Scottish Journal of Political Economy

SCOTTISH ECONOMIC SOCIETY

ORIGINAL ARTICLE OPEN ACCESS

Passing the Partisan Filter: Political Narratives, Partisan Bias, and Opinions on Public Finances

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Received: 29 December 2024 | **Revised:** 24 February 2026 | **Accepted:** 24 February 2026

Keywords: narrative economics | partisan bias | public finance

ABSTRACT

This paper investigates whether political partisanship and political narratives affect voters' opinions about public finances. In a novel survey experiment, we test the causal effect of pro-consolidation and pro-public investment narratives used in German general election campaigns on participants' opinions on public debt and budget deficits. We do not find a relevant average treatment effect of these narratives. However, the interaction patterns suggest that responses to these narratives may vary with political party preferences, which are a dominant covariate for opinions on public finances. We interpret our findings as a conjunction of narrative economics theory and the partisan bias literature, by which emotionally charged narratives may be more likely to pass the partisan filter.

JEL Classification: D8, H5, H6

1 | Introduction

Intergenerational fairness and sustainability of public finances pose a trade-off between fiscal consolidation and public investment. This paper investigates how voters form their opinions about public finances. We use recent data from a representative survey among the German populace to study the opinions of German residents on public spending, deficit, and debt. In particular, we test whether influential political narratives affect the general public's preferences on government debt and deficit and attempt to understand the mechanism of their impact on individuals' views.

According to Shiller's "narrative economics" theory, societal narratives exhibit significant influence on economic behavior (Shiller 2017). Preferences and decisions of individuals could be influenced by the stories they hear and believe, even if those are oversimplified or even misleading. The theory provides a possible explanation for observed behavior, such as policy support or opposition, which may seem less than rational from an economic vantage point. We hypothesize that political narratives on public debt and public investment influence opinions of laypeople. We investigate their impact in the context of the so-called partisan bias in opinion formation, which refers to the empirically observed differences in how individuals evaluate facts and form opinions, depending on their political preferences.

Along these lines, we conduct a survey experiment to test whether fiscal policy preferences of German residents react to political narratives. We confront randomly selected subsamples of our respondents with one of the election program statements, taken from the 2021 election campaigns of a major fiscally conservative party (the Christian Democrats, CDU) and from a major fiscally liberal party (the German Green party, B90/Greens). The conservative statement stresses that fiscal consolidation promotes intergenerational fairness, while the liberal statement emphasizes the need for additional deficit-financed public investment in Germany. We use the verbatim statements from the party manifestos though without a reference to the party to avoid mental activation effects, that is activation of cognitive pathways associated with the party. We then estimate the narrative treatment effect on respondents' concerns about public

debt in Germany. More precisely, survey participants were asked whether they agreed that the level of public debt in Germany was a major problem (on a linear scale of 1 = fully disagree to 5 = fully agree). Additionally, we test the treatment effect on their preferences of how best to handle a public budget deficit. Furthermore, we investigate interactions between treatments and political party preferences.

Concerning sociodemographic characteristics, the data confirm a number of expectable patterns and correlations. Most respondents consider the level of public debt in Germany to be a severe problem; people with children and older participants are more concerned about public debt; a lower trust in government as well as concerns about the general economic situation also positively correlate with considering the level of public debt in Germany as a major problem. Unlike findings in previous surveys, more educated and more financially literate survey participants find public debt less of a problem. A preference for parties on the left of the political spectrum comes with less agreement that the level of public debt in Germany is a major problem in comparison to centrist voters, while the opposite is true for right-wing voters, who are more likely to consider public debt in Germany to be a severe problem. In addition, party preferences strongly correlate with respondents' opinions about the public deficit. Predictably, voters on the left prefer a tax increase or borrowing to cutting expenditure. Supporters of the far right party favor spending cuts, but not tax increases. Those who declared a party preference were generally less likely to not know how to deal with the public deficit.

Our narrative treatment experiment sheds some light on the opinion formation and the stability of preferences of the survey participants. We do not find a pronounced and uniform impact of the narratives on the respondents' opinions. However, the estimated interaction patterns suggest a potential asymmetry in how treatment effects relate to respondents' party preferences. In particular, the pro-consolidation narrative is associated with an increased likelihood among left-leaning voters to consider public debt a severe problem, bringing their assessment closer to that of centrist or nonpartisan voters, whereas the pro-investment narrative does not display a distinct interaction pattern with party preferences. Nevertheless, these differences should be interpreted with caution since the joint tests of heterogeneous treatment effects are not statistically significant.

To put our findings in the context of the existing research, our paper partly confirms and partly challenges findings from the literature on preferences for public finance. Previous surveys on fiscal policy preferences in Germany find that the majority of respondents support fiscal consolidation and the German debt brake, especially if they are older, wealthier, male, educated, and employed (Heinemann and Hennighausen 2012; Hayo and Neumeier 2019). Similarly, the majority of our survey participants agreed with the statement that the level of public debt in Germany is a major problem; however, male and more educated respondents were *less likely* to find sovereign debt problematic. A companion paper by Behringer et al. (2024), based on the same survey, further investigates the effects of education and information treatments about public finances, showing that more accurate prior knowledge or additional information helps people contextualize public finance figures.

Surveys often reveal that laypersons' knowledge of economic issues like inflation, tax policy, and public finances is fragmented (D'Acunto et al. 2022; Stantcheva 2021; Roth et al. 2022). Male, older, more educated respondents show better knowledge on average, while supporters of the welfare state are more likely to demonstrate greater levels of knowledge about public policy (Eichhorn et al. 2024). Additionally, reasoning about fiscal matters is prone to the "more for less paradox" (Welch 1985), where respondents desire more spending together with lower taxes and lower deficits. Bremer and Bürgisser (2023) show that exposing respondents to clear trade-offs between deficit reduction, tax cuts, and spending increases reduces preferences for debt repayment. They find that expenditure-based and even more so revenue-based consolidation are unpopular. Also, Hübscher et al. (2021) find that voters generally dislike austerity policy. Other studies confirm low willingness to accept higher tax contributions for debt reduction, although richer respondents claim to be more open to it (Berger et al. 2017; Hayo and Neumeier 2017). Beliefs about the fiscal policy situation play an important role in shaping opinions (Hayo and Neumeier 2017), as does respondents' knowledge about debt levels and their perception of being personally affected (Zabler 2017). Crucially, the receipt of contextualizing information as well as framing play an important role in opinion formation (Behringer et al. 2024; Roth et al. 2022; Stix 2013).

Empirical evidence also demonstrates a partisan bias on economic policy questions. People gather information about the world through the lens of their political opinions (Campbell et al. 1960; Jerit and Barabas 2012). Early evidence shows significantly diverging perceptions of objective economic facts about inflation, unemployment, and the size of the deficit between liberals and conservatives in the US (Bartels 2002). Likewise, residents of republican and democratic states have different inflation expectations depending on the party affiliation of the current president (Bachmann et al. 2021). Political affiliation also influences inflation expectation formation in Australia (Gillitzer et al. 2021) and Germany (Coleman and Nautz 2022). According to Gerber and Huber (2009), consumers' economic expectations, influenced by their political leaning and election outcomes, translate into real changes in consumer behavior.

How does partisan bias relate to moral factors, information and narratives? According to Goren (2005), party identification is more stable than the political and moral values of respondents, influencing policy preferences. Experimental data show that a treatment-induced increase in self-identification with one of the parties makes subjects shift their political views (Gerber et al. 2010). Likewise, Dias and Lelkes (2022) argue that partisanship as a social identity, rather than actual (dis)agreements on policy questions, drives the polarization between conservatives and liberals in the US, which points in the direction of party preference being predominant to the views on economic policy. Bullock and Lenz (2019) suggest that differences in survey responses of voter groups might indicate support for the respective party instead of actual differences in opinions. Financial incentives for correct answers and including the option "don't know" can reduce partisan bias (Bullock et al. 2015).

Flynn et al. (2017) review research on psychological aspects of partisan bias and misperceptions about political topics,

suggesting that expert opinions and media narratives play a key role in promoting false political beliefs. Bursztyn et al. (2023) indeed document differences in the adoption of preventive behaviors between viewers of TV-shows broadcasting significantly diverging narratives about the COVID-19 crisis. In the context of fiscal policy, Barnes and Hicks (2018) demonstrate that laypeople's attitudes towards government deficits were correlated with their favorite newspaper's framing. In their survey experiment they show that a positive media narrative about government borrowing makes people less concerned about the size of government deficits in the UK, while a narrative framing public borrowing as problematic shows no effect.

