_\pi \pi_t$ and $m_\pi > 1$, this implies that $\phi_\pi^B < \phi_\pi$. This last inequality indicates that behavioral agents perceive the central bank as responding less aggressively to inflation deviations than it actually does. This divergence in perception suggests that agents with a distrust in the central bank believe that the institution is underreacting to inflationary pressures, in line with the definition of trust in the Bundesbank's BOP-F firm survey.

5.3 Aggregation and Phillips curve

In the model, there is a representative agent who perceives the policy rate as:

$$\hat{i}_t = i^* + \hat{\phi}_\pi^B \hat{\pi}_t^B + \hat{\nu}_t^B \tag{12}$$

$$\log \hat{\nu}_t^B = \rho \log \hat{\nu}_{t-1}^B + \hat{\xi}_t^B, \tag{13}$$

where i^* is the target interest rate, $\hat{\phi}_\pi^B$ represents the perceived sensitivity of the policy rate to inflation, $\hat{\pi}_t^B$ is the perceived inflation deviation from steady state, and $\hat{\xi}_t^B$ captures the perceived monetary policy shocks. For simplicity, I assume that populist voters receive no accurate information about the current monetary policy stance, resulting in their perception of a monetary policy shock as zero. Therefore, I can write $\hat{\xi}_t^B = (1-\gamma)\xi_t$, where γ denotes the share of populist voters, indicating the degree to which a populist leaning affects the representative agent's perceptions. All other variables with a hat are defined similarly. However, for these variables, I do not need to specify different perception levels for populist and non-populist voters and can instead directly calibrate the average values, as described below.

Furthermore, the log-linearized Phillips curve becomes:

$$\pi_t = \beta M^f \mathbb{E}_t[\pi_{t+1}] + \Psi^f \chi_t, \tag{14}$$

where χ_t represents marginal costs (in percentage deviations from steady state). The parameter $M^f > 1$ introduces a behavioral multiplier that amplifies inflation expectations, and $\Psi^f > \Psi$ reflects an elevated sensitivity of inflation to marginal costs relative to the rational case. The exact definitions of these parameters and the rest of the otherwise standard model are outlined in Appendix F.

5.4 Calibration

The calibration is listed in Table A1 and follows standard values from the literature, with two notable exceptions. First, the average extent of amplified inflation expectations, m_π, is set to 1.15. This value aligns with Lindemann (2024), who estimates agents' upward-biased inflation expectations based on their individual

consumption baskets.[29] Second, the share of populist voters, γ, is set to 30%. Although historically lower in federal elections, recent state elections in Germany indicate a significant increase in support for populist parties, with the *AfD* reaching approximately 30% and the recently established left-wing populist party *BSW* garnering between 6% and 16% in the 2024 state elections. [30]

5.5 Impulse responses in the presence of populism

The model yields two sets of impulse responses that map onto the empirical findings. In a populist environment, monetary policy easing stimulates output by less—because populist agents perceive the interest rate reduction as smaller than it actually is. Cost-push shocks, by contrast, produce sharper inflation spikes, forcing the central bank into a more aggressive tightening response. Both results follow from the same underlying mechanism: biased perceptions drive a wedge between true and perceived policy rates.

Figure 8 illustrates the first result, showing impulse responses to a one standard deviation monetary policy easing shock for the baseline without populist influence ($\gamma = 0$, blue) and for an economy where 30% of agents are populist voters ($\gamma = 0.3$, red), with dashed red lines indicating perceived values.

In both scenarios, inflation initially rises in response to the easing shock, as expected. However, this increase is slightly muted in the presence of populist influence, with perceived inflation in the populist scenario closely matching the true inflation observed in the non-populist scenario. The response of output to the easing shock shows a more pronounced difference: although output rises in both cases, it is more subdued in the scenario with populist sentiment compared to the baseline, due to smaller increases in both consumption and investment. This reduced response is driven by the fact that populist agents, due to their distinct media consumption patterns, do not receive timely information about the monetary policy shock. Consequently, while true nominal and real interest rates decrease significantly, the perceived interest rates for these agents decrease by much less. This discrepancy between perceived and actual rates diminishes the impact of the easing shock on their economic decisions, thereby weakening the response of real economic variables to monetary policy.

These findings suggest that in the presence of populism, the central bank faces greater challenges in stimulating the economy effectively while still bearing the costs of higher inflation following an easing monetary policy shock.

Figure 9 presents the impulse responses to a cost-push shock for both the baseline model and the model incorporating populist influence. In response to a positive cost-push shock, inflation increases while output

[29] For comparison, the parameter reflecting myopia in Gabaix (2020) is set to 0.85, indicating a 15% reduction from the baseline.

[30] The *AfD* voter share in federal elections was 12.6% in 2017 and 10.4% in 2021. However, the 2024 state elections in Brandenburg, Saxony, and Thuringia saw the *AfD* reach between 29% and 33%, with the newly established left-wing populist party *BSW* adding a further 6–16%, underscoring the continued rise of populist sentiment.

contracts. The figure highlights that, although the output decline is of a similar magnitude in both cases, the inflation spike is more pronounced in the presence of populist sentiment. The central bank responds to this sharper inflation increase by raising the policy rate more aggressively. However, due to the heightened inflation perceptions among populist agents, the perceived real interest rate rises to a comparable extent as in the non-populist scenario. Consequently, the contraction in output remains similar across both cases.

In both shock scenarios—monetary policy easing and cost-push shocks—the model shows that inflation rises more relative to output when populist influence is present. This amplified inflationary response forces the central bank to adopt a more aggressive policy stance to stabilize prices. Thus, the presence of populist agents, characterized by distinct media consumption patterns and biased perceptions of monetary policy, disrupts the standard transmission mechanism. These findings underscore the importance of understanding and addressing populist-driven information biases to preserve the effectiveness of monetary policy in an increasingly polarized environment.

6 Conclusion

This paper examines how populism shapes the transmission of monetary policy to firms' economic decisions. Using credit-registry data, firm-level survey data, and an NLP analysis of German-language tweets, I trace a mechanism running from distorted information environments through biased inflation expectations to muted credit demand responses.

As a first piece of motivating evidence, -affiliated social media channels cover ECB decisions less promptly and frame them more negatively than conventional media outlets. While this evidence is suggestive, it is consistent with the hypothesis that followers of populist channels receive a systematically distorted picture of the current monetary policy stance.

Moving to the firm-level evidence, I find that firms in high-populism districts hold elevated inflation expectations and revise them significantly less in response to monetary policy surprises. A one-percentage-point increase in the voter share attenuates the inflation expectation response to a one standard deviation shock by 0.03 percentage points—comparing the 30 highest to the 30 lowest districts, this implies a reduction of almost half a percentage point. Since inflation expectations shape real discount rates and thereby investment incentives, this differential updating provides a direct link to the credit demand findings that follow.

These distorted expectations translate into significantly weaker credit demand responses to monetary policy shocks across all horizons considered. Moving from the bottom to the top quartile of the voter share distribution reduces the credit demand response by roughly one percentage point relative to an average of three to seven percent, with corresponding effects on investment. To validate that institutional distrust rather

than unobserved regional conditions drives these patterns, I show that firms whose managers report lower trust in the ECB exhibit qualitatively identical results—with the attenuation being particularly pronounced during tightening episodes.

I then develop an extension of a standard New Keynesian model to incorporate biased perceptions of monetary policy. The model implies that in a populist environment, monetary easing generates smaller output and investment gains while cost-push shocks produce sharper inflation responses, requiring more aggressive central bank tightening to restore price stability.

Taken together, the empirical and model results point to a consistent picture: populism impairs monetary policy transmission through two reinforcing channels—distorted information environments and eroded institutional trust—generating real economic costs even when populist parties do not hold office. As these movements continue to gain ground across advanced economies, this suggests that the fragmentation of information and the erosion of trust in established institutions pose growing challenges for monetary policy effectiveness in an increasingly polarized world.

References

Altavilla, C., L. Brugnolini, R. S. Gürkaynak, R. Motto, and G. Ragusa (2019). Measuring Euro Area Monetary Policy. *Journal of Monetary Economics 108*, 162–179.

Amiti, M., S. J. Redding, and D. E. Weinstein (2019, November). The impact of the 2018 tariffs on prices and welfare. *Journal of Economic Perspectives 33*(4), 187–210.

