

News and views on public finances: a survey experiment

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Motivation

Public debt and fiscal rules

- Public debt and fiscal rules are intensively discussed topics in macroeconomics
- EU has been engaged in an ongoing debate on how to recalibrate its fiscal rules
- Budget crisis triggered by “debt brake” ruling of the German Constitutional Court

Beliefs about public finances

- Public has only a limited understanding of macro variables (e.g. Haldane et al. 2020)
- Roth et al. (2020) show for the US that people underestimate the level of public debt
- Information about misconception leads to lower debt tolerance and support for spending
- Downward-biased beliefs are a contributing factor to excessive public debt levels (?)

What we do

In this paper we ask ...

- how information on public finances affects opinions on public debt and fiscal rules
- whether individuals' estimates of public debt figures are in line with underlying facts
- how voters assess the level of public debt and the current debt brake

Our approach

- Our study is based on a representative online survey of the German population in 2021
- We elicit respondents' beliefs about the debt-to-GDP and interest-to-revenue ratio
- We provide a random subset of respondents with information about ...
 - the development of the debt-to-GDP ratio (plus own prior belief)
 - the development of the interest-to-revenue ratio (plus own prior belief)

What we find

Stylized facts

- People underestimate/overestimate the debt-to-GDP ratio/interest-to-revenue ratio
- The majority of respondents consider the level of public debt to be a major problem
- The majority of respondents favor either the current or a stricter debt brake

Causal effect of information

- We find strong effects of information treatments on attitudes towards public debt
 - Information about debt-to-GDP ratio → public debt more severe problem
 - Information about interest-to-revenue ratio → public debt less severe problem
- Treatment effects partly vanish when beliefs are anchored with historical debt figures
- We find no effects of information treatments on attitudes towards the debt brake

Our survey

Survey setup

- Representative online survey of the German population (aged 18 to 75)
 - The survey was conducted in September/October 2021 (4,500 participants)
 - The survey is based on a quota sample (age, gender, federal state, income)
- Questions related to public finances:
 - Attitudes towards the level of public debt in Germany
 - Knowledge about the current constitutional debt brake
 - Attitudes towards the design of the debt brake
- Other questions:
 - Socio-demographic characteristics (e.g. education) and financial literacy
 - Risk and time preferences, expectations and political party affiliation

Summary statistics

Table: Opinions and knowledge about public finances

	Mean	SD	N
<i>Public debt is a major problem</i>			
Fully disagree	0.02	0.15	1,781
Tend to disagree	0.14	0.34	1,781
Undecided	0.20	0.40	1,781
Tend to agree	0.41	0.49	1,781
Fully agree	0.23	0.42	1,781
Knowledge debt brake	0.57	0.49	1,849
<i>Debt brake preferences</i>			
Zero debt	0.22	0.41	1,662
Zero deficit	0.14	0.35	1,662
No change	0.37	0.48	1,662
Golden rule	0.25	0.43	1,662
No limit	0.02	0.15	1,662

Notes: The table presents summary statistics of variables related to opinions and knowledge about public finances for the control group. We use population-based probability weights for age, gender, federal state and income.