Conservatives and liberals not only hold different views of the inheritance tax in the US, but they also react differently to factual information about it (Sides 2016). Stantcheva (2021) argues that differences in tax policy preferences can be explained by divergent social values and views of the government between Democrats and Republicans. Besides, she identifies a minor partisan bias in reactions to information treatments. Glaser and Berry (2018) find asymmetry in willingness to compromise over policy between republicans and democrats, which they explain with the help of prospect theory. Since conservatives defend the status quo, they are more rigid about their position, than the progressives, who are pushing for change and, thus, are more open to a compromise.

Sears and Funk (1999) show that individual political preferences are remarkably consistent, and only a few people experience a shift in their views over their lifetime. Also, Kiley and Vaisey (2020) demonstrate that empirical data on cultural beliefs are generally more consistent with stable attitudes than active updating models. However, while political party affiliation is strikingly stable, preferences for public spending and other concrete policy issues could be subject to updating.

In summary, the literature presents a complex picture on the determinants of laypeople's preferences towards fiscal consolidation and debt. Survey respondents seemingly have stable attitudes correlated with partisanship, but opinions can partly be influenced by media narratives, framing and information provision. Our findings align with the partisan bias literature, as we observe substantial differences in public debt preferences in line with partisanship, remaining largely unaltered by narrative treatments. In line with the literature, the pro-consolidation narrative slightly reduces the preference of respondents to incur new debt and the pro-investment narrative reduces the preference to cut spending, but the coefficients are small and statistical significance is low. Again, there is a much stronger correlation with party preferences in the expected direction that left-leaning voters favor tax hikes and deficit financing over spending cuts while the opposite is true for right-wing voters.

However, the estimated interaction patterns for the pro-consolidation narrative suggest possible asymmetry in the treatment effect, although the joint Wald F-test of the interactions is not statistically significant and warrants cautious interpretation. One possible explanation is that the pro-consolidation narrative may have crossed ideological boundaries, particularly among left-leaning voters, due to its moral framing. Self-identification with a particular political party could serve as an anchor or a "filter" to accepted narratives. The pro-consolidation narrative may have passed the partisan filter because it taps into deep ethical values when framed as "intergenerational justice". Left-leaning voters, who otherwise support additional deficit spending, may feel compelled by the moral framing to reevaluate their stance. In sum, our findings nuance the narrative economics theory and contribute new evidence for the literature on partisan bias as well as cautious insights into communication strategies for public finance policy in polarized political environments.

The remainder of this paper is organized as follows. The next section explains our data and the survey experiment. Section 3 presents and discusses the results. Section 4 concludes.

2 | Data and Survey Experiment

The data stem from a German representative online survey of people aged 18 to 75 administered in the weeks after the general election in Germany in September 2021. A total of 8483 people were asked a series of questions on their demographics, education, knowledge and attitudes, as well as their views on public finances. Their preferences on public debt and deficit were surveyed simultaneously with attitudes to public investment to avoid the "more for less paradox". The survey was conducted by Gapfish, which provides the largest ISO-certified online access panel in German-speaking countries, using Computer Assisted Web Interviewing. The sample was drawn using a quota sampling approach from the online access panel. In this procedure, the composition of respondents is determined on the basis of pre-specified quotas for age, gender, federal state, and household income, ensuring ex post representativeness of the German population. Table 1 compares the sociodemographic composition of our sample to official statistics from the German Federal Statistical Office (Destatis 2021), confirming its broad representativeness. The education level of respondents is higher than within the population, which is a recurrent pattern of (online) surveys (Stein et al. 2025).

Figure 1 shows the flowchart of the survey and the experiment. In the preamble, we query respondents regarding their sociodemographic characteristics. In the main part of the survey, we ask respondents to reveal their opinions on public spending, debt and deficit. In particular, they were asked whether they agreed that the level of public debt in Germany was a major problem (on a linear scale of 1 = fully disagree to 5 = fully agree) and how the government should deal with public deficit (they could choose one option among "cut spending," "increase tax," "take on debt," "I don't know"). As explained below, some of the survey participants were exposed to political narratives treatments within our survey experiment at this stage. Finally, we collect further information about our respondents, such as level of education and whether they have children, but also regarding their political party preferences, trust in government (on a scale from 1 to 7), financial literacy score (on a scale from 0 to 3), and concerns about the general economic situation (on a scale from 1 to 3). We collect the data on the time needed to complete the survey and remove those who spent less than half of the median time to account for "speeder" issues common in survey research (Greszki et al. 2014).

TABLE 1 | Descriptive statistics of the survey respondents.

Variable	Description	*N*	Mean sample	Mean population[a]	Min	Max
Age	Age in years	3352	47.6	44.7	18	79
Gender (Male)	1 if male	3352	0.50	0.49	0	1
Education	Education in levels	3306	2.33		0	3
	0 = No school (yet)	3306	0.03	0.08	0	1
	1 = Lower secondary school	3306	0.12	0.25	0	1
	2 = Secondary school	3306	0.35	0.31	0	1
	3 = Upper secondary school	3306	0.50	0.36	0	1
Children	1 if having children	3219	0.26	0.25	0	1
Party	Self-declared political preference	3352	2.80		1	7
	1 = None/Other	3352	0.46		0	1
	2 = Left party	3352	0.05		0	1
	3 = Social Democrats (SPD)	3352	0.14		0	1
	4 = Green party	3352	0.10		0	1
	5 = Conservative party (CDU/CSU)	3352	0.13		0	1
	6 = Liberal party (FDP)	3352	0.07		0	1
	7 = Far right party (AfD)	3352	0.05		0	1
Control group	Not exposed to any treatment	2034				
Treatment A	1 if exposed to Treatment A	659				
Treatment B	1 if exposed to Treatment B	659				

[a]Mean of German population in 2021 according to the German Federal Statistical Office (Destatis 2021).

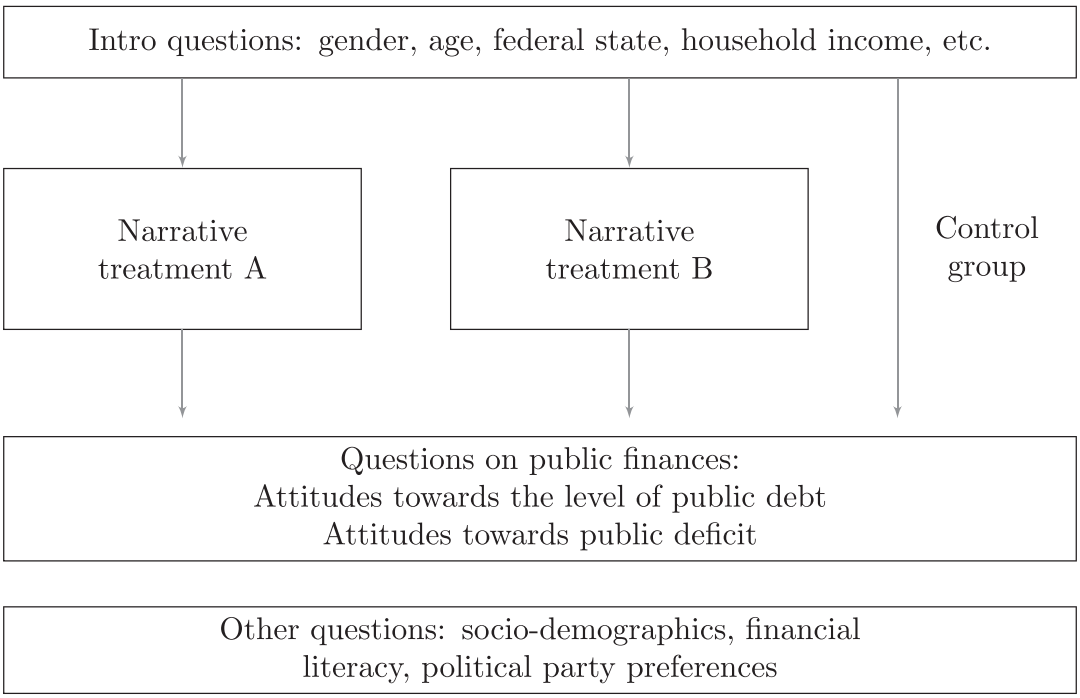

FIGURE 1 | Flowchart of the survey and the experiment design.