Barbieri, F., L. Espinosa Anke, and J. Camacho-Collados (2022, June). XLM-T: Multilingual language models in Twitter for sentiment analysis and beyond. In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, Marseille, France, pp. 258–266. European Language Resources Association.

Benchimol, J. and L. Bounader (2023). Optimal monetary policy under bounded rationality. *Journal of Financial Stability 67*, 101151.

Berning, C. C. (2017). Alternative für Deutschland (AfD) – Germany's New Radical Right-wing Populist Party. *ifo DICE Report 15*(4), 16–19.

Blinder, A., M. Ehrmann, J. de Haan, and D.-J. Jansen (2017, 09). Necessity as the mother of invention: monetary policy after the crisis. *Economic Policy 32*(92), 707–755.

Bloom, N., P. Bunn, S. Chen, P. Mizen, P. Smietanka, and G. Thwaites (2019, September). The impact of brexit on uk firms. Working Paper 26218, National Bureau of Economic Research.

Boddin, D. and M. Köhler (2024). The High Frequency Firm Survey "Bundesbank Online Panel – Firms". *Jahrbücher für Nationalökonomie und Statistik 244*(3), 267–275.

Born, B., Z. Enders, M. Menkhoff, G. J. Müller, and K. Niemann (2024). Firm Expectations and News: Micro v Macro. *mimeo*.

Born, B., G. Mueller, M. Schularick, and P. Sedláček (2019). The costs of economic nationalism: Evidence from the brexit experiment. *The Economic Journal 129*(623), 2722–2744.

Brault, J. and H. Khan (2022). The real interest rate channel is structural in contemporary new-keynesian models: A note. *Journal of Money, Credit and Banking 54*(5), 1551–1563.

Bursian, D. and E. Faia (2018). Trust in the Monetary Authority. *Journal of Monetary Economics 98*, 66–79.

Calvo, G. A. (1983). Staggered prices in a utility-maximizing framework. *Journal of Monetary Economics 12*(3), 383–398.

Candia, B., O. Coibion, and Y. Gorodnichenko (2024). The inflation expectations of u.s. firms: Evidence from a new survey. *Journal of Monetary Economics*, 103569.

Christelis, D., D. Georgarakos, T. Jappelli, and M. van Rooij (2020). Trust in the central bank and inflation expectations. *International Journal of Central Banking 65*, 1–37.

Cloyne, J., C. Ferreira, M. Froemel, and P. Surico (2023, 03). Monetary Policy, Corporate Finance, and Investment. *Journal of the European Economic Association 21*(6), 2586–2634.

Coibion, O., Y. Gorodnichenko, and M. Weber (2022). Monetary policy communications and their effects on household inflation expectations. *Journal of Political Economy 130*(6), 1537–1584.

DellaVigna, S. and E. Kaplan (2007, 08). The Fox News Effect: Media Bias and Voting*. *The Quarterly Journal of Economics 122*(3), 1187–1234.

Di Pace, F., G. Mangiante, and R. M. Masolo (2024). Do firm expectations respond to monetary policy announcements? *Journal of Monetary Economics*, 103648.

Dreher, F. (2024). Trust in the ECB – insights from the Consumer Expectations Survey. *ECB Economic Bulletin, Issue 3/2024*.

Durante, E., A. Ferrando, and P. Vermeulen (2022). Monetary policy, investment and firm heterogeneity. *European Economic Review 148*, 104251.

Döttling, R. and L. Ratnovski (2023). Monetary policy and intangible investment. *Journal of Monetary Economics 134*, 53–72.

Enders, Z., F. Hünnekes, and G. J. Müller (2019). Monetary policy announcements and expectations: Evidence from german firms. *Journal of Monetary Economics 108*, 45–63.

Faia, E., A. Fuster, V. Pezone, and B. Zafar (2024, 05). Biases in Information Selection and Processing: Survey Evidence from the Pandemic. *The Review of Economics and Statistics 106*(3), 829–847.

Fukui, M., N. J. Gormsen, and K. Huber (2024). Sticky discount rates. *mimeo*.

Funke, M., M. Schularick, and C. Trebesch (2023, December). Populist leaders and the economy. *American Economic Review 113*(12), 3249–88.

Gabaix, X. (2020). A behavioral new keynesian model. *American Economic Review 110*(8), 2271–2327.

Galí, J. (2015). Monetary policy, inflation and the business cycle: an introduction to the new keynesian framework, 2nd edition. *Princeton, NJ: Princeton University Press*.

Gentzkow, M., M. B. Wong, and A. T. Zhang (2024). Ideological bias and trust in information sources. *American Economic Journal: Microeconomics*.

Gormsen, N. J. and K. Huber (2024). Corporate discount rates. *mimeo*.

Hansen, M. A. and J. Olsen (2019). Flesh of the same flesh: A study of voters for the alternative for germany (afd) in the 2017 federal election. *German Politics 28*(1), 1–19.

Hansen, M. A. and J. Olsen (2022). The Alternative for Germany (AfD) as Populist Issue Entrepreneur: Explaining the Party and its Voters in the 2021 German Federal Election. *German Politics*, 1–25.

infratest dimap (2016). Glaubwürdigkeit der Medien - Eine Studie im Auftrag des Westdeutschen Rundfunks. Survey.

infratest dimap (2023). Glaubwürdigkeit der Medien - Eine repräsentative Umfrage im Auftrag des Westdeutschen Rundfunks. Survey.

Jagannathan, R., D. A. Matsa, I. Meier, and V. Tarhan (2016). Why do firms use high discount rates? *Journal of Financial Economics 120*(3), 445–463.

Jamilov, R. (2024). Social Capital and Monetary Policy. *mimeo*.

Jarociński, M. and P. Karadi (2020). Deconstructing Monetary Policy Surprises—The Role of Information Shocks. *American Economic Journal: Macroeconomics 12*(2), 1–43.

Jeenas, P. (2024). Firm Balance Sheet Liquidity, Monetary Policy Shocks, and Investment Dynamics. *mimeo*.

Jolly, S., R. Bakker, L. Hooghe, G. Marks, J. Polk, J. Rovny, M. Steenbergen, and M. A. Vachudova (2022). Chapel hill expert survey trend file, 1999–2019. *Electoral Studies 75*, 102420.

Jordà, O. (2005). Estimation and Inference of Impulse Responses by Local Projections. *American Economic Review 95*(1), 161–182.

Jungherr, J., M. Meier, T. Reinelt, and I. Schott (2022). Corporate Debt Maturity Matters for Monetary Policy. *mimeo*.

Kempf, E. and M. Tsoutsoura (2024, August). Political polarization and finance. Working Paper 32792, National Bureau of Economic Research.

Khwaja, A. I. and A. Mian (2008). Tracing the impact of bank liquidity shocks: Evidence from an emerging market. *American Economic Review 98*(4), 1413–42.

Lindemann, C. (2024). Households' inflation expectations and their consumption basket. *mimeo*.

Martin, G. J. and A. Yurukoglu (2017). Bias in cable news: Persuasion and polarization. *American Economic Review 107*(9), 2565–99.

Mudde, C. (2007). *Populist Radical Right Parties in Europe*. Cambridge University Press.

Niizeki, T. (2023). Trust in the central bank and inflation expectations: Experimental evidence. *Economics Letters 231*, 111296.

Ottonello, P. and T. Winberry (2020). Financial heterogeneity and the investment channel of monetary policy. *Econometrica 88*(6), 2473–2502.

Pew Research Center (2018). In western europe, populist parties tap anti-establishment frustration but have little appeal across ideological divide. Technical report, Pew Research Center.

Pew Research Center (2020). U.S. Media Polarization and the 2020 Election: A Nation Divided. Report.

Rupert, P. and R. Šustek (2019). On the mechanics of New-Keynesian models. *Journal of Monetary Economics 102*, 53–69.

Schmidt, T., D. Boddin, S. Helmschrott, O. Goldfayn-Frank, M. Cato, and et. al. (2022). Bundesbank-Online-Panel-Households (BOP-HH). Version: 01. *Deutsche Bundesbank Dataset*.

Schmidt, T., P. Smietanka, S. Walter, D. Boddin, H. Merkle, and et. al. (2024). Bundesbank Online Panel - Firms (BOP-F). Version: 01. Deutsche Bundesbank. Dataset. https://doi.org/10.12757/Bbk.BOPF.2023Q3.01 .

Slivkins, A. (2019). Introduction to multi-armed bandits. *Foundations and Trends® in Machine Learning 12*(1-2), 1–286.