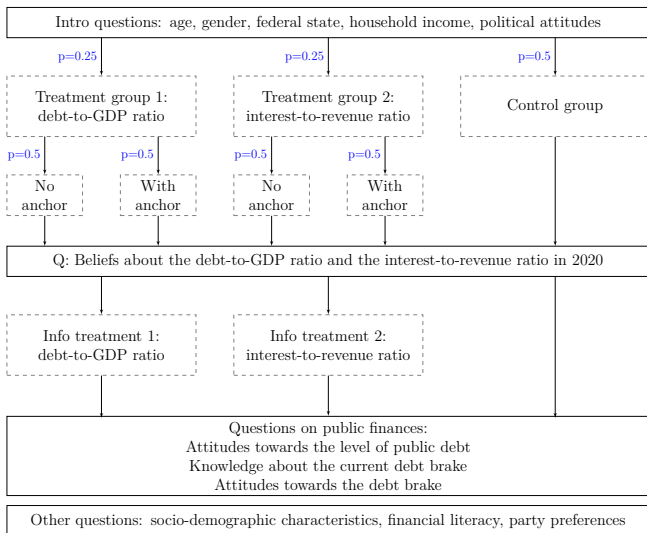
Correlation analysis

Table: Opinions and knowledge about public finances

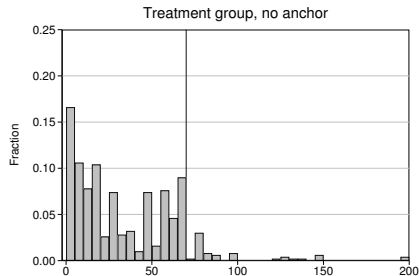
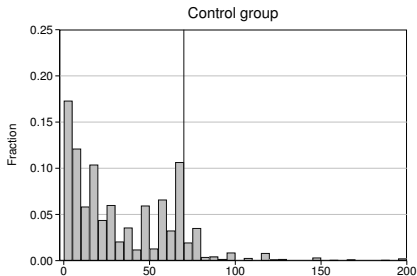
	Public debt	Knowledge	Debt brake preferences				
	problem (1)	debt brake (2)	Zero debt (3)	Zero deficit (4)	No change (5)	Golden rule (6)	No limit (7)
Education	-0.169*** (0.045)	0.040** (0.020)	-0.030 (0.019)	-0.046*** (0.015)	0.051** (0.022)	0.021 (0.019)	0.004 (0.006)
Financial literacy	-0.078** (0.034)	0.079*** (0.015)	-0.010 (0.015)	-0.027** (0.011)	0.018 (0.017)	0.023 (0.016)	-0.004 (0.005)
Die Linke	-0.254* (0.141)	0.041 (0.064)	-0.101** (0.045)	-0.075* (0.041)	0.012 (0.065)	0.170*** (0.063)	-0.007 (0.018)
SPD	-0.295*** (0.090)	0.051 (0.042)	-0.078** (0.035)	-0.051* (0.031)	0.090** (0.044)	0.028 (0.039)	0.011 (0.016)
B90/Die Grünen	-0.594*** (0.104)	0.127*** (0.045)	-0.089** (0.038)	-0.095*** (0.030)	0.070 (0.052)	0.124** (0.049)	-0.009 (0.016)
CDU/CSU	-0.074 (0.089)	0.037 (0.043)	0.020 (0.040)	-0.068** (0.031)	0.059 (0.043)	0.011 (0.039)	-0.022** (0.010)
FDP	-0.127 (0.138)	0.055 (0.054)	0.023 (0.053)	-0.053 (0.039)	0.081 (0.059)	-0.021 (0.048)	-0.030*** (0.008)
AfD	0.246* (0.146)	-0.024 (0.065)	0.138** (0.063)	0.038 (0.056)	-0.149*** (0.055)	0.003 (0.055)	-0.030*** (0.008)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1450	1488	1368	1368	1368	1368	1368
Adj./Pseudo R-sq.	0.067	0.040	0.055	0.055	0.055	0.055	0.055

Notes: The table presents estimation results of OLS (1), logit (2) and multinomial logit (3)-(7) regressions for the control group. We use population-based probability weights for age, gender, federal state and income. Robust standard errors are in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Survey experiment

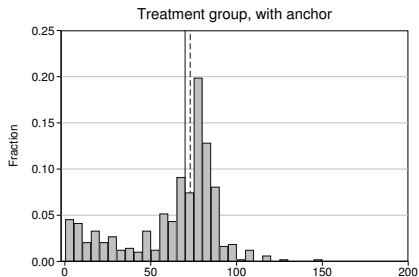
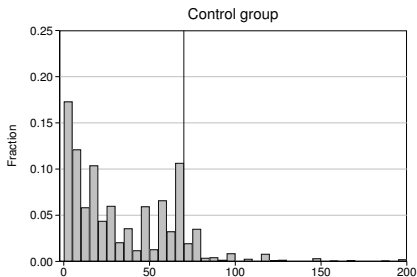