For the regression analysis, we use a subsample of the data that includes a control group (not exposed to any treatments) and the two groups, selected for our experiment. The control group comprises a total of 2034 respondents, and each treatment group includes 659 participants. The rest of the survey participants (exposed to other information treatments not

included in this study) have been removed from our sample. Table 1 shows the main sociodemographic characteristics of our final sample of 3352 respondents. The average age in our sample is 47.6 years. Almost 51% of participants are male. An average participant had graduated from a secondary school. About 26% of the surveyed individuals indicate that they have children. The political party preferences are plausibly split between the largest German political parties, whereas about 46% of the respondents do not declare their support for any of the main parties. In addition, Table 2 shows the comparison of the distribution of party preferences in our sample to the overall population which is measured by the so-called "Sonntagsfrage" ("Which party would you vote for if there was a general election next Sunday?") which is a regular representative survey of the current political preferences in Germany (Infratest dimap 2021). The party preferences among the participants of our survey are roughly in line with the German population at around the time of our survey.

Since the experiment treatments were assigned randomly, the descriptive statistics of the control and the treatment groups are nearly identical. Tables A3 and A4 in Appendix A entail balance tests showing that the treated groups are not different from the control group in observed characteristics, with only a minor deviation in the share of respondents without finished school, the voters for the Left party (treatment A) and AfD supporters (Treatment B), which might be explained by the small subsamples.

At the stage of the experiment, we randomly confronted two subgroups of respondents with political narratives regarding public investment and debt. The treatments were given as an introduction to the question regarding respondents' attitude towards public debt. One treatment group saw a statement from the election program of a fiscally conservative party (Christian Democrats, CDU); the other a statement from the fiscally liberal green party (B90/Greens). The conservative statement stresses that fiscal consolidation promotes intergenerational fairness (Treatment A), while the liberal statement emphasizes the need for additional deficit-financed public investment in Germany (Treatment B). Note that we did not mention the origin of the statements in order to avoid mental activation effects regarding the respective political party. The exact wording of the treatments is presented below:

Treatment A. *After the general election, the new government must decide on fiscal policy priorities for the coming years. Politicians' opinions often differ on whether the state should take on debt for public investment. Some want to get by without new debt as quickly as possible. They argue that this is intergenerational justice in practice.*

Treatment B. *After the general election, the new government must decide on fiscal policy priorities for the coming years. Politicians' opinions often differ on whether the state should take on debt for public investment. Some want to allow limited borrowing in the amount of investments. They argue that the investment backlog in our country needs to be addressed and that climate protection, digitization, and education need to be significantly strengthened.*

We hypothesize that the pro-consolidation narrative should lead treated respondents to consider public debt to be a more severe problem and to reduce the willingness to finance a budget deficit with new debt. Regarding the pro-investment narrative, we would expect treated respondents to consider public debt to be a smaller problem and to increase support for public spending financed by additional borrowing.

TABLE 2 | Comparison of the distribution of political preferences in the sample to the overall population.

Party	Sample[a]	Population[b]
Left	7.47	6
Social Democrats (SPD)	23.18	25
Green	16.10	16
Conservative (CDU/CSU)	20.38	20
Liberal (FDP)	11.13	13
Far right (AfD)	8.48	12
Other	13.26	8

[a]Refers to the distribution of preferences in the control group and both treatment groups together, among respondents who indicated a party preference.
[b]Refers to the distribution of answers in the representative survey on September 2, 2021 (Infratest dimap 2021).

3 | Baseline Results

3.1 | Opinions on Public Debt

Our dependent variable is the agreement with the claim: "The level of public debt in Germany is a major problem" on a linear scale from 1 ("Strongly disagree") to 5 ("Strongly agree"). Figure 2 shows the distribution of the values of the dependent variable for the control group. The distribution exhibits a bell curve shape with a mean of about 3.7. Most survey participants expressed that they strongly agree or somewhat agree with the statement.

A potential limitation of our survey design is the wording of the main question which frames public debt as a "major concern." Such phrasing may have biased responses towards agreement. Indeed, the agreement is high with almost two thirds of all respondents, while the debt ratio in Germany was 68% of GDP - rather low - at the time, compared to other industrialized economies. To validate the distribution of preferences we compare our results to other available studies. Although the wording of the survey question is different, Heinemann and Hennighausen (2012) document that 67.5% of their interviewees are in favor of fiscal consolidation. Also, roughly 70% of respondents call for a reduction of public debt in the survey by Hayo and Neumeier (2017).

In addition, we validate this result against the preferences on the German debt brake (see the companion paper Behringer et al. (2024)). The share of the survey respondents who prefer the current or even stricter debt brake lies at roughly 73%, which is consistent with the distribution of preferences towards public debt. The large percentage of supporters of the German debt brake is in line with the findings in Blesse and Nover (2025) who report 60% supporters of the debt brake and additionally 20% neutral respondents in the German Internet Panel in 2021.

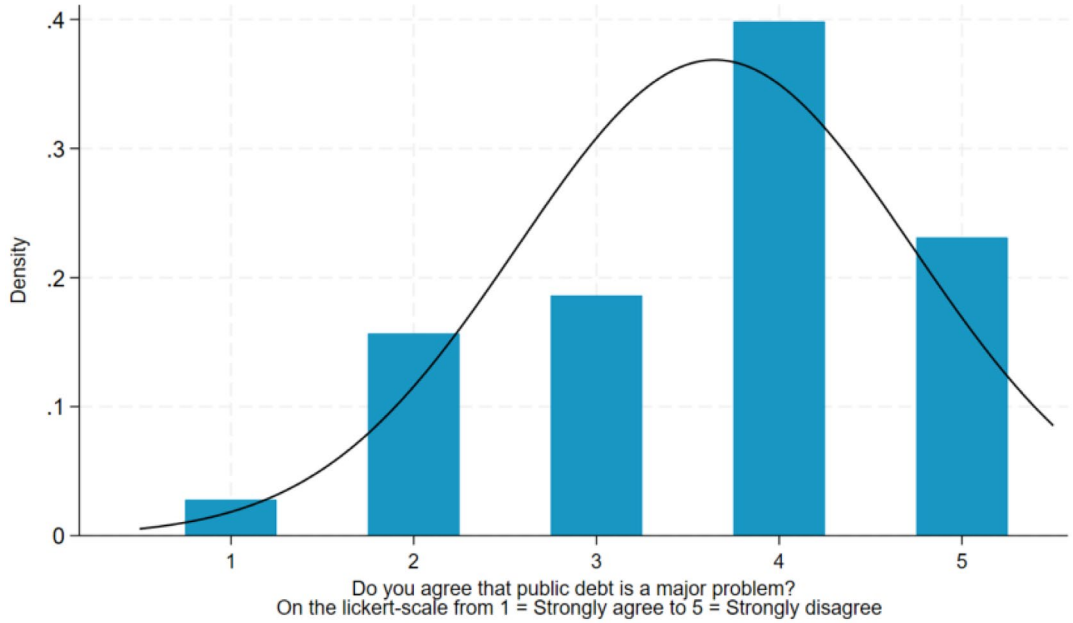

FIGURE 2 | Distribution of attitudes towards public debt.

Thus, we conclude that the answers in our sample are not outliers and there does not seem to be a particular framing effect of the public debt question.

How do the treatments affect respondents' assessment of public debt and how do respondents' characteristics relate to assessment? Table 3 presents the results of Ordinary Least Squares (OLS) regressions of the variable of interest on the treatments and the control variables, with the following linear regression model:[1]

$$\text{Opinion Debt}_i = \beta_0 + \beta_1 \text{Narrative Treatment} + \beta^k X_i^k + \epsilon_i. \quad (1)$$

Coefficients with a positive sign represent a ceteris paribus stronger agreement with the statement that public debt is a major problem, and vice versa. Columns (1) and (2) show the treatment effect of the pro-consolidation narrative (Narrative A) on the opinions about public debt, against the control group, whereas columns (3) and (4) display the results for the pro-investment treatment (Narrative B), again in comparison to the control group with and without control variables respectively.

As control variables, we use age, gender, level of education, a dummy for having children, a standard financial literacy test score[2] between 0 (all answers incorrect) and 3 (all answers correct), as well as trust in government (on a scale between 1—"no trust at all" and 7—"very high trust") and concern about the general economic situation (1—"not concerned at all", 2—"somewhat concerned", 3—"very concerned").