Stantcheva, S. (2024). Why Do We Dislike Inflation? Working Paper 32300, National Bureau of Economic Research.

Wurthmann, L. C., S. Marschall, V. Triga, and V. Manavopoulos (2021). Many losers – one winner? an examination of vote switching to the afd in the 2017 german federal election using vaa data. *Party Politics 27*(5), 870–882.

Yotzov, I., N. Bloom, P. Bunn, P. Mizen, and G. Thwaites (2024). The speed of firm response to inflation. Working Paper 32731, National Bureau of Economic Research.

A Figures

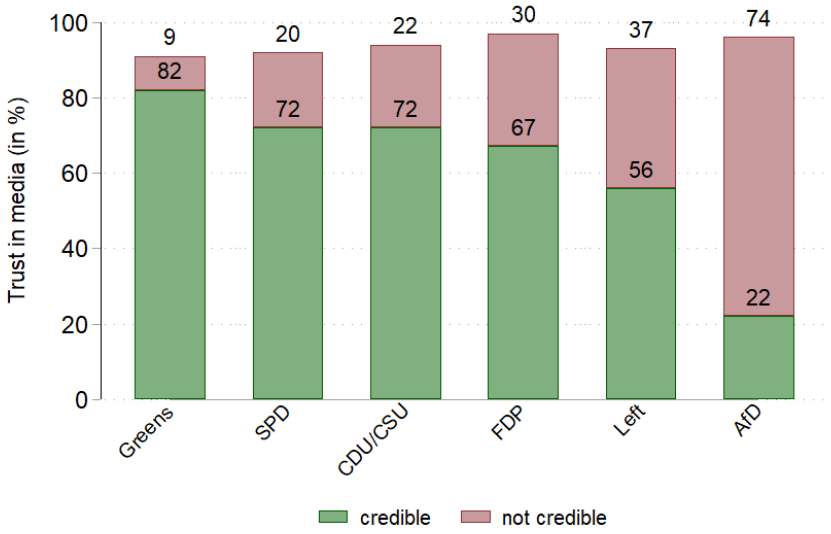
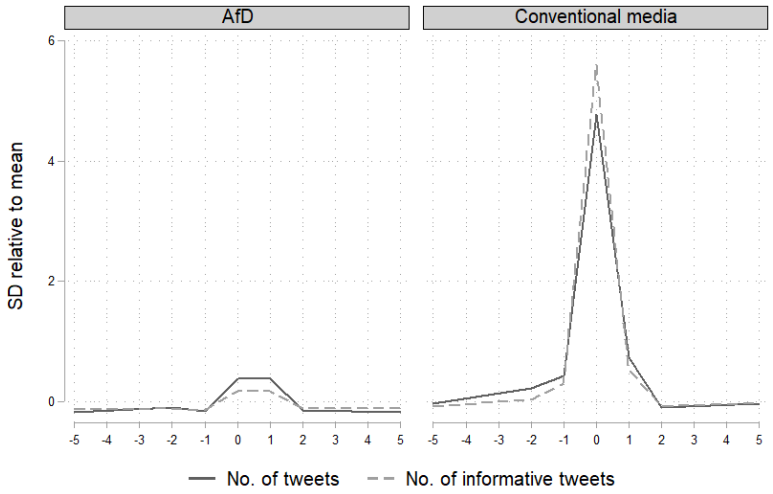
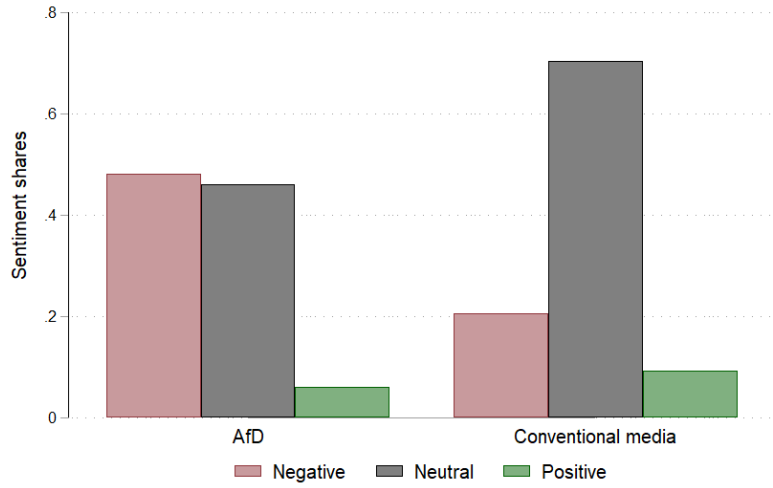


Figure 1
Trust in the media per party

The figure shows the percentage of supporters of the six largest political parties in Germany who assess the German media as either credible or non-credible. Missing values up to 100 percent represent the share of respondents who did not answer this question. The exact question was: "All in all, do you consider the information in the German media to be credible or not credible?" Source: Infratest dimap, 2023.



(a) Number of tweets around monetary policy announcement days



(b) Sentiment of informative tweets on monetary announcement days

Figure 2
Tweets about monetary policy by *AfD* accounts and conventional media channels

Panel (a) shows the number of monetary policy-related tweets posted by *AfD* accounts and conventional media accounts around ECB monetary policy announcement days. Panel (b) presents the sentiment distribution of tweets about monetary policy decisions from *AfD* accounts compared to conventional media channels. The sample goes from January 2014 to October 2023.

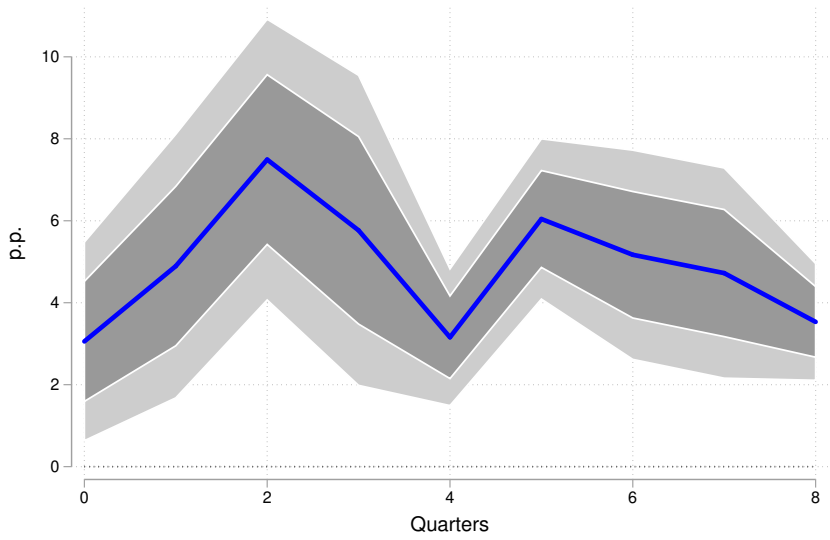


Figure 3
Impulse response of credit demand to monetary policy shocks

The figure shows the impulse response of log changes in firms' credit demand to a one standard deviation monetary policy shock. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The exact specification is given in equation (2). The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2013Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are double-clustered at the firm and year-quarter level.

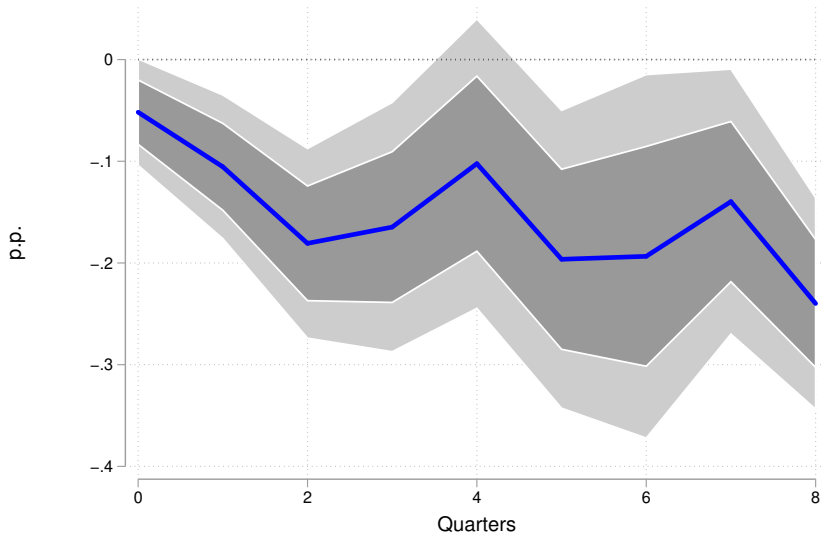


Figure 4

Impulse response of credit demand to monetary policy shocks interacted with the voter share

The figure shows the dynamics of the coefficients on the interaction between monetary policy shocks and the *AfD* voter share in a firm's electoral district. The exact specification is given in equation (3). The responses are in percentage points and correspond to a one standard deviation monetary policy shock and a one percentage point increase in the *AfD* voter share. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2013Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are double-clustered at the firm and year-quarter level.