Beliefs about the debt-to-GDP ratio



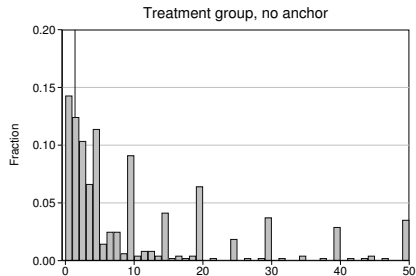
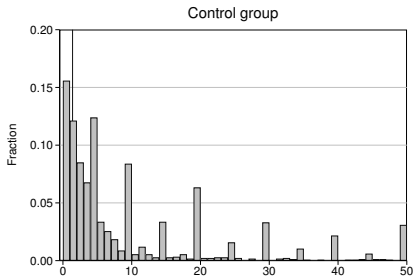
Notes: The figure shows histograms of respondents' estimates of the German debt-to-GDP ratio in 2020 for the control group and the information treatment group without the anchor. The vertical line represents the actual value in 2020.

Beliefs about the debt-to-GDP ratio



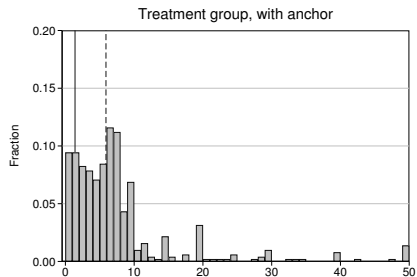
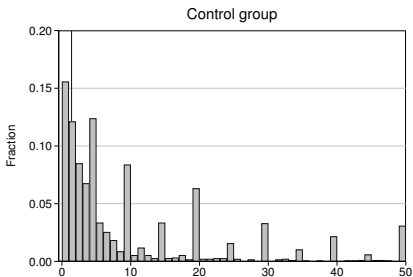
Notes: The figure shows histograms of respondents' estimates of the German debt-to-GDP ratio in 2020 for the control group and the information treatment group with the anchor. The vertical line represents the actual value in 2020 and the dashed line the anchor value in 2009.

Beliefs about the interest-to-revenue ratio



Notes: The figure shows histograms of respondents' estimates of the German interest-to-revenue ratio in 2020 for the control group and the information treatment group without the anchor. The vertical line represents the actual value in 2020.

Beliefs about the interest-to-revenue ratio



Notes: The figure shows histograms of respondents' estimates of the German interest-to-revenue ratio in 2020 for the control group and the information treatment group with the anchor. The vertical line represents the actual value in 2020 and the dashed line the anchor value in 2009.

Effect of information treatments

Table: Attitudes towards public debt

Treatment:	Debt-to-GDP ratio		Interest-to-revenue ratio	
	(1)	(2)	(3)	(4)
Info	0.187*** (0.055)	0.204*** (0.058)	-0.228*** (0.060)	-0.218*** (0.063)
Info plus anchor	0.034 (0.057)	-0.043 (0.063)	-0.190*** (0.058)	-0.201*** (0.064)
FE		0.001** (0.001)		0.006*** (0.002)
Controls	No	Yes	No	Yes
Observations	2733	2254	2745	2239
Adj. R-squared	0.004	0.073	0.008	0.083
F-statistic	5.795	9.354	10.547	10.167

Notes: The table presents estimation results of OLS regressions. The dependent variable refers to respondents' agreement with the statement that "public debt is a major problem" (1=fully disagree to 5=fully agree). We use population-based probability weights for age, gender, federal state and income. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Effect of information treatments

Table: Attitudes towards the debt brake

	Debt brake preferences				
	Zero debt (1)	Zero deficit (2)	No change (3)	Golden rule (4)	No limit (5)
Info	0.029 (0.027)	-0.014 (0.021)	0.014 (0.029)	-0.032 (0.024)	0.004 (0.009)
Info plus anchor	-0.019 (0.029)	0.024 (0.024)	0.020 (0.031)	-0.027 (0.026)	0.002 (0.012)
FE debt ratio	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	2134	2134	2134	2134	2134
Pseudo R-squared	0.050	0.050	0.050	0.050	0.050
Chi-squared	6273.945	6273.945	6273.945	6273.945	6273.945

Notes: The table presents average marginal effects of multinomial logit regressions for the debt-to-GDP ratio information treatment. The dependent variable refers to the question of which fiscal rule respondents would prefer. We use population-based probability weights for age, gender, federal state and income. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Effect of information treatments

Table: Attitudes towards the debt brake

	Debt brake preferences				
	Zero debt (1)	Zero deficit (2)	No change (3)	Golden rule (4)	No limit (5)
Info	-0.044* (0.025)	-0.014 (0.021)	0.051* (0.031)	0.004 (0.026)	0.002 (0.009)
Info plus anchor	0.002 (0.026)	0.005 (0.021)	0.006 (0.030)	-0.011 (0.025)	-0.002 (0.008)
FE interest ratio	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	-0.002 (0.001)	0.000 (0.000)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	2113	2113	2113	2113	2113
Pseudo R-squared	0.047	0.047	0.047	0.047	0.047
Chi-squared	6785.915	6785.915	6785.915	6785.915	6785.915

Notes: The table presents average marginal effects of multinomial logit regressions for the interest ratio information treatment. The dependent variable refers to the question of which fiscal rule respondents would prefer. We use population-based probability weights for age, gender, federal state and income. Robust standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Summary

Opinions and knowledge

- People underestimate/overestimate the debt-to-GDP ratio/interest-to-revenue ratio
- The majority of respondents consider the level of public debt to be a major problem
- The majority of respondents favor either the current or a stricter debt brake
- Opinions correlate with socio-demographic characteristics and party preferences

Causal effect of information

- We find strong effects of information treatments on attitudes towards public debt
- Treatment effects partly vanish when beliefs are anchored with historical debt figures
- We find no effects of information treatments on attitudes towards the debt brake

Thank you very much for your attention!

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Appendix

Survey questions

Estimate of the debt-to-GDP ratio

D1: We will now ask you a question about the public debt ratio in Germany. The public debt ratio is the ratio of a country's public debt to its gross domestic product. The gross domestic product is the market value of all final goods and services produced by a country within one year. [Anchor:] In 2009, the public debt ratio in Germany was 73 percent. This means that the debt level was about as large as three quarters of the annual economic output. (Source: AMECO database of the European Commission)

What do you think was the public debt ratio in Germany in 2020?

Please enter a value in the input field (values may have decimal places).

_____ Percent

Survey

Experiment

Survey questions

Estimate of the interest-to-revenue ratio

D2: We will now ask you a question about the interest burden on the German public budget. The interest ratio is the ratio of the government's annual interest expenditure to its revenue. The government's revenues consist primarily of taxes and duties. [Anchor:] In 2009, the interest ratio in Germany was 5.9 percent. This means that, for every 100 euros of revenue, the government had to spend 5.90 euros on interest payments. (Source: AMECO database of the European Commission)

What do you think was the interest ratio in Germany in 2020?

Please enter a value in the input field (values may have decimal places).

_____ Percent

Survey

Experiment

Survey questions

Debt ratio information treatment

T1: In 2020, the public debt ratio in Germany was 70 percent. This means that the level was about as large as two-thirds of annual economic output. The following chart shows the debt ratio in Germany over time.

As a reminder: You estimated the public debt ratio in 2020 at [own estimate] percent.

Interest ratio information treatment

T2: In 2020, the interest ratio in Germany was about 1.4 percent. This means that out of every 100 euros of revenue, the state had to spend 1.40 euros on interest payments. The following chart shows the interest ratio in Germany over time.

As a reminder: You estimated the interest ratio in 2020 at [own estimate] percent.

Survey

Experiment

Survey questions

Opinion on public debt

E1: 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

Survey

Experiment

Survey questions

Knowledge about the debt brake

- E2:** Since 2009, the so-called debt brake has been included in the German Constitution, which regulates the federal government's borrowing. What is meant by the debt brake in Germany?
- A provision that does not allow the government to incur debt
 - A provision that allows the government to incur debt in very limited amounts relative to economic output
 - A provision that allows the government to incur debt at the amount of public investment
 - Don't know

Survey

Experiment

Survey questions

Attitude towards the debt brake

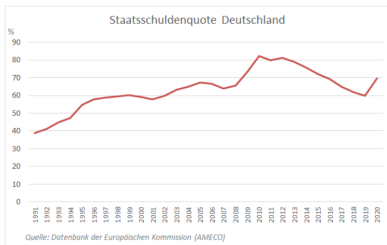
E3: The debt brake in Germany is a regulation that allows the government to take on debt to a limited extent (0.35 percent of annual economic output with exceptions for crisis situations). What is your opinion on the debt brake?