The results of the OLS regressions show that both narrative treatments do not have a statistically significant effect on the dependent variable (column 1 and 3). Thus, we cannot reject the null hypothesis that such political statements do not on average affect the public opinion on sovereign debt. Adding the controls to the regressions does not change this result (column 2 and 4). The control variables mostly exhibit expected coefficients. On average, older participants and those with children agreed with the statement that public debt is a major problem more often, similar to previous evidence from survey research on fiscal consolidation attitudes (Heinemann and Hennighausen 2012; Stix 2013; Hayo and Neumeier 2017). Unlike what older surveys indicate (Hayo and Neumeier 2019), more educated respondents, as well as those with a higher financial literacy score, were less likely to consider public debt a problem in our dataset. We rationalize this finding by the fact that respondents with a higher education are better informed about the relatively low German public debt level and the low burden of debt service in international comparison. Moreover, they might be more able to consider trade-offs of lower public debt with other objectives. The findings could also be indirectly validated with a recent survey for Germany (Eichhorn and Mühlbach 2023) which shows that more knowledgeable people consider public debt reduction to have a lower priority. Also, conventionally, a higher trust in government is associated with lower concerns about public debt, while larger concerns about the general economic situation are correlated with stronger concerns about public debt.

Since political narratives did not show any statistically significant effect on their own, we dive deeper into investigating how political preferences shape the opinions on sovereign debt. Table 4 presents the results of OLS regressions of concern about public debt on the dummies for political preferences (left, centrist, or right-leaning) in addition to the previous set of regressors. We code the dummy for Left as supporters of the Left and the Green party, Centrist as preferring the Social Democrats, the Christian Democrats, or the Free Liberals, and Right as the followers of the far right party AfD.

While the SPD is closer to the left of the political spectrum on many other policy questions, we classify the SPD as "center"

TABLE 3 | Effect of treatments on preferences for public debt.

	Narrative A: Consolidation		Narrative B: Investment	
	(1)	(2)	(3)	(4)
Narrative A	0.015	0.032		
	(0.047)	(0.046)		
Narrative B			0.005	0.017
			(0.047)	(0.046)
Age		0.004***		0.004**
		(0.001)		(0.001)
Gender (male)		−0.062		−0.012
		(0.041)		(0.041)
Children		0.108**		0.133**
		(0.048)		(0.047)
Education		−0.107***		−0.107***
		(0.026)		(0.026)
Financial literacy		−0.070**		−0.079***
		(0.023)		(0.023)
Trust in government		−0.088***		−0.070***
		(0.012)		(0.012)
Concern economy		0.365***		0.394***
		(0.032)		(0.032)
Constant	3.707***	3.446***	3.707***	3.325***
	(0.023)	(0.138)	(0.023)	(0.135)
Observations	2693	2549	2693	2556
R-squared	0.000	0.112	0.000	0.112

Note: Table presents results of OLS regressions. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

due to its fiscal policy positions. Historically, social democrats have aligned more closely with the CDU/CSU on fiscal issues, most prominently by co-legislating the introduction of the debt brake. Consistent with this, our survey evidence shows that SPD voters' attitudes towards public debt are close to those of respondents without a specific party preference as well as other parties coded as "center", as the *t*-tests show (Table A1 in Appendix). In addition, we show the regressions of the dependent variable on the party preferences for the control group and confirm that only Left or Green party preference had a statistically significant effect on respondents' opinion of public debt (Table A2 in Appendix). Importantly, because SPD was the most popular party at the time of the survey (see Table 2), coding preference for SPD as "left" would result in an imbalanced distribution, with the left-leaning group of respondents in this case becoming substantially larger than the center (583 vs. 395 respondents in the control group). With our chosen categorization, "center" is plausibly the largest group, comprising 679 individuals or about one-third of the control group.

Table 4 shows that political party preferences are strongly aligned with the attitudes of the respondents towards public debt (columns 1 and 3). Those preferring a party on the left of the political spectrum (the Left or Green Party) are generally much less concerned with public debt. Respondents who identified as far right voters (AfD) report a ceteris paribus higher concern with public debt. Survey participants who sympathize more with the parties of the political center (SPD, CDU/CSU, FDP) do not express any significantly different views on public debt than the participants without a specific party preference.

Interestingly, as shown in Column 2, the pro-consolidation treatment (Narrative A) shows a statistically significant effect on left-wing voters. Their comparatively low concern with public debt drastically increases after being confronted with the statement from the CDU program, with the treatment almost neutralizing the gap between left and centrist voters. The concerns of right-wing voters about public debt are even slightly reinforced, even though the effect is statistically insignificant. To formally assess whether the pro-consolidation effect differs across partisan groups, we conduct a joint Wald *F*-test of the three interaction terms. With the *p*-value of the test at 0.16, we cannot reject the null that the narrative effect is equal across groups. Thus, we interpret the single significant coefficient with caution as suggestive rather than definitive evidence. While the point estimates suggest an increase in concern about public debt among left-wing voters, the overall evidence for partisan differences is not statistically strong.

The pro-investment treatment does not show any mirroring effect (column 4): the group of left-leaning voters do not react to the narrative, while centrist and right-wing voters have even slightly increased concerns with public debt (not statistically significant). The joint Wald *F*-test of the three interaction terms for the pro-investment narrative exhibits the value of 0.64. The effect of political narratives on the general public seems to exhibit a potential asymmetry: whereas the pro-consolidation narrative might have influenced the sovereign debt preferences of left-wing voters, the pro-public investment statement does not seem to persuade the centrists or the far right. However, while the point estimates suggest a possible asymmetry in how political narratives relate to attitudes across partisan groups, the joint tests do not provide statistically significant evidence of heterogeneous treatment effects. We therefore interpret these differences as exploratory patterns rather than firm conclusions.

Although the dependent variable exhibits a bell-curved distribution, it is an ordinal variable. For this reason, we also run ordered logit regressions with the same sets of regressors to confirm that the OLS estimator does not distort the findings. Tables B1 and B2 in Appendix B correspond to Tables 3 and 4. All the coefficients exhibit the same sign and roughly the same level of statistical significance (albeit the interpretation differs), supporting the main results.

TABLE 4 | Effect of treatments on preferences for public debt, depending on political views.

	Narrative A: Consolidation		Narrative B: Investment	
	(1)	(2)	(3)	(4)
Narrative A	0.028	−0.029		
	(0.045)	(0.068)		
Narrative B			0.011	−0.034
			(0.045)	(0.068)
Left	−0.290***	−0.358***	−0.370***	−0.367***
	(0.060)	(0.068)	(0.059)	(0.068)
Centrist	0.014	0.012	0.019	−0.009
	(0.046)	(0.053)	(0.046)	(0.053)
Right	0.239**	0.192*	0.243***	0.213**
	(0.093)	(0.107)	(0.090)	(0.107)
Left × Narrative A		0.291**		
		(0.137)		
Centrist × Narrative A		0.013		
		(0.102)		
Right × Narrative A		0.192		
		(0.212)		
Left × Narrative B				−0.011
				(0.134)
Centrist × Narrative B				0.115
				(0.103)
Right × Narrative B				0.111
				(0.192)
Age	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
Gender (male)	−0.079*	−0.081**	−0.034	−0.033
	(0.041)	(0.041)	(0.040)	(0.040)
Children	0.088*	0.089*	0.110**	0.109**
	(0.048)	(0.048)	(0.047)	(0.047)
Education	−0.096***	−0.096***	−0.091***	−0.091***
	(0.026)	(0.026)	(0.026)	(0.026)
Financial literacy	−0.060***	−0.059***	−0.069***	−0.069***
	(0.023)	(0.023)	(0.023)	(0.023)
Trust in government	−0.076***	−0.077***	−0.057***	−0.057***
	(0.013)	(0.013)	(0.013)	(0.013)
Concern economy	0.358***	0.356***	0.381***	0.380***
	(0.032)	(0.032)	(0.032)	(0.032)

(Continues)

TABLE 4 | (Continued)

	Narrative A: Consolidation		Narrative B: Investment	
	(1)	(2)	(3)	(4)
Constant	3.429***	3.446***	3.309***	3.326***
	(0.138)	(0.138)	(0.134)	(0.135)
Observations	2549	2549	2556	2556
R-squared	0.125	0.126	0.132	0.133

Note: Table presents results of OLS regressions. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Left is a dummy = 1 when the respondent reported preference for Left or Green party, Centrist is a dummy = 1 when the respondent reported preference for SPD, CDU/CSU or FDP, Right is a dummy = 1 when the respondent reported preference for AfD. Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