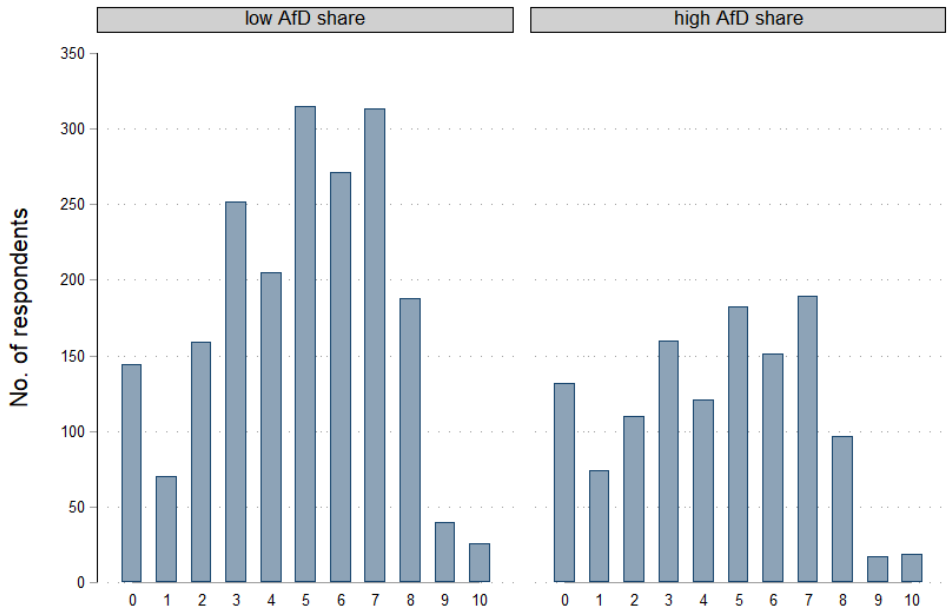


Figure 5
Firm managers' trust in the ECB by voter share

The figure shows the number of respondents per level of central bank trust from 0 to 10, separately for firms located in electoral districts with below and above median voter shares in the 2021 German federal election. The question *"On a scale from 0 to 10, how much do you trust that the European Central Bank is able to deliver price stability?"* was asked in waves 27-29 (April to June 2023) of the Bundesbank Online Panel - Firms (BOP-F). The data was obtained from Research Data and Service Centre (RDSC) of Deutsche Bundesbank, own calculations.

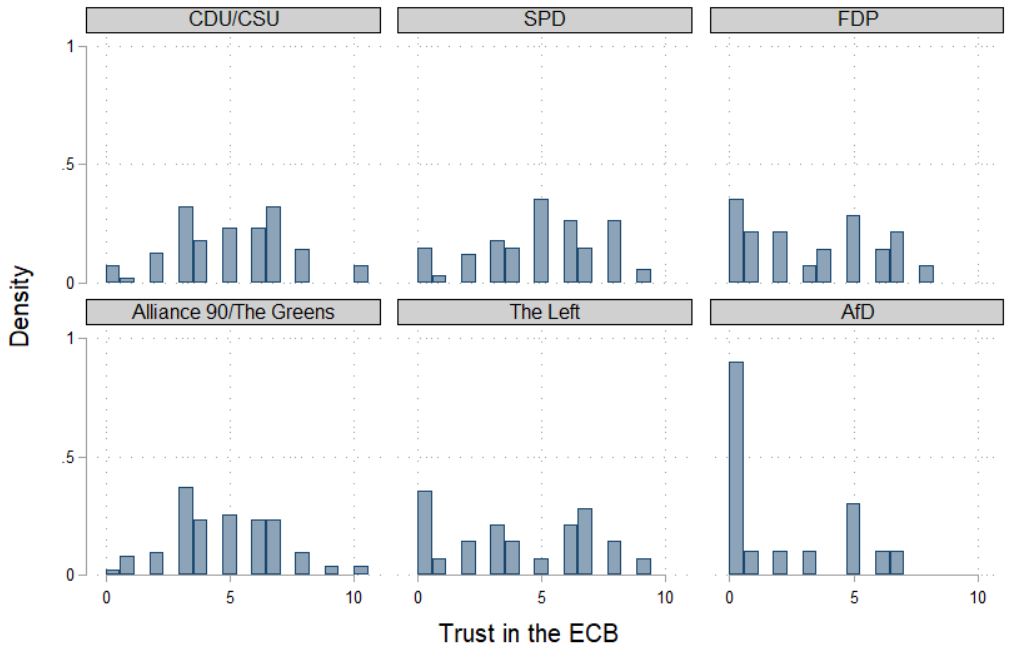


Figure 6
Trust in the ECB by political party

The figure shows the densities of the answers to the question *"On a scale from 0 to 10, how much do you trust that the European Central Bank is able to deliver price stability?" in wave 34 (October 2022) of the Bundesbank's BOP-HH survey* by political party affiliation. The latter is measured with the question *"A lot of people have a lengthy affiliation with a particular political party, although they may also vote for a different party from time to time. What is your situation: do you – generally speaking – have an affiliation with a certain party?"* in wave 18 (June 2021) of the Bundesbank's BOP-HH survey. The data stems from the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, Bundesbank Online Panel – Households (BOP-HH), own calculations.

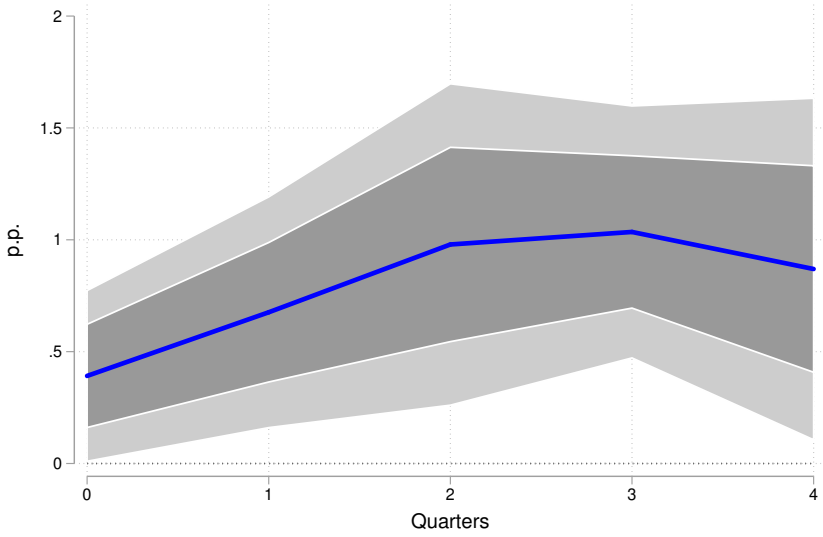


Figure 7

Impulse response of credit demand to monetary policy shocks interacted with central bank trust

The figure shows the dynamics of the coefficients on the interaction between monetary policy shocks and the firm response on trust in the ECB. The exact specification is given in equation (4). The responses are in percentages and correspond to a one standard deviation monetary policy shock and a one unit increase in central bank trust. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2019Q1 to 2022Q4, own calculations. The data on firms' central bank trust is from the Bundesbank Online Panel – Firms (BOP-F), waves 27-29 (April to June 2023). The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are clustered at the firm level.