- The debt brake should oblige the government to reduce its debt completely and quickly
- The debt brake should not allow the government to take on new debt
- The debt brake should remain as it is
- The debt brake should allow the government to take on debt to the extent of public investment
- The government should be allowed to take on new debt without limit
- No answer

Information treatments

Im Jahr 2020 lag die Staatsschuldenquote in Deutschland bei 70 Prozent. Das bedeutet, dass der Schuldenstand ungefähr so hoch war wie zwei Drittel der jährlichen Wirtschaftsleistung. Die folgende Grafik zeigt die Staatsschuldenquote in Deutschland im Zeitverlauf.

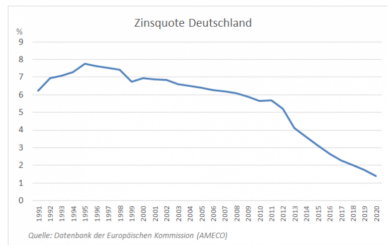
Zur Erinnerung: Sie hatten die Staatsschuldenquote für 2020 auf 0 Prozent geschätzt.



Continue

Im Jahr 2020 lag die Zinsquote in Deutschland bei 1,4 Prozent. Das bedeutet, dass der Staat von 100 Euro Einnahmen 1,40 Euro für Zinszahlungen ausgeben musste. Die folgende Grafik zeigt die Zinsquote in Deutschland im Zeitverlauf.

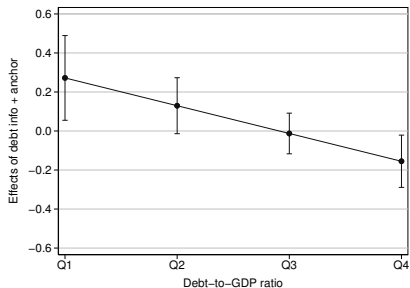
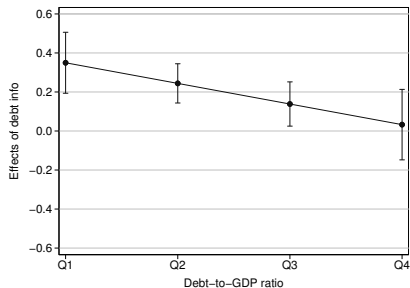
Zur Erinnerung: Sie hatten die Zinsquote für 2020 auf 0 Prozent geschätzt.



Continue

Notes: The figure presents the screens shown to respondents in the debt ratio and interest ratio treatment groups.

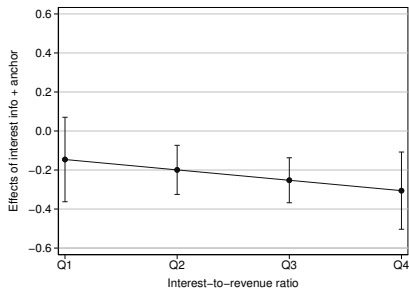
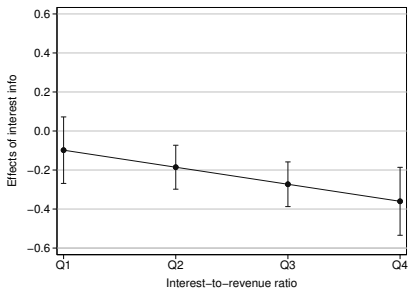
Heterogeneous effects by prior beliefs



Notes: The figure shows treatment effects on respondents' attitudes towards public debt by prior estimates of the debt-to-GDP ratio. The figure displays point estimates of the treatment effects with 90 confidence intervals. For the debt-to-GDP ratio, the quartile values are 10, 30 and 66 percent.

Causal effect

Heterogeneous effects by prior beliefs



Notes: The figure shows treatment effects on respondents' attitudes towards public debt by prior estimates of the interest-to-revenue ratio. The figure displays point estimates of the treatment effects with 90 confidence intervals. For the interest-to-revenue ratio, the quartile values are 2, 5 and 12.5 percent.

Causal effect