

Supplementary Material: Inflation, Blame Attribution, and the 2022 US Congressional Elections

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A Appendix A: District Level

Empirical strategy

Our main model specification is the following:

$$\Delta Y_i = \alpha + \gamma_s + \delta_p + \beta_1 \Delta Inflation_i + \beta_2 X_i + \epsilon_i, \quad (1)$$

where ΔY_i is the change in vote share for the House Democratic candidate between the 2018 and 2022 and the previous midterm elections in district i . Data come from Dave Leip’s Atlas of the 2022 and 2018 US Congressional Elections.¹

$\Delta Inflation_i$ is the first difference of the inflation rate measured by the average gas prices and the average cost of rent for district i in 2022 and 2019.²

X_i is a matrix of standard controls: Unemployment (level and growth), age, race/ethnicity, education, and share of foreign-born citizens. Unemployment data come from the US Bureau of Labor Statistics, and data for the other controls come from the 2020 US census. All of these variables are measured in *levels* except for the change in the unemployment rate between 2022 and 2019.

State fixed effects γ_s net out time-invariant differences across states, and δ_p are population-decile fixed effects, which net out differences between rural and urban areas.³ We run ordinary least squares (OLS) regressions with robust standard errors clustered at the state level.

Results

Table A.1 reports all the models, which include controls and population decile fixed effects. In all models, the coefficient of both measures of inflation is negative, though it is never significant.

¹Data are available at <https://uselectionatlas.org/>. Since presidential elections tend to be more salient than midterm elections, which affects political mobilization, we rely on first differences with respect to the 2018 elections in our main model specifications. To match district-level election outcomes with our county-level covariates we rely on the crosswalk developed by Dorn et al. (2020).

²Gas prices come from the American Automobile Association (<https://gasprices.aaa.com/>). We collected data in October 2022 and we benchmark these prices with gas prices from January 2019 (the first available). Rent information comes from the Department of Housing and Urban Development (HUD) (<https://www.huduser.gov/portal/datasets/50per.html>). The HUD reports 50th percentile rents for all Fair Market Rent areas for zero-, one-, two-, three-, and four-bedroom units, which are averaged to create a general rent measure for each area. HUD reports these at the county level, and provides annual data since FY2001. We compare the most current data from FY2022 with the data from FY2019 (the first available).

³State fixed effects are particularly important for the controls, which are included as levels.

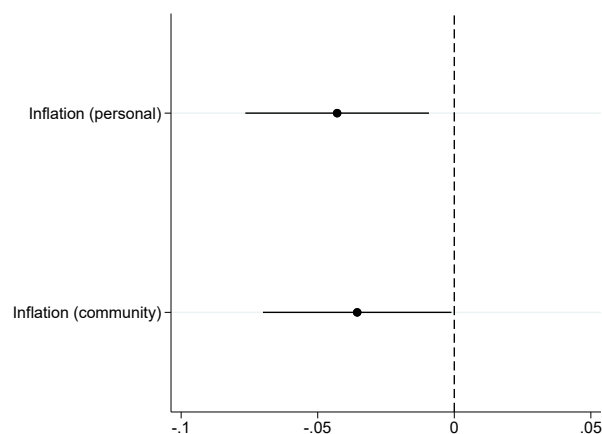
Table A.1: District-level Analysis

	(1)	(2)	(3)	(4)
	OLS			
	Change of Vote for the Democratic Party (2022-2018)			
Gas	-0.0440 (0.059)		-0.0390 (0.056)	-0.02655 (0.056)
Rent		-0.0001** (0.000)	-0.0001* (0.000)	-0.00001 (0.000)
Constant	0.0102 (0.099)	-0.0490*** (0.006)	0.0138 (0.095)	-0.12960 (0.108)
Controls	No	No	No	Yes
State fixed effects	Yes	Yes	Yes	Yes
Pop decile fixed effects	No	No	No	Yes
Observations	405	408	405	405
R-squared	0.128	0.130	0.131	0.172
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1				

Note: The sample is reported in the row “Observations.” Outcome: Change of vote for House Democrats (2022–2018).

B Appendix B: Individual Level

Figure B.1: Probability of Voting for the House Democratic Candidate (voting intention)



Note: Sample: 1,712 respondents. Outcome: “If an election for US Congress were being held today, who would you vote for in the district where you live?” (1 = Democratic candidate, 0 = Republican can). Table [B.1](#) (Model 1) reports the full results including controls. 95% C.I.