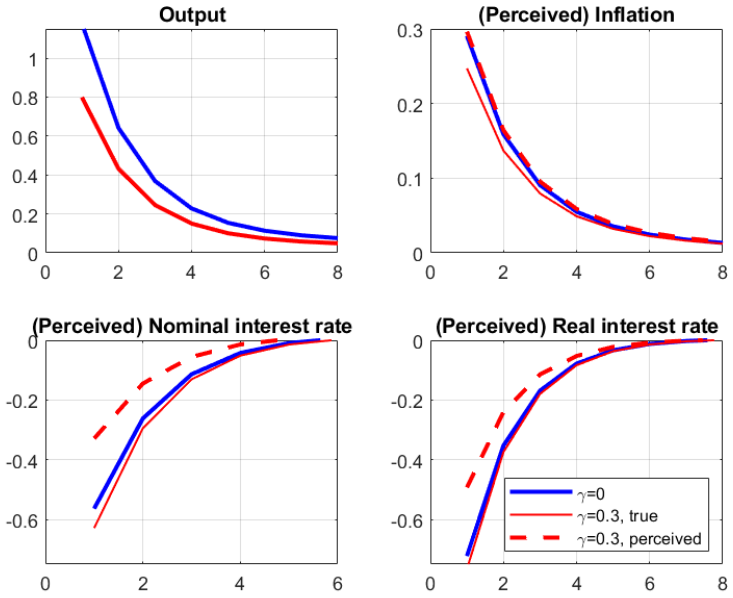


Figure 8

Impulse responses to a monetary policy shock in the presence of populism

The figure shows the model-implied impulse responses of output, inflation, and the nominal and real interest rates to a one standard deviation monetary policy easing shock. The blue lines indicate the baseline model without populist influence ($\gamma = 0$), while the red lines represent the model with populism and biased perceptions ($\gamma = 0.3$), with red dashed lines showing the perceived values.

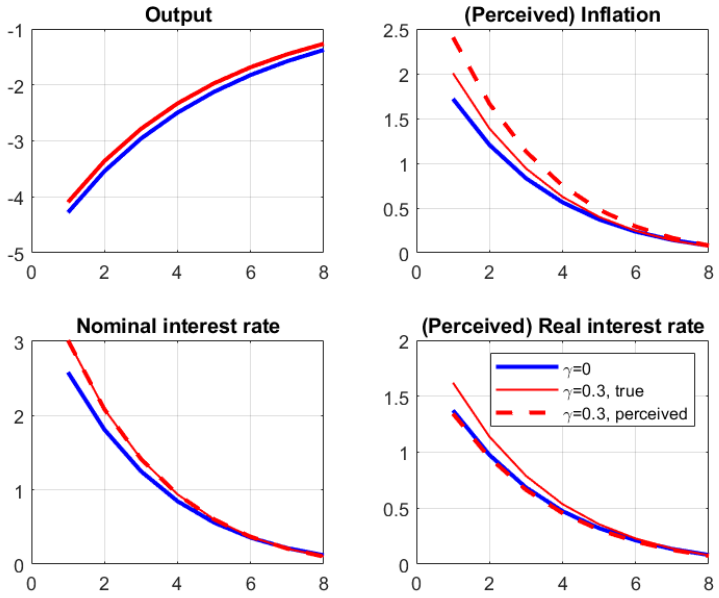


Figure 9
Impulse responses to a cost-push policy shock in the presence of populism
The figure shows the model-implied impulse responses of output, inflation, and the nominal and real interest rates to a one standard deviation cost-push shock. The blue lines indicate the baseline model without populist influence ($\gamma = 0$), while the red lines represent the model with populism and biased perceptions ($\gamma = 0.3$), with red dashed lines showing the perceived values.

B Tables

Table 1
Inflation expectations of firms depending on their exposure to populism or level of trust in the ECB

Panel A: -voter share	low	high	p-value	N
Inflation Expectations, $E_t\pi_{t,t+12}$	5.61	5.87	0.00	34,894
Inflation Perceptions, $\pi_{t-12,t}$	1.16	1.38	0.00	3,106

Panel B: trust in the ECB	low	high	p-value	N
Inflation Expectations, $E_t\pi_{t,t+12}$	6.36	5.37	0.00	38,352
Inflation Perceptions, $\pi_{t-12,t}$	1.34	1.05	0.00	2,369

Panel A presents, separately for firms in the bottom vs. top half of the distribution of the *AfD* voter shares in the firms' electoral districts, average inflation perceptions (wave 3, September 2020) and inflation expectations (all waves between June 2020 and December 2023), alongside the p-value from a two-sided difference-in-means test and the number of observations. Panel B shows the same statistics as in panel A, separately for firms in the bottom vs. top half of the distribution of the level of trust in the ECB. For both panels, inflation expectations are trimmed below -20 and above 20%. The data are obtained from the Bundesbank Online Panel - Firms (BOP-F), obtained from Research Data and Service Centre (RDSC) of Deutsche Bundesbank, own calculations.

Table 2
Panel regressions: Inflation expectations on interacted MP shocks and controls

	$E_{i,t}\pi_{t,t+12}$		
MP_{t-1} × voter share$_{ed(i)}$	-0.03*		
	(0.01)		
MP_{t-1} × ECB trust		0.03**	
		(0.02)	
MP_{t-1} × ECB trust			0.01***
			(0.00)
Firm controls	Y	Y	N
Electoral district controls	Y	N	N
Firm FE	Y	Y	Y
Industry-time-state FE	Y	Y	Y
N	6,900	4,999	31,570
Adj. R^2	0.69	0.72	0.62

The table shows estimates of the coefficient β_1 on the interaction term in equation 1. The dependent variable are the 12-month ahead inflation expectations of firm managers in the BOP-F survey. The responses are in percentage points and correspond to a one standard deviation monetary policy shock and a one percentage point increase in the voter share or a unit increase in the level of trust in the ECB, respectively. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The sample goes from June 2020 to October 2023. Standard errors are clustered at the firm level. For both panels, inflation expectations are trimmed below -20 and above 20%. The data are obtained from the Bundesbank Online Panel - Firms (BOP-F), obtained from the Research Data and Service Centre (RDSC) of Deutsche Bundesbank, own calculations.

Table 3
Investment response to monetary policy depending on the firm's exposure to populism

	Investment	
	New credit	Entire sample
MP_t × voter share$_{ed(i)}$	-0.06**	-0.03**
	(0.02)	(0.01)
Firm controls	Y	Y
Electoral district controls	Y	Y
Firm FE	Y	Y
Industry-time-state FE	Y	Y
N	330,069	1,807,846
Adj. R^2	0.10	0.04

The dependent variable is the first difference in the natural logarithm of a firm's tangible fixed assets in year t, winsorized at the 1st and 99th percentiles and multiplied by 100. The coefficient of interest is β_1 from equation 5 on the interaction between the monetary policy shock and the *AfD* voter share of the firm's electoral district $ed(i)$. The responses are in percentage points and correspond to a one standard deviation monetary policy shock and a one percentage point increase in the *AfD* voter share. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The sample goes from 2013 to 2022. Standard errors are clustered at the firm level. The data on outstanding loans used to generate the set of firms who obtained a new loan in the current or past year are from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2013Q1 to 2022Q4, own calculations.

C Additional results

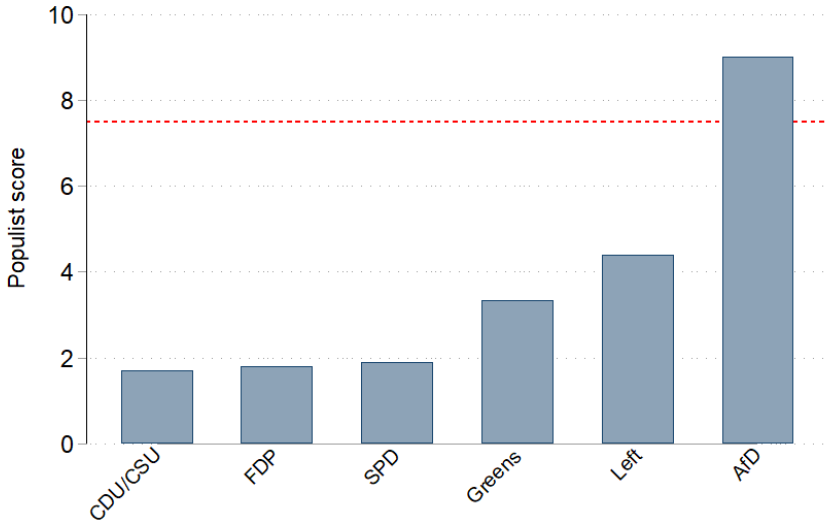
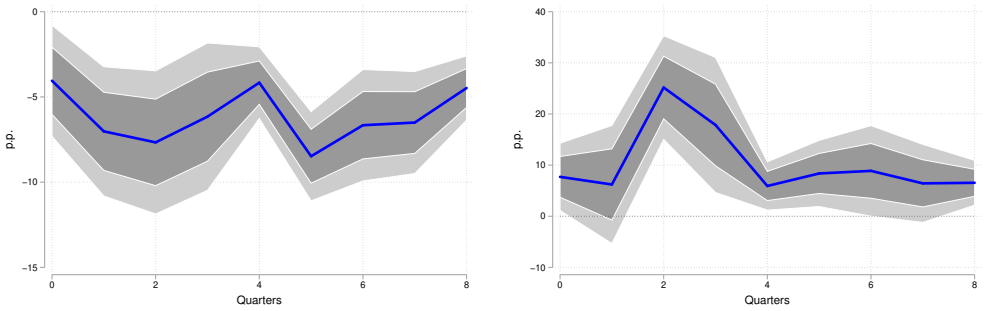


Figure A1
Populist score per party

The figure shows the average score of two questions from the 2019 Chapel Hill Expert Survey: one question on the *position on people vs elected representatives*, and one question on the *salience of anti-establishment and anti-elite rhetoric*. The horizontal line at 7.5 indicates the threshold above which a party is classified as "populist", according to Pew Research Center (2018). Source: 2019 Chapel Hill Expert Survey.