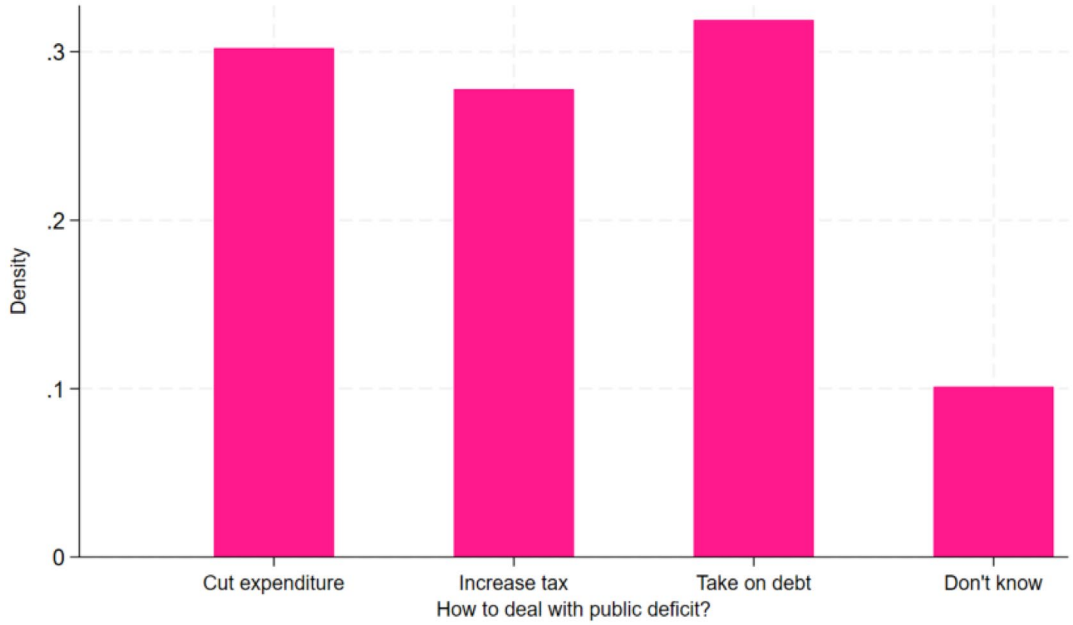

FIGURE 3 | Distribution of opinions on how to deal with public deficit.

Additionally, Table B3 in Appendix B reports the interactions between the narrative treatments and individual party dummies as a robustness check which is in line with the baseline results. However, caution is advised in interpreting the statistically significant coefficients of the interactions between the narrative treatments and specific parties, due to their small subsample sizes, particularly the Left party.

We perform a further robustness check, that is, we reduce the sample to the respondents who named their party preference. Table B4 in Appendix B, corresponding to Table 4, presents the results of the regressions. Now, we compare answers of the left-leaning and right-wing survey participants to responses of the centrists. This exercise confirms the main results: again, ceteris paribus, respondents on the left tend to be much less concerned with public debt, and those on the right are more likely to consider public debt to be a major problem. Also, we confirm the finding that the pro-consolidation narrative has some statistically significant effect of increasing the concerns about public debt of left-leaning voters.

3.2 | Opinions on Public Deficit

We also test if the treatments had any significant effect on the views regarding the public deficit. This has been done in a holistic way, so that the respondents were confronted with the questions: "How should the government deal with public deficit?" and had to choose between the answers "Cut expenditures", "Increase taxes", and "Borrow", or "I don't know". Figure 3 shows the distribution of the values of the answers for the control group. The shares of the preferred ways to deal with the public deficit are almost evenly split, with a somewhat lower preference for a tax hike. About 15% of participants chose the answer "I don't know".

Table 5 presents the marginal effects of the multinomial logit regressions of respondents' opinion on how to deal with a budget deficit on the treatment dummies A and B as well as the control variables. The model assumes that the probability of each outcome of the dependent variable is determined as:

$$\Pr\left(\text{Opinion Deficit}_i = k\right) = \frac{e^{x_i'\beta_k}}{1 + \sum_{j=1}^{K-1} e^{x_i'\beta_j}}, 1 \le k < K. \tag{2}$$

Again, we find that the party preference strongly correlates with respondents' answers to this question. As might be expected, voters on the left of the political spectrum are much less likely to endorse cutting expenditure and prefer a tax increase or borrowing instead. At the same time, respondents who prefer the far right party more often prefer to cut spending and not increase taxes. Importantly, the survey participants who indicated a specific party preference were overall much less inclined to answer that they don't know how to deal with the public deficit. This supports our conjecture that the attitudes of respondents towards public finance issues aligned strongly with the ideology

TABLE 5 | Opinions on how to deal with public deficit.

	(1)	(2)	(3)	(4)
	Cut spending	**Increase tax**	**New debt**	**Don't know**
Age	−0.003***	0.001**	0.001	0.001***
	(0.001)	(0.001)	(0.001)	(0.000)
Gender (male)	0.039**	0.031**	−0.021	−0.049***
	(0.017)	(0.016)	(0.017)	(0.013)
Children	−0.019	0.019	−0.027	0.028*
	(0.019)	(0.018)	(0.020)	(0.014)
Education	−0.015	−0.001	0.032***	−0.015**
	(0.011)	(0.010)	(0.011)	(0.008)
Financial literacy	−0.008	0.010	0.036***	−0.038***
	(0.009)	(0.009)	(0.010)	(0.006)
Trust in government	−0.006	0.024***	−0.009*	−0.009**
	(0.005)	(0.005)	(0.005)	(0.004)
Concern economy	0.034***	−0.006	−0.025*	−0.003
	(0.013)	(0.013)	(0.013)	(0.010)
Left	−0.127***	0.109***	0.076***	−0.059***
	(0.028)	(0.021)	(0.024)	(0.020)
Centrist	0.039**	0.029	−0.005	−0.063***
	(0.019)	(0.018)	(0.019)	(0.015)
Right	0.158***	−0.087*	−0.051	−0.020
	(0.035)	(0.045)	(0.042)	(0.026)
Narrative A	0.019	−0.007	−0.018	0.007
	(0.021)	(0.020)	(0.021)	(0.016)
Narrative B	−0.039*	0.013	0.000	0.025*
	(0.021)	(0.019)	(0.021)	(0.015)
Observations	3179	3179	3179	3179

Note: Table presents average marginal effects of a multinomial logit regression. Dependent variable refers to respondents' answer to the question "How should the government deal with public deficit?" Explanatory variables: Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Left is a dummy = 1 when the respondent reported preference for Left or Green party, Centrist is a dummy = 1 when the respondent reported preference for SPD, CDU/CSU or FDP, Right is a dummy = 1 when the respondent reported preference for AfD. Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

of the preferred political party. The narrative treatments do not seem to affect these opinions by much. The consolidation narrative A does not lead to a relevant and statistically significant treatment effect. The pro-investment treatment slightly decreases the preference for cutting expenditure, in line with our hypothesis, since it emphasized the need for increased public spending. Still, in this case, the respondents did not express an alternative preferred solution for the public deficit and were more likely to answer "I don't know" instead.

From this finding, we could again conclude that party preferences strongly align with budgetary priorities in expected ways, and exposing the respondents to political statements does not essentially change their views. Again, partisan bias may partially explain this finding. If the treatment weakened alignment with their preferred party, it might have increased uncertainty about the best approach to managing government deficits.

In addition, Table B5 in Appendix B presents the results of the marginal effects of the multinomial logit regressions for the Treatments A and B and the interactions of the treatments with the dummies for political preferences (left, centrist, or right-leaning). The interactions of the conservative treatment are not as strong as in Table 4 and largely statistically insignificant, but they point in a similar direction: left-wing voters turn more to conservative policy options (cut spending instead of increasing taxes or incur new debt) while the preferences of right-wing voters are reinforced. Narrative B, which is more positive about debt-financed investment, does neither make left nor right-wing voters prefer new debt in comparison to their peers in the control group. However, it incites respondents with any party preference to endorse a tax increase instead of spending cuts, especially on the left of the political spectrum. Table B6 in Appendix B shows the same regressions for the sample reduced only to the respondents who named their party preference. The results stay fairly robust.

All in all, our experiment does not confirm the hypothesis that political narratives per se have a strong influence on views about sovereign debt. However, it is apparent that the political leaning is strongly correlated with these views. Along the lines of the partisan bias theory, the self-identification with a specific party is a powerful predictor for the revealed opinions on the topic of public debt. A further explanation for this finding might be that the opinions on sovereign debt were already politicized at the time of the survey due to the election, so that the treatments did not convey any new information for the respondents. In this case, the preference for a specific party is more closely linked to opinions about public debt than our treatments.