Table B.1: Individual-level Analysis

	(1)	(2)
	OLS	
	Pr(Voting House Democratic Candidate=1)	
Rent		0.028*
		(0.014)
Commuting		0.000
		(0.014)
Inflation (personal)	-0.049***	-0.050***
	(0.016)	(0.016)
Inflation (community)	-0.036**	-0.036**
	(0.016)	(0.016)
Education	-0.005	-0.003
	(0.004)	(0.004)
Employment	0.004	0.003
	(0.003)	(0.003)
Gender	0.021	0.020
	(0.014)	(0.014)
Income	0.000	0.000
	(0.000)	(0.000)
Democrat ID	0.551***	0.551***
	(0.029)	(0.029)
Independent ID	0.280***	0.279***
	(0.023)	(0.023)
Something else ID	0.329***	0.323***
	(0.091)	(0.091)
Biden's approval	-0.343***	-0.341***
	(0.029)	(0.029)
Financial situation	0.012**	0.013**
	(0.006)	(0.006)
Unemployment (national)	0.013**	0.013**
	(0.006)	(0.006)
Against abortion	-0.067***	-0.066***
	(0.009)	(0.009)
Constant	0.660***	0.636***
	(0.094)	(0.098)
County fixed effects	Yes	Yes
Observations	1,712	1,712
R-squared	0.771	0.772
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1		

Note: The sample is reported in the row “Observations.” Outcome: Intention of voting for the Democrat in the 2022 congressional elections. Main independent variables are objective and subjective measures of inflation. Republican ID is the baseline category.

Table B.2: Perception of inflation and partisanship

	(1)	(2)
	OLS	
	Inflation (personal)	Inflation (community)
Democratic ID	0.052 (0.054)	-0.003 (0.048)
Independent ID	-0.017 (0.040)	-0.081*** (0.030)
Education	-0.003 (0.009)	-0.013 (0.009)
Employment	-0.004 (0.007)	-0.001 (0.007)
Gender	0.133*** (0.031)	0.085*** (0.029)
Income	-0.001 (0.001)	-0.001 (0.001)
Biden's approval	0.294*** (0.048)	0.286*** (0.040)
Financial situation	0.029** (0.014)	0.016 (0.013)
Unemployment (national)	-0.015 (0.013)	-0.025** (0.011)
Against abortion	0.026 (0.017)	0.010 (0.018)
Constant	-1.884*** (0.144)	-2.340*** (0.122)
County fixed effects	Yes	Yes
Observations	1,953	1,953
R-squared	0.225	0.214

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Note: The sample is reported in the row “Observations.” Outcomes: 1) Over the past year, have the prices of things you buy generally increased, decreased or stayed about the same? (Model 1) 2) How much of a problem is inflation in the U.S. as a whole? (Model 2). Republican ID is the baseline category. Respondents who answer “something else” to the party ID question are dropped.

Table B.3: Individual-level Analysis: By Party ID

	(1)	(2)	(3)
	OLS		
	Pr(Dem=1)		
	Republican sample	Democratic sample	Independent sample
Rent	-0.003 (0.021)	-0.010 (0.017)	0.116** (0.046)
Commuting	-0.009 (0.022)	-0.010 (0.018)	-0.058 (0.042)
Inflation (personal)	-0.035 (0.028)	-0.016 (0.018)	-0.121** (0.050)
Inflation (community)	-0.026 (0.031)	-0.029* (0.017)	-0.056 (0.042)
Education	-0.003 (0.005)	-0.000 (0.005)	0.008 (0.013)
Employment	0.009 (0.006)	0.003* (0.002)	0.009 (0.010)
Gender	-0.031 (0.024)	0.020 (0.020)	0.074 (0.047)
Income	-0.001** (0.000)	0.000 (0.000)	0.002* (0.001)
Biden's Approval	0.265*** (0.068)	0.078** (0.035)	0.560*** (0.068)
Financial Situation	0.012 (0.011)	0.007 (0.007)	0.015 (0.022)
Unemployment (national)	0.001 (0.011)	0.009** (0.005)	0.017 (0.022)
Against Abortion	-0.048*** (0.013)	-0.006 (0.015)	-0.090*** (0.025)
Constant	0.595*** (0.171)	0.912*** (0.108)	1.020*** (0.231)
County fixed effects	Yes	Yes	Yes
Observations	541	560	343
R-squared	0.352	0.215	0.672
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

Note: The sample is reported in the row “Observations.” Outcome: Intention of voting for the Democrat in the 2022 congressional elections (Model 1). Main independent variables are objective and subjective measures of inflation. Sub-samples by party identification: Republicans, Democrats, and Independents.