(a) tightening **(b) easing**

Figure A2
Impulse response of credit demand to monetary policy shocks

The figure shows the impulse response of log changes in firms' credit demand to a one standard deviation monetary policy shock, separately for tightening and easing shocks. The sign of the easing shocks is normalized, such that a positive easing shock corresponds to a decrease in interest rates. The exact specification is given in equation (3). The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2013Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are double-clustered at the firm and year-quarter level.

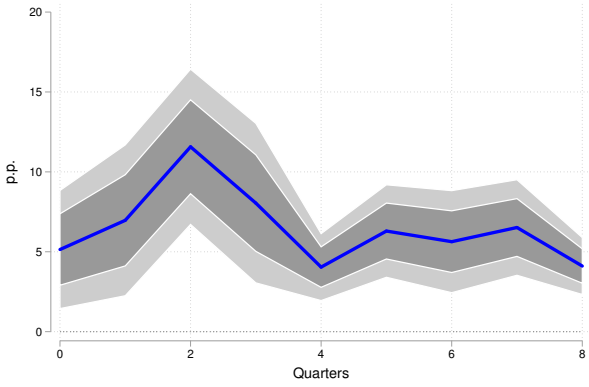
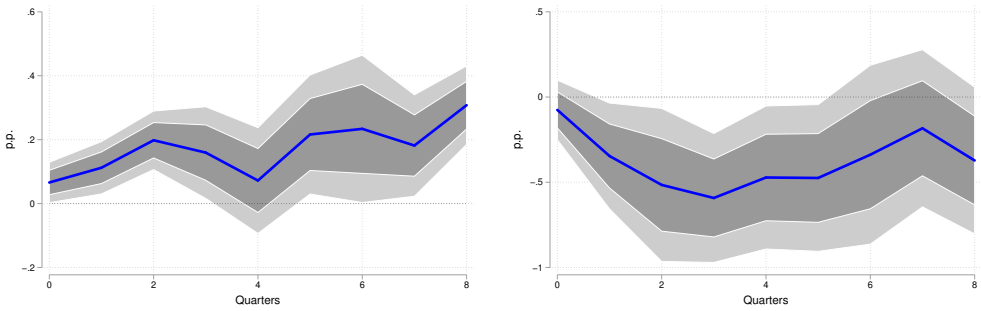


Figure A3
Impulse response of credit demand to monetary policy shocks with sign restrictions

The figure shows the impulse response of log changes in firms' credit demand to a one standard deviation monetary policy shock (with sign restrictions). The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The exact specification is given in equation (2). The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2013Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are double-clustered at the firm and year-quarter level.



(a) tightening **(b) easing**

Figure A4
Impulse response of credit demand to monetary policy shocks interacted with the voter share

The figure shows the dynamics of the coefficients on the interaction between monetary policy shocks and the voter share in a firm's electoral district, separately for tightening and easing shocks, and the absolute value of a shock. The sign of the easing shocks is normalized, such that a positive easing shock corresponds to a decrease in interest rates. The exact specification is given in equation (3). The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2013Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are double-clustered at the firm and year-quarter level.

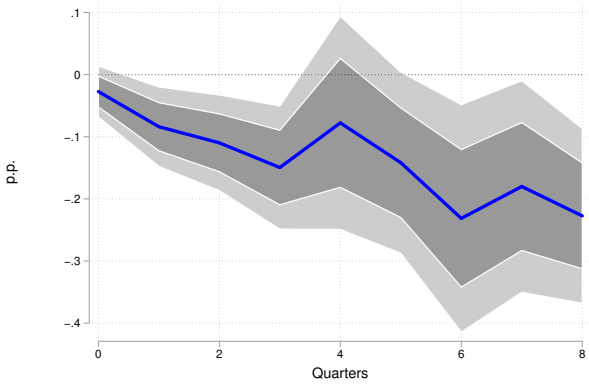
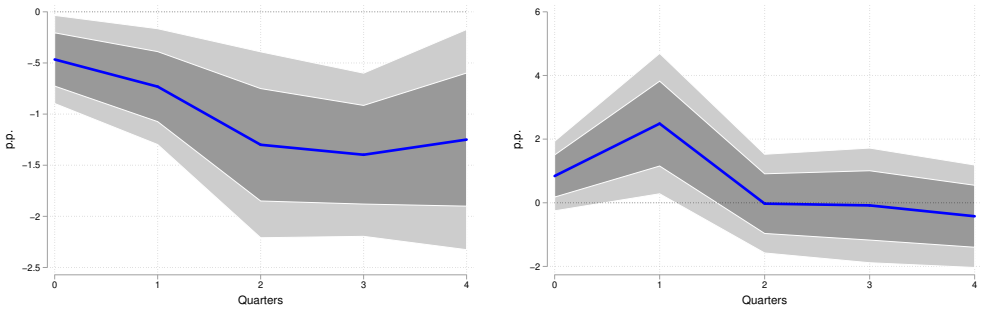


Figure A5
Impulse response of credit demand to monetary policy shocks with sign restrictions interacted with the voter share

The figure shows the dynamics of the coefficients on the interaction between monetary policy shocks and the voter share in a firm's electoral district. The exact specification is given in equation (3). The responses are in percentages and correspond to a one standard deviation monetary policy shock (with sign restrictions) and a one standard deviation increase in the voter share relative to the mean. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2011Q1 to 2023Q1, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are double-clustered at the firm and year-quarter level.



(a) tightening **(b) easing**

Figure A6
Impulse response of credit demand to monetary policy shocks interacted with central bank trust

The figure shows the dynamics of the coefficients on the interaction between monetary policy shocks and the level of central bank trust, separately for tightening and easing shocks. The exact specification is given in equation (4). The responses are in percentages and correspond to a one standard deviation monetary policy shock and a one unit increase in central bank trust. The sign of the easing shock is normalized such that a positive easing shock corresponds to a decrease in interest rates. The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 2019Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are clustered at the firm level.

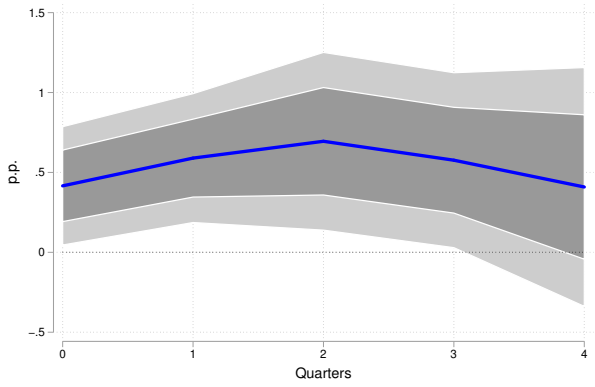


Figure A7
Impulse response of credit demand to monetary policy shocks interacted with central bank trust, longer sample

The figure shows the dynamics of the coefficients on the interaction between monetary policy shocks and the level of central bank trust. The exact specification is given in equation (4). The responses are in percentages and correspond to a one standard deviation monetary policy shock and a one unit increase in central bank trust. The sign of the shock is normalized such that a positive shock corresponds to a decrease in interest rates. The data on outstanding loans is obtained from the credit register (BAKIS-M) of the Research Data and Service Centre (RDSC) of the Deutsche Bundesbank, from 201Q1 to 2022Q4, own calculations. The dark and light bands show 68 percent and 90 percent confidence intervals, respectively. Standard errors are clustered at the firm level.

D Details on monetary policy tweets

Using the Twitter (X) API, I collected German tweets containing the German translations of the keywords "ECB," "European Central Bank," "monetary policy," "Draghi" (until October 2019), and "Lagarde" (from November 2019 onward), excluding retweets. This process yielded over 940,000 tweets up to October 2023, which marks the end of the analysis period for inflation expectations due to the availability of Euro Area monetary policy surprises from Altavilla et al. (2019). I cleaned the data by removing special characters, symbols, email addresses, and web links. After this data cleaning process, I filtered out duplicate entries, resulting in a final dataset of 717,112 tweets. A word cloud based on the most frequently used words in these tweets is shown in Figure A8.

To identify tweets likely containing substantive information about the current monetary policy stance, I focused on those including the keywords "decision," "interest rate," and "meeting," resulting in a subset of 131,031 tweets.

For the comparison between -affiliated accounts and conventional media, I targeted tweets from usernames that include "AfD" (case insensitive). I manually reviewed this list to exclude accounts unrelated to or opposed to the *AfD*, ending with 135 unique *AfD*-related usernames. I applied the same process for the other five major political parties in Germany. For conventional media tweets, I included the accounts of Germany's two largest public broadcasters, *ARD* and *ZDF*, along with the 10 most trusted additional news sources. The Twitter user names of these sources, ranked by trust according to Statista 2024 (based on the Reuters Institute for the Study of Journalism), are: 'tagesschau', 'ZDFheute', 'ntvde', 'SZ', 'zeitonline', 'derspiegel', 'faznet', 'welt', 'focusonline', and 'sternde',[31]

Figure A8
Word cloud of German tweets related to monetary policy

[31] See https://de.statista.com/statistik/daten/studie/877238/umfrage/ranking-der-vertrauenswuerdigsten-nachrichtenquellen-in-deutschland/.

E Microfounding why different agents consume different media channels

This section provides a microfoundation for why agents sort into different media channels, building on the framework developed by Gentzkow et al. (2024).

E.1 Setup

The model setup is akin to a multi-arm bandit problem in game theory, which models situations where a player must make a series of decisions under uncertainty with the goal of optimizing long-term payoffs.[32] In this problem, the agent faces a trade-off between exploration and exploitation: during the exploration phase, the agent tries out different arms to gather more information about their reward distributions, and during the exploitation phase she uses the information already gathered to choose the arm that currently seems to have the highest expected reward.

Assume there are two types of agents, i.e. firm managers, that learn about a sequence of unobserved states $\omega_t \sim N(0,1)$ over time periods $t = 1, 2, ..., T$. Each agent i has an independent reasoning about ω_t, denoted as $x_{i,t}$, which is based on introspection, own experience, or other factors. In each period, the agents first observe their own reasoning and then a signal $s_{j,t}$ from information sources $j = 1, 2, ..., J$, such as media outlets or social media. After observing the own reasoning and the signal, the agents choose an action $d_{i,t} \in \mathbb{R}$. The agents choose in each period one source to observe to minimize their cumulative expected loss over all periods, $\sum_{t=1}^{T}(d_{i,t} - \omega_t)^2$, where the true value of ω_t is never observed. Denote as r_t the ideological valence of the populist party on ω_t. I assume that r_t is unobserved[33] and that r_t is independent of ω_t.[34]

The accuracy α_j of signal j is the correlation of $s_{j,t}$ with ω_t. If $\alpha_j = 1$, the source is perfectly accurate. Similarly, the accuracy $a_i > 0$ of each agent i's reasoning is the correlation of $x_{i,t}$ with ω_t. When a_i is small, agents can learn more through the information source $s_{j,t}$ than through their own reasoning.

Denote as β_j the bias of signal j, which is the correlation of $s_{j,t}$ with r_t.[35] The bias b_i of agent i's reasoning $x_{i,t}$ is the correlation of $x_{i,t}$ with r_t. If $\beta_j = 1$, the source is perfectly biased towards populism. An agent and a source are like-minded when b_i and β_j have the same sign.

[32] To understand the basic concept one can imagine that an agent is in a casino, facing a row of slot machines, also known as "one-armed bandits." Each machine has a different probability distribution for the payout, but the agent does not know what these probabilities are. The problem is to develop a strategy to maximize the total payout over time by deciding which machines to play and how often.

[33] This simplifies the analysis but is also not unrealistic in my application. Although the populist party *AfD* takes a negative stance on the ECB, it is not part of their core political agenda. Therefore, it might be realistic that agents do not know the party's view on that topic.

[34] This is again not unrealistic. For example, the *AfD* claims that immigration is bad, but this is independent of the true effects of immigration. For an extension in which r_t and ω_t are correlated, see Gentzkow et al. (2024).

[35] For simplicity, I assume that both r_t and $s_{j,t}$ have a variance equal to 1.

For tractability, assume the agent follows an "explore-first" strategy.[36] That means, that during the first εT periods, with $\varepsilon \in (0,1)$, the agent "explores" and observes a random source with uniform probability. Afterwards, during the exploitation phase, she chooses the source that minimizes her expected loss, based on her beliefs $\theta_i = (a_i, b_i, \alpha, \beta)$, where α and β denote the J-vectors of α_j and β_j, respectively. The true value of θ_i is $\theta_{0,i}$.

As the variances of $x_{i,t}$ and r_t are 1, we can write

$$\begin{aligned} s_{j,t} &= \alpha_j \omega_t + \beta_j r_t + \varepsilon_{j,t} \\ x_{i,t} &= a_i \omega_t + b_i r_t + \eta_{i,t} \end{aligned} \tag{A1}$$

E.2 Learning and trust with biased beliefs

At the beginning of the game, the agent has a prior belief $\mu^i_{0,\theta}$. I assume that $b_i = 0$ in θ_i, which means that agent i believes that her own reasoning is unbiased. Also, the agent knows that her accuracy, a_i, is close to zero. The agent observes $x_{i,t}$ and $s_{j,t}$ for many periods and has, in the limit, the posterior belief $\mu^i_{\infty,\theta}$ after learning the J-vector ρ_{is} of correlations between $x_{i,t}$ and all $s_{j,t}$.

Let α^i_j be agent i's belief about the accuracy of source j. If the agent's reasoning is unbiased, her posterior belief on the accuracy of source j, α_j, converges to the true value α_{0j}.

From equations (A1), and under the assumption that $b_i = 0$, it follows that $\alpha^i_j = \frac{\rho_{ij}}{a_{0i}}$. That means that the higher the correlation is between the agent's own reasoning and and the source j's signal, the more the agent believes in this source. For a given correlation, the agent updates more, the lower she believes the accuracy of her own reasoning is.

After the agent has learned the correlation between her own reasoning and the signal and has formed a posterior belief about the accuracy, her posterior belief on ω_t is $\omega^i_t(s_{j,t}) = \alpha^i_j s_{j,t}$, where α^i_j denotes the agent's trust in information source j.

As the correlation between the signal and the agent's reasoning is $\rho_{ij} = a_{0i}\alpha_{0j} + b_{0i}\beta_{0j}$, it follows that we can write the agent's trust in source j as:

$$\alpha^i_j = \alpha_{0j} + \frac{b_{0i}\beta_{0j}}{a_{0i}} \tag{A2}$$

Equation (A2) implies that when the accuracy of agent i's reasoning is low, small differences in agents' biases can lead to large differences in their trust. Also, agent i trusts source j more, when the biases are aligned, that is when $b_{0i}\beta_{0j}$ is positive.

[36] For an extensive overview of multi-arm bandit problems and different strategies, see Slivkins (2019).

F The model

The model follows Brault and Khan (2022) closely and differs only in the following aspects: it does not include consumption habit or capital adjustment costs. Instead, I add the behavioral features discussed in section 5.