We interpret these findings as a conjunction of the narratives economics theory (Shiller 2017) and the partisan bias literature. Self-identification with a political party could serve as a narrative anchor. As the partisan bias research shows, partisan identity comes with a set of pre-established meta-narratives that provide a stable framework for interpreting new information. This also resonates with Shiller's idea that narratives are especially potent when they resonate with preexisting values. Individuals interpret or accept narratives that align with their beliefs and resist those that contradict them. If people strongly identify with a political group, they are likely to be skeptical of narratives presented by or perceived as beneficial to opposing groups. Thus, party preference can serve as a "filter" to accepted narratives. However, if narratives trigger fundamental emotionally charged values, they can become more powerful. This is reflected in the so-called concept of "narrative contagion" where the most emotionally engaging stories are the most convincing (Shiller 2017). Against this background, the potential asymmetrical effect of the conservative narrative is particularly interesting. The consolidation narrative may have crossed ideological boundaries because it taps into very deep ethical values when framed as "intergenerational justice". Left-leaning voters, who might otherwise support additional deficit spending, may feel compelled by the moral framing to reevaluate their stance.

4 | Conclusion

This paper investigates whether political narratives influence people's preferences for public finances. It employs data from a new representative survey and a survey experiment that shed some light on the attitudes of laypersons towards public deficit and debt. We treat two randomly selected subsamples of survey participants with political statements taken from the CDU and the Green party election programs. We do not identify a general effect of these treatments on the public opinion of sovereign debt. To the contrary, our data reveal that self-declared political party preferences strongly align with opinions on public debt and deficit in expected ways. Moreover, people with a party preference are less likely to have no opinion or idea about the best way to handle public deficits. Therefore, we conclude that the attitudes of the participants align strongly with the preferred party's views, which confirms the notion of a significant partisan bias in matters of public finance. This seems plausible also because the survey was conducted in the weeks after the general election in Germany in the year 2021, and opinions could have been already highly politicized.

Even though the treatments do not shift opinions on average, the estimated interaction patterns point to possible differences in how partisan groups respond to political narratives. In particular, the pro-consolidation narrative is associated with an increase in debt concerns among left-leaning voters, whereas the pro-investment narrative does not show a similar pattern for other groups. One possible interpretation is that framing fiscal consolidation in terms of intergenerational justice may have resonated beyond its traditional ideological base by appealing to broadly shared ethical considerations. However, since the joint tests of heterogeneous treatment effects are not statistically significant, these differences should be interpreted with caution as indicative rather than conclusive evidence of partisan asymmetries in response to political narratives.

To conclude, our results nuance the narrative economics theory and provide novel evidence for the partisan bias literature. Our findings may have implications for policy making. In increasingly polarized political landscapes, "narrative filters" may have become more rigid, making it more challenging to engage individuals across ideological divides. Under these conditions, communication strategies that appeal to widely shared values may be more likely to reach beyond established partisan boundaries.

This possibility could be examined more closely in further empirical work.

Author Contributions

Ekaterina Jürgens: project administration, conceptualization – experiment design, investigation, formal analysis, writing – original draft, writing – review and editing. **Sebastian Gechert:** supervision, conceptualization – survey design, writing – original draft, writing – review and editing.

Acknowledgements

Open Access funding enabled and organized by Projekt DEAL.

Endnotes

[1] As a robustness check, we also estimate an ordered logistic regression model, where the probability of a particular outcome for the dependent variable is specified as:

$$\Pr\left(\text{Opinion Debt}_i = j\right) = Pr\left(\alpha_{j-1} < \text{Opinion Debt}_i^* < \alpha_j\right) = F\left(\alpha_j - x_i'\beta\right) - F\left(\alpha_{j-1} - x_i'\beta\right),$$

where F is the logistic cdf $F = e^z / (1 + e^z)$.

[2] We use three standard test questions on interest rate compounding, real interest rates, and portfolio diversification (Lusardi and Mitchell 2014) and sum up correct (+1) and incorrect (0) answers.

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Appendix A

A Descriptive Statistics and Balance Tests

TABLE A1 | Descriptive statistics of dependent variable by party preference, control group.

Party preference	*N*	Mean	SD	Mean diff. vs. no party pref.	SE	*t*	*p*
No preference	956	3.797	0.999	—	—	—	—
Left Party	104	3.529	1.004	−0.268	0.106	−2.53	0.240
SPD	284	3.627	1.067	−0.170	0.069	−2.46	0.297
Green Party	195	3.169	1.044	−0.628	0.081	−7.79	0.000***
CDU/CSU	250	3.760	1.025	−0.037	0.073	−0.51	1.000
FDP	145	3.717	1.091	−0.080	0.091	−0.87	1.000
AfD	100	4.160	1.051	0.363	0.108	3.36	0.016**
Total	2034	3.707	1.046	—	—	—	—

Note: Statistical significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE A2 | Effect of party preference on preferences for public debt, control group.

	Opinion on public debt
Age	0.004**
	(0.002)
Gender (male)	−0.055
	(0.047)
Education	−0.104***
	(0.029)
Children	0.111**
	(0.054)
Financial literacy	−0.067***
	(0.026)
Trust in government	−0.075***
	(0.015)
Concern economy	0.365***
	(0.036)
Left Party	−0.192*
	(0.103)
SPD	−0.042
	(0.071)
Green Party	−0.438***
	(0.081)
CDU/CSU	0.078
	(0.074)
FDP	0.003
	(0.090)
AfD	0.189*
	(0.107)
Observations	1926
R-squared	0.139

Note: Table presents results of OLS regression. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns), and Party, which captures preference for one of the main political parties in Germany (1 = no preference, 2 = Left Party, 3 = SPD, 4 = Green Party, 6 = CDU/CSU, 6 = FDP, 7 = AfD). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

Balance Tests

TABLE A3 | Balance tests for treatment (Narrative A) vs. control group.

	Control	Treated	*t*-statistic	*p*	*N*
Male	0.508	0.511	−0.114	0.909	2581
Age	47.720	47.886	−0.237	0.813	2581
Education					
No graduation (yet)	0.032	0.017	1.899	0.058*	2581
Lower secondary school	0.121	0.108	0.914	0.361	2581
Secondary school	0.346	0.354	−0.395	0.693	2581
Upper secondary school	0.489	0.506	−0.736	0.462	2581
Party preference					
Die Linke	0.052	0.035	1.744	0.081*	2581
SPD	0.140	0.160	−1.258	0.209	2581
B90/Die Grünen	0.098	0.108	−0.698	0.486	2581
CDU/CSU	0.125	0.133	−0.506	0.613	2581
FDP	0.072	0.065	0.595	0.552	2581
AfD	0.050	0.051	−0.087	0.931	2581
Other or no preference	0.464	0.449	0.634	0.526	2581
Children	0.260	0.252	0.401	0.688	2581
Financial literacy	2.226	2.214	0.287	0.774	2581
Trust in government	3.588	3.650	−0.812	0.417	2581
Concern economy	2.068	2.043	0.865	0.387	2581

Note: Table presents results of *t*-tests. Statistical significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE A4 | Balance tests for treatment (Narrative B) versus control group.

	Control	Treated	*t*-statistic	*p*	*N*
Male	0.508	0.500	0.371	0.711	2587
Age	47.720	47.708	0.016	0.987	2587
Education					
No graduation (yet)	0.032	0.020	1.494	0.135	2587
Lower secondary school	0.121	0.107	0.987	0.324	2587
Secondary school	0.346	0.345	0.046	0.693	2587
Upper secondary school	0.489	0.516	−1.148	0.251	2587
Party preference					
Die Linke	0.052	0.042	0.960	0.337	2587
SPD	0.140	0.139	0.004	0.997	2587
B90/Die Grünen	0.098	0.108	−0.740	0.459	2587
CDU/CSU	0.125	0.133	−0.529	0.597	2587
FDP	0.072	0.067	0.379	0.705	2587
AfD	0.050	0.067	−1.709	0.088*	2587
Other or no preference	0.464	0.442	0.960	0.337	2587
Children	0.260	0.279	−0.963	0.336	2587
Financial literacy	2.226	2.221	0.113	0.910	2587
Trust in government	3.588	3.699	−1.428	0.154	2587
Concern economy	2.068	2.061	0.228	0.820	2587

Note: Table presents results of *t*-tests. Statistical significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

Appendix B

Robustness Tests

TABLE B1 | Effect of treatments on opinions on public debt, Ordered Logit Model.