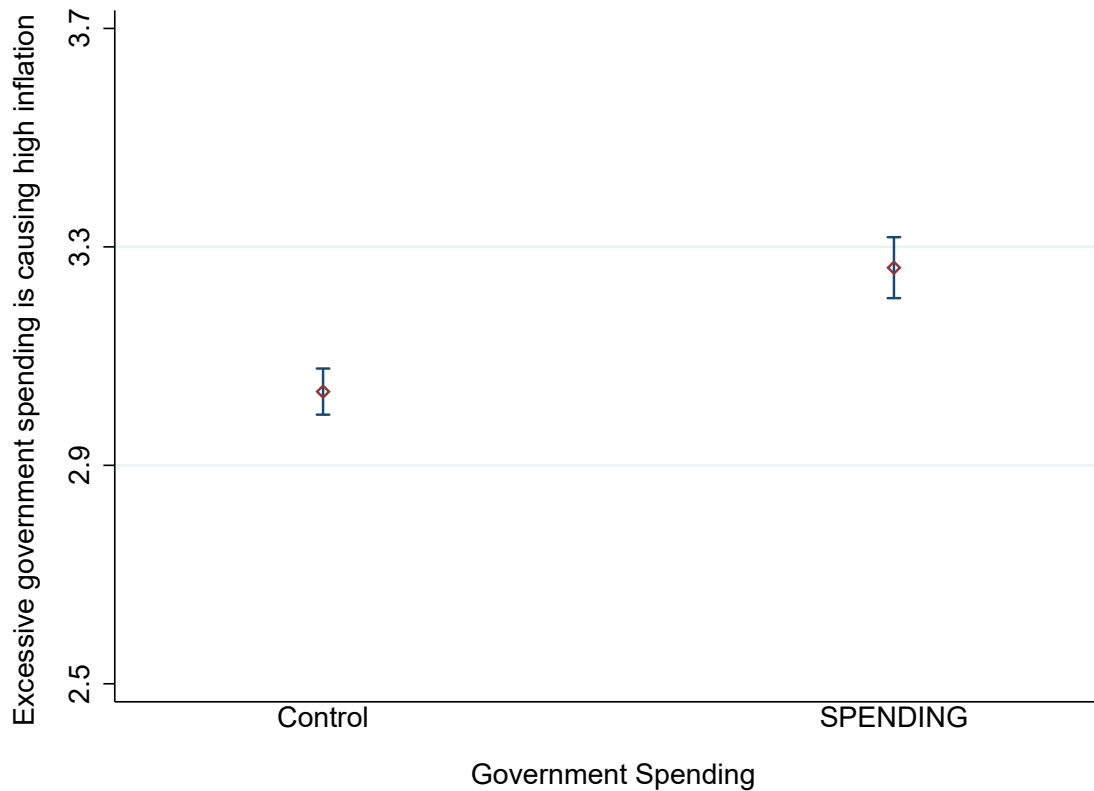
C Appendix C: Experimental Analysis

To check the strength of our treatments, we asked the following manipulation questions to all respondents in both the treated and control groups:

1. “To what extent do you think excessive government spending/corporate greed is causing high inflation in the US?” a) A great deal (4); b) A fair amount (3); c) Not much (2); d) Not at all (1) (results in Figure C.1 (left)).