F.1 Households

The household problem is given by,

$$\max \sum_{t=0}^{\infty} \beta^t \left\{ \log\left(C_t\right) - \frac{\left(L_t^{1+\eta}\right)}{1+\eta} \right\}, \tag{A3}$$

where C_t and W_t are consumption and hours worked. This is subject to the following budget constraint:

$$W_t L_t + R_t^K K_t + \left(\frac{1+i_{t-1}}{1+m_\pi \pi_t}\right) B_{t-1} = C_t + I_t + B_t, \tag{A4}$$

$$K_{t+1} = (1-\delta)K_t + I_t \left[1 - \frac{\Omega}{2}\left(\frac{I_t}{I_{t-1}} - 1\right)^2\right], \tag{A5}$$

where K_t is capital, depreciating at rate δ, R_t^K is the return on capital, B_t are one-period bonds, I_t is investment, and Ω are capital adjustment costs. The equilibrium conditions are the following:

$$L_t^\eta = \frac{W_t}{C_t}, \tag{A6}$$

$$1 = \beta \mathbb{E}_t \left\{ \frac{C_t}{C_{t+1}} \left(\frac{1+i_t}{1+m_\pi \pi_{t+1}}\right) \right\}, \tag{A7}$$

$$q_t = \beta \mathbb{E}_t \left\{ \frac{C_t}{C_{t+1}} \left(R_{t+1}^K + (1-\delta) q_{t+1}\right) \right\}, \tag{A8}$$

$$\begin{aligned} 1 = q_t \Bigg[1 - \frac{\Omega}{2}\left(\frac{I_t}{I_{t-1}} - 1\right)^2 - \Omega\left(\frac{I_t}{I_{t-1}} - 1\right)\frac{I_t}{I_{t-1}}\Bigg] \\ + \beta\Omega \mathbb{E}_t \left\{ q_{t+1} \frac{C_t}{C_{t+1}} \left(\frac{I_{t+1}}{I_t} - 1\right)\left(\frac{I_{t+1}}{I_t}\right)^2 \right\}, \end{aligned} \tag{A9}$$

where q_t is the Lagrange multiplier on the law of motion for capital.

F.2 Intermediate firms

Intermediate firms have a Cobb-Douglas production function and minimize costs subject to demand:

$$\min R_t^K K_t + W_t L_t \quad \text{s.t.} \tag{A10}$$

$$K_t(i)^\alpha L_t(i)^{1-\alpha} \geq \left(\frac{P_t(i)}{P_t}\right)^{-\frac{1}{\epsilon}} Y_t, \tag{A11}$$

where $P_t(i)$ is the price of good i and Y_t is aggregate output. With α denoting the capital share, the optimal mix of capital and labor in production and the marginal cost χ_t are:

$$\frac{W_t}{R_t^K} = \frac{1-\alpha}{\alpha}\left(\frac{K_t}{L_t}\right), \tag{A12}$$

$$\chi_t = \left(\frac{R_t^K}{\alpha}\right)^\alpha \left(\frac{W_t}{1-\alpha}\right)^{1-\alpha}. \tag{A13}$$

Assuming Calvo (1983) contracts, only a fraction $(1-\theta)$ of firms is able to adjust prices each period. Therefore, a firm i chooses $P_t(i)$, taking into account that, in every period, with probability θ it cannot adjust its prices, and maximizes real profit:

$$\max \mathbb{E}_t^B \sum_{s=0}^{\infty} (\beta\theta)^s \left(\frac{U'(C_{t+s})}{U'(C_t)}\right)\left(\frac{P_t(i)}{P_{t+s}}\right)^{-\frac{1}{\epsilon}} Y_{t+s} - \chi_{t+s}\frac{P_t(i)}{P_{t+s}} Y_{t+s}, \tag{A14}$$

which yields a behavioral version of the New-Keynesian Phillips Curve[37]:

$$\pi_t = \beta M^f \mathbb{E}_t[\pi_{t+1}] + \Psi^f \chi_t, \tag{A15}$$

where $M^f = \frac{\theta}{1-(1-\theta)m_\pi}$ and $\Psi^f = \frac{(1-\beta\theta)(1-\theta)}{1-(1-\theta)m_\pi}\frac{1-\alpha}{1-\alpha+\frac{\alpha}{1-\epsilon}}$. The rational case is nested with $m_\pi = 1$.

F.3 Final goods firms

The perfectly competitive final goods firms aggregate intermediate inputs to produce final goods and maximize total profits,

$$\max P_t Y_t - \int_0^1 P_t(i) Y_t(i)\, di, \tag{A16}$$

[37] For detailed derivations in the presence of bounded rationality, see, e.g., Benchimol and Bounader (2023)

where aggregate output $Y_t = \left(\int_0^1 Y_t(i)^\epsilon di\right)^{\frac{1}{\epsilon}}$. The demand for input i is a function of its relative price and the price elasticity of demand, yielding the downward-sloping demand function for intermediate firm i's input

$$Y_t(i) = \left(\frac{P_t(i)}{P_t}\right)^{-\frac{1}{\epsilon}} Y_t. \tag{A17}$$

F.4 Monetary policy and market clearing conditions

As in Rupert and Šustek (2019), I simplify the Taylor rule by setting the weight on the output gap to 0. The true (in contrast to the perceived) Taylor rule is given by

$$i_t = i^* + \phi_\pi \pi_t + \nu_t, \tag{A18}$$

where ν_t is an AR(1) process given by,

$$\log \nu_t = \rho_m \log \nu_{t-1} + \xi, \quad \rho_m \in (0,1), \quad \xi \sim N(0, \sigma_m^2). \tag{A19}$$

The aggregate resource constraint states that output is equal to the sum of consumption and investment,

$$Y_t = C_t + I_t. \tag{A20}$$

F.5 Solving for the steady state

To solve for the steady state, one can normalize the steady-state output to 1, obtaining for the firm first-order condition for capital,

$$R^k = \frac{\alpha}{K}, \tag{A21}$$

The steady-state capital is then given by

$$K = \left(\frac{\alpha}{\frac{1}{\beta} - 1 + \delta}\right). \tag{B.2}$$

From here one can solve for steady levels of labor, consumption and investment.

F.6 Log-linearized model equations

The system of log-linearized equations in the model is the following (with bars denoting steady state values and *inv* denoting the percentage deviation of investment):

$$-c_t + w_t = \left(\frac{\eta}{1-\alpha}\right) y_t - \left(\frac{\alpha\eta}{1-\alpha}\right) k_t, \tag{A22}$$

$$-c_t = -\mathbb{E}_t c_{t+1} + i_t - \mathbb{E}_t m_\pi \pi_{t+1}, \tag{A23}$$

$$l_t = \left(\frac{1}{1-\alpha}\right) y_t - \left(\frac{\alpha}{1-\alpha}\right) k_t, \tag{A24}$$

$$r_t^k = \overline{r^k}(w_t - k_t + l_t), \tag{A25}$$

$$\chi_t = w_t + \left(\frac{\alpha}{1-\alpha}\right) y_t - \left(\frac{\alpha}{1-\alpha}\right) k_t, \tag{A26}$$

$$\pi_t = \beta M^f \mathbb{E}_t \pi_{t+1} + \Psi^f \chi_t, \tag{A27}$$

$$i_t = i^* + \phi_\pi \pi_t + \nu_t, \tag{A28}$$

$$\hat{i}_t = i^* + \hat{\phi}_\pi^B \pi_t^B + \hat{\nu}_t^B, \tag{A29}$$

$$\nu_t = \rho_m \nu_{t-1} + \xi_t, \tag{A30}$$

$$\nu_t^B = \rho_m \nu_{t-1}^B + \xi_t^B, \tag{A31}$$

$$y_t = \frac{\overline{c}}{\overline{y}} c_t + \frac{\overline{inv}}{\overline{y}} inv_t, \tag{A32}$$

$$k_{t+1} = (1-\delta) k_t + \delta inv_t, \tag{A33}$$

$$q_t = \Omega(1+\beta) inv_t - \Omega inv_{t-1} - \beta\Omega inv_{t+1}, \tag{A34}$$

$$q_t = -\mathbb{E}_t c_{t+1} + c_t + \mathbb{E}_t r_{t+1}^k + (1-\delta)\mathbb{E}_t q_{t+1}. \tag{A35}$$

F.7 Calibration

The calibration follows mostly Brault and Khan (2022), who adopt values that are standard in the literature. In addition, the persistence of the cost-push shock is set to 0.75, as in Galí (2015).

Table A1
Calibration Parameters

Parameter	**Value**
Share of populist agents (γ)	0.3
Behavioral multiplier for inflation (m_π)	1.15
Discount factor (β)	0.99
Labor disutility (η)	1
Depreciation rate (δ)	0.025
Capital share (α)	0.3
Taylor rule coefficient for inflation (ϕ_π)	1.5
Calvo parameter for price stickiness (θ)	0.7
Elasticity of substitution for individual goods (ϵ)	0.83
Persistence of monetary policy shock (ρ_m)	0.5
Persistence of cost-push shock (ρ_u)	0.75
Investment adjustment cost parameter (Ω)	5.48