	Narrative A: Consolidation		Narrative B: Investment	
	(1)	(2)	(3)	(4)
Narrative A	0.031	0.046		
	(0.081)	(0.085)		
Narrative B			0.013	0.049
			(0.082)	(0.085)
Age		0.009***		0.009***
		(0.003)		(0.003)
Gender (male)		−0.069		0.022
		(0.075)		(0.075)
Children		0.196**		0.250***
		(0.088)		(0.086)
Education		−0.181***		−0.185***
		(0.048)		(0.048)
Financial literacy		−0.104**		−0.128***
		(0.042)		(0.042)
Trust in government		−0.177***		−0.146***
		(0.023)		(0.023)
Concern economy		0.720***		0.788***
		(0.062)		(0.062)
Observations	2693	2549	2693	2556
LR chi^2	0.15	315.68	0.02	330.49
*p*e	0.702	0.000	0.877	0.000
Pseudo *R*-squared	0.000	0.045	0.000	0.047

Note: Table presents results of logit regressions. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE B2 | Effect of treatments on opinions on public debt, with partisanship, Ordered Logit Model.

	Narrative A: Consolidation		Narrative B: Investment	
	(1)	(2)	(3)	(4)
Narrative A	0.031	−0.064		
	(0.085)	(0.13)		
Narrative B			0.027	−0.044
			(0.085)	(0.126)
Left	−0.523***	−0.654***	−0.668***	−0.670***
	(0.111)	(0.125)	(0.110)	(0.125)
Centrist	0.043	0.044	0.050	0.006
	(0.087)	(0.099)	(0.088)	(0.099)
Right	0.619***	0.588***	0.664***	0.624***
	(0.183)	(0.212)	(0.179)	(0.212)
Left × Narrative A		0.593**		
		(0.258)		
Centrist × Narrative A		0.009		
		(0.191)		
Right × Narrative A		0.128		
		(0.410)		
Left × Narrative B				0.009
				(0.251)
Centrist × Narrative B				0.179
				(0.193)
Right × Narrative B				0.152
				(0.385)
Age	0.009***	0.009***	0.009***	0.009***
	(0.003)	(0.003)	(0.003)	(0.003)
Gender (male)	−0.109	−0.113	−0.030	−0.028
	(0.076)	(0.076)	(0.076)	(0.076)
Children	0.158*	0.158*	0.203**	0.202**
	(0.088)	(0.088)	(0.087)	(0.087)
Education	−0.162***	−0.162***	−0.158***	−0.158***
	(0.048)	(0.048)	(0.048)	(0.048)
Financial literacy	−0.087**	−0.087**	−0.109***	−0.110***
	(0.042)	(0.043)	(0.042)	(0.042)
Trust in government	−0.151***	−0.152***	−0.116***	−0.116***
	(0.025)	(0.025)	(0.025)	(0.025)
Concern economy	0.715***	0.716***	0.779***	0.777***
	(0.062)	(0.062)	(0.062)	(0.063)
Observations	2549	2549	2556	2556
LR chi2	357.15	362.97	392.88	393.88
p	0.000	0.000	0.000	0.000
Pseudo *R*-squared	0.050	0.051	0.055	0.055

Note: Table presents results of logit regressions. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Left is a dummy = 1 when the respondent reported preference for Left or Green party, Centrist is a dummy = 1 when the respondent reported preference for SPD, CDU/CSU or FDP, Right is a dummy = 1 when the respondent reported preference for AfD. Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE B3 | Effect of treatments on opinions on public debt, interactions with party dummies.

	Narrative A: Consolidation	Narrative B: Investment
	(1)	(2)
Narrative A	−0.029	
	(0.068)	
Narrative B		−0.034
		(0.068)
Left Party	−0.198*	−0.199*
	(0.104)	(0.103)
SPD	−0.048	−0.065
	(0.071)	(0.070)
Green Party	−0.448***	−0.458***
	(0.081)	(0.080)
CDU/CSU	0.075	0.050
	(0.074)	(0.073)
FDP	0.007	−0.008
	(0.091)	(0.090)
AfD	0.195*	0.213**
	(0.107)	(0.107)
Left Party × Narrative A	0.257	
	(0.241)	
SPD × Narrative A	−0.025	
	(0.133)	
Green Party × Narrative A	0.336**	
	(0.155)	
CDU/CSU × Narrative A	0.017	
	(0.143)	
FDP × Narrative A	0.112	
	(0.188)	
AfD × Narrative A	0.192	
	(0.212)	
Left Party × Narrative B		−0.463**
		(0.223)
SPD × Narrative B		−0.021
		(0.138)
Green Party × Narrative B		0.189
		(0.154)
CDU/CSU × Narrative B		0.202
		(0.141)
FDP × Narrative B		0.214
		(0.184)
AfD × Narrative B		0.111
		(0.192)
Age	0.004***	0.004***
	(0.001)	(0.001)
Gender	−0.087**	−0.040
	(0.041)	(0.040)
Children	0.089*	0.112**
	(0.048)	(0.047)
Education	−0.095***	−0.093***
	(0.026)	(0.026)
Financial literacy	−0.058**	−0.068***
	(0.023)	(0.023)
Trust in government	−0.075***	−0.057***
	(0.013)	(0.013)
Concern economic situation	0.353***	0.379***
	(0.032)	(0.032)
Observations	2549	2556
R-squared	0.129	0.138

Note: Table presents results of OLS regressions. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Dummies for specific party preferences (Left party, SPD, Green party, CDU/CSU, FDP, AfD). Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE B4 | Effect of treatments on opinions on public debt, with partisanship, subsample with a party preference, "centrist" as reference group.

	Narrative A: Consolidation		Narrative B: Investment	
	(1)	(2)	(3)	(4)
Narrative A	0.073	−0.014		
	(0.063)	(0.079)		
Narrative B			0.046	0.084
			(0.063)	(0.080)
Left	−0.298***	−0.365***	−0.391***	−0.358***
	(0.064)	(0.073)	(0.064)	(0.073)
Right	0.269**	0.225*	0.273***	0.274**
	(0.106)	(0.120)	(0.103)	(0.120)
Left × Narrative A		0.273*		
		(0.146)		
Right × Narrative A		0.164		
		(0.222)		
Left × Narrative B				−0.133
				(0.144)
Right × Narrative B				−0.009
				(0.203)
Age	0.003*	0.003*	0.001	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
Gender (male)	−0.085	−0.091	−0.024	−0.022
	(0.057)	(0.057)	(0.057)	(0.057)
Children	0.081	0.083	0.088	0.088
	(0.068)	(0.068)	(0.067)	(0.067)
Education	−0.095***	−0.096***	−0.092**	−0.091**
	(0.036)	(0.036)	(0.036)	(0.036)
Financial literacy	−0.087**	−0.085**	−0.086**	−0.087***
	(0.034)	(0.034)	(0.033)	(0.034)
Trust in government	−0.054***	−0.055***	−0.034*	−0.034*
	(0.018)	(0.018)	(0.018)	(0.018)
Concern economy	0.369***	0.368***	0.370***	0.368***
	(0.046)	(0.046)	(0.046)	(0.047)
Constant	3.424***	3.455***	3.435***	3.429***
	(0.210)	(0.211)	(0.209)	(0.210)
Observations	1382	1382	1392	1392
R-squared	0.129	0.131	0.132	0.132

Note: Table presents results of OLS regressions. Dependent variable refers to respondents' agreement that 'the level of public debt in Germany is a major problem' (on a linear scale of 1 = fully disagree to 5 = fully agree). Explanatory variables: Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Left is a dummy = 1 when the respondent reported preference for Left or Green party, Centrist is a dummy = 1 when the respondent reported preference for SPD, CDU/CSU or FDP, Right is a dummy = 1 when the respondent reported preference for AfD. Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE B5 | Opinions on government deficit, interaction terms.

	(1)	(2)	(3)	(4)
	Cut spending	**Increase tax**	**New debt**	**Don't know**
Age	−0.003***	0.001**	0.001	0.001***
	(0.001)	(0.001)	(0.001)	(0.000)
Gender (male)	0.040**	0.031**	−0.021	−0.050***
	(0.017)	(0.016)	(0.017)	(0.013)
Children	−0.019	0.019	−0.027	0.028*
	(0.019)	(0.018)	(0.020)	(0.014)
Education	−0.015	−0.002	0.032***	−0.015**
	(0.011)	(0.010)	(0.011)	(0.008)
Financial literacy	−0.008	0.011	0.036***	−0.038***
	(0.009)	(0.009)	(0.010)	(0.006)
Trust in government	−0.006	0.024***	−0.009*	−0.009**
	(0.005)	(0.005)	(0.005)	(0.004)
Concern economy	0.034***	−0.006	−0.025*	−0.004
	(0.013)	(0.013)	(0.014)	(0.010)
Left	−0.131***	0.100***	0.093***	−0.061**
	(0.035)	(0.027)	(0.030)	(0.027)
Centrist	0.034	0.021	−0.002	−0.052***
	(0.024)	(0.023)	(0.025)	(0.019)
Right	0.161***	−0.112*	−0.017	−0.032
	(0.046)	(0.063)	(0.055)	(0.036)
Narrative A	−0.002	0.006	−0.009	0.005
	(0.031)	(0.030)	(0.032)	(0.021)
Narrative B	−0.024	−0.031	0.019	0.035*
	(0.031)	(0.032)	(0.032)	(0.020)
Narrative A × Left	0.067	−0.053	−0.023	0.010
	(0.068)	(0.057)	(0.062)	(0.053)
Narrative A × Centrist	0.027	−0.006	−0.012	−0.008
	(0.046)	(0.044)	(0.048)	(0.036)
Narrative A × Right	0.072	−0.096	−0.038	0.062
	(0.097)	(0.149)	(0.123)	(0.068)
Narrative B × Left	−0.053	0.099*	−0.053	0.007
	(0.078)	(0.055)	(0.064)	(0.050)
Narrative B × Centrist	−0.008	0.051	−0.002	−0.041
	(0.047)	(0.045)	(0.048)	(0.036)
Narrative B × Right	−0.054	0.145	−0.096	0.005
	(0.084)	(0.099)	(0.101)	(0.060)
Observations	3179	3179	3179	3179

Note: Table presents average marginal effects of a multinomial logit regression. Dependent variable refers to respondents' answer to the question "How should the government deal with a public deficit?" Explanatory variables: Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Left is a dummy = 1 when the respondent reported preference for Left or Green party, Centrist is a dummy = 1 when the respondent reported preference for SPD, CDU/CSU or FDP, Right is a dummy = 1 when the respondent reported preference for AfD. Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE B6 | Opinions on government deficit, interaction terms, subsample with a party preference, "centrist" as reference group.

	(1)	(2)	(3)	(4)
	Cut spending	**Increase tax**	**New debt**	**Don't know**
Age	−0.003***	0.002**	0.000	0.001**
	(0.001)	(0.001)	(0.001)	(0.001)
Gender (male)	0.029	0.049**	−0.030	−0.048***
	(0.022)	(0.022)	(0.023)	(0.015)
Children	−0.042	0.048*	−0.047*	0.041**
	(0.026)	(0.026)	(0.028)	(0.017)
Education	−0.023*	0.009	0.023	−0.009
	(0.014)	(0.014)	(0.015)	(0.009)
Financial literacy	−0.014	0.008	0.031**	−0.025***
	(0.013)	(0.013)	(0.014)	(0.008)
Trust in government	−0.004	0.026***	−0.006	−0.015***
	(0.007)	(0.007)	(0.007)	(0.005)
Concern economy	0.045**	−0.002	−0.028	−0.015
	(0.018)	(0.018)	(0.019)	(0.012)
Left	−0.164***	0.086***	0.091***	−0.013
	(0.035)	(0.030)	(0.032)	(0.022)
Right	0.135***	−0.143**	0.009	−0.001
	(0.049)	(0.069)	(0.060)	(0.031)
Narrative A	0.025	0.001	−0.022	−0.004
	(0.033)	(0.034)	(0.037)	(0.023)
Narrative B	−0.030	0.020	0.017	−0.007
	(0.034)	(0.034)	(0.036)	(0.024)
Narrative A × Left	0.042	−0.051	−0.008	0.018
	(0.067)	(0.062)	(0.065)	(0.044)
Narrative A × Right	0.049	−0.096	−0.016	0.064
	(0.098)	(0.161)	(0.129)	(0.056)
Narrative B × Left	−0.042	0.054	−0.052	0.040
	(0.077)	(0.059)	(0.066)	(0.043)
Narrative B × Right	−0.049	0.104	−0.098	0.043
	(0.084)	(0.107)	(0.105)	(0.050)
Observations	1737	1737	1737	1737

Note: Table presents average marginal effects of a multinomial logit regression. Dependent variable refers to respondents' answer to the question "How should the government deal with public deficit?" Explanatory variables: Age (in years), Gender (1 = male, 0 = other), Education (1 = lower, 2 = secondary, 3 = upper secondary), Children (1 = household with children, 0 = no children), Financial literacy (linear scale, 0 to 3 correct answers), Trust in government (linear scale, from 1 = no trust to 7 = profound trust), Concern economy (linear scale, from 1 = no concerns to 3 = big concerns). Left is a dummy = 1 when the respondent reported preference for Left or Green party, Centrist is a dummy = 1 when the respondent reported preference for SPD, CDU/CSU or FDP, Right is a dummy = 1 when the respondent reported preference for AfD. Narrative A is a dummy = 1 when the respondent is exposed to the pro-consolidation narrative. Narrative B is a dummy = 1 when the respondent is exposed to the pro-investment narrative. Standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

Appendix C

Survey Questions

This section provides the English translation of the survey questions we use to construct the variables for our empirical analysis. We list the original survey numbers of the questions. The full questionnaire can be found at https://www.boeckler.de/pdf/p_2021_fragebogen_staatsverschuldung_imk.pdf.

A2. Age

How old are you?

__Age in years

A3. Gender

What is your gender?

[] Male

[] Female

[] Other

E1. Opinion on public debt

To what extent do you agree with the following statement: "The level of public debt in Germany is a major problem"?

[] Fully agree

[] Tend to agree

[] Undecided

[] Tend to disagree

[] Fully disagree

[] No answer

E5. Opinion on public deficit [randomized sequence of answers]

Suppose there is a deficit in the government budget (i.e., revenues are lower than expenditures). How should the Federal Government deal with this deficit?

Please choose the answer that suits best.

[] Cut spending (e.g., on social security, health care, education, infrastructure, security)

[] Raise taxes (e.g., income taxes, value added taxes, business taxes)

[] Borrow money

[] Don't know

H1. Level of education

What is your highest level of education?

[] Still in school

[] Lower secondary education (*Hauptschulabschluss*)

[] Intermediate secondary education (*Realschulabschluss*)

[] Upper secondary education (*Abitur/Allgemeine Hochschulreife*)

[] Other education

[] No graduation

[] No answer

H5. Household size

How many people permanently live in your household (including yourself)? Please also consider all children

[] People above age 18:__Number

[] People from above age 14 to below age 18:__Number

[] People below age 14:__Number

[] No answer

I2. Party preference—general

Many people in Germany lean towards one party over a longer time span, even if they occasionally vote for another party. What about you? Do you lean towards a particular party in Germany?

[] Yes

[] No

I3. Party preference—specific party [randomized sequence of nswers]

Which party do you lean towards?

[] SPD

[] CDU

[] CSU

[] FDP

[] B90/Die Grünen

[] Die Linke

[] AfD

[] Other

[] No answer

I4. Trust in government

How much do you trust the following public institution or organization?

a. The Federal Government

[] 1 = No trust at all

[] 2–6

[] 7 = Very high level of trust

[] No answer

J5. Concerns

How concerned are you about the following issues?

b. The economy in general

[] Very concerned

[] Somewhat concerned

[] Not concerned at all

K1. Financial literacy—interest effect.

Let us assume you have a balance of € 100 in your savings account. This balance bears interest at an annual rate of 2%, and you leave it there for 5 years. What do you think: How high is your balance after 5 years?

[] Higher than € 102

[] Exactly € 102

[] Lower than € 102

[] Don't know

K2. Financial literacy—inflation

Let us assume that the interest paid on your savings account is 1% per year and consumer prices increase by 2% per year. What do you think: After a year, will you be able to buy just as much, more, or less than today with the balance in your savings account?

[] More than today

[] Just as much as today

[] Less than today

[] Don't know

K3. Financial literacy—diversification

Do you agree with the following statement: "The investment in the stock of a single company is riskier than investing in a fund with stock in similar companies"?

[] I agree

[] I do not agree

[] Don't know