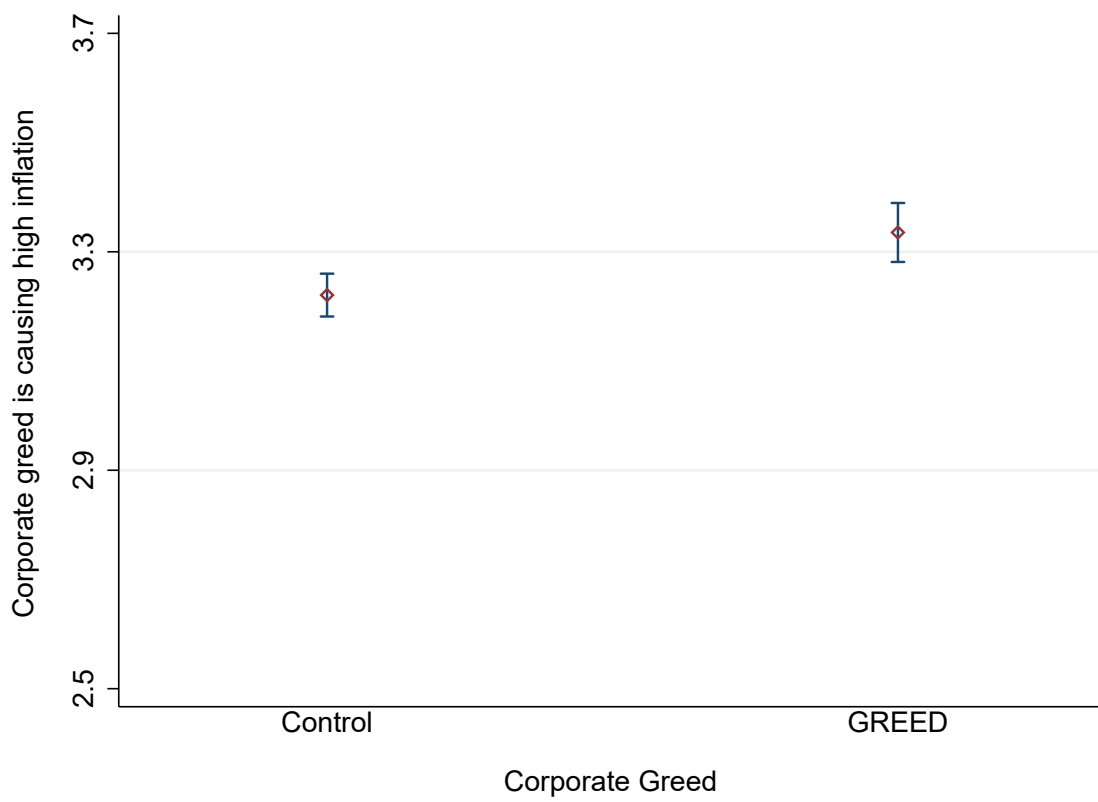
2. “Which of the following statements comes closest to describing your view?” a) Excessive government spending/corporate greed is THE major reason that inflation is high (4); b) Excessive government spending/corporate greed is one of several reasons that inflation is high (3); c) Excessive government spending/corporate greed is only a very minor reason that inflation is high (2); d) Government spending/corporate greed has no effects on inflation (1) (results in Figure C.1 (right)).

Figure C.1: Manipulation Test (SPENDING)



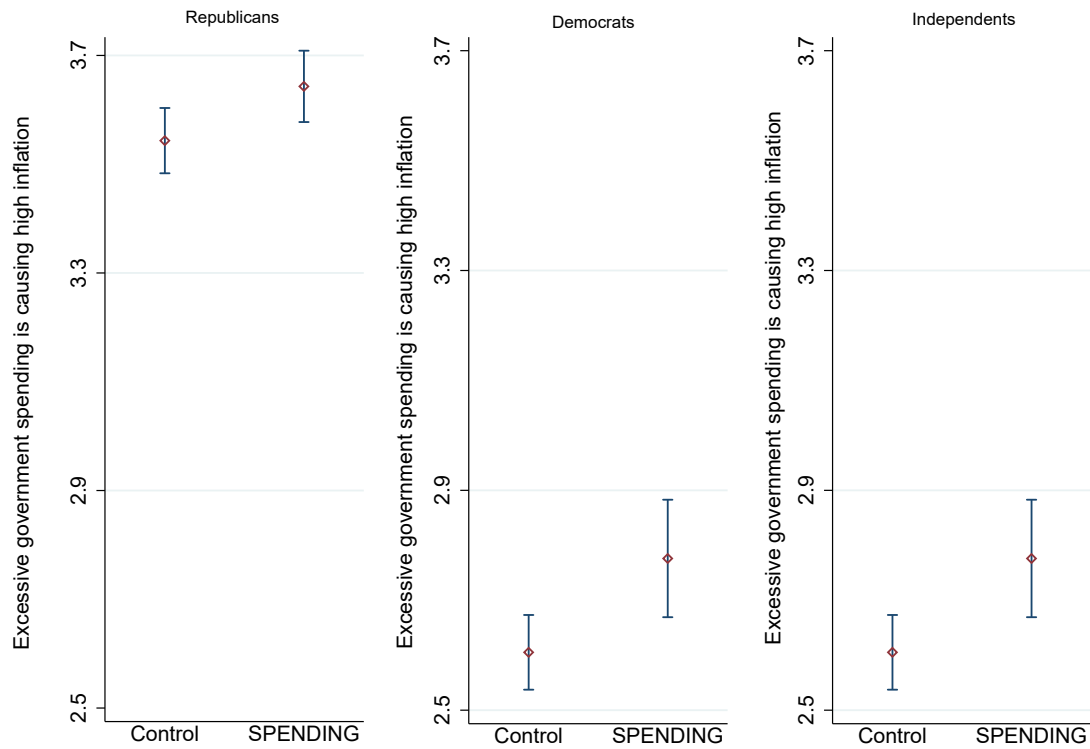
Note: Sample: 2,006 respondents. Outcome: “To what extent do you think excessive government spending is causing high inflation in the US?” (Not at all (1); Not much (2); A fair amount (3); A great deal (4)). 95% C.I.

Figure C.2: Manipulation Test (GREED)



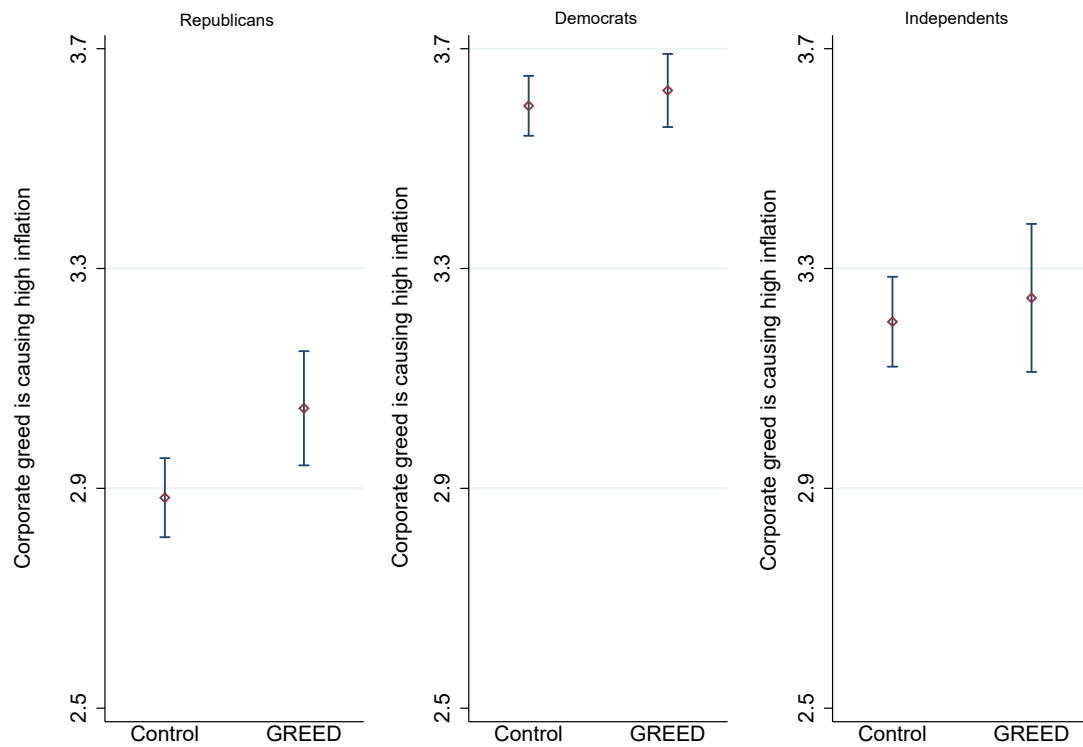
Note: Sample: 2,006 respondents. Outcome: “To what extent do you think corporate greed is causing high inflation in the US?” (Not at all (1); Not much (2); A fair amount (3); A great deal (4)). 95% C.I.

Figure C.3: Manipulation Test by party ID (SPENDING)



Note: Sample: 2,006 respondents. Outcome: “To what extent do you think excessive government spending is causing high inflation in the US?” (Not at all (1); Not much (2); A fair amount (3); A great deal (4)). 95% C.I.

Figure C.4: Manipulation Test by party ID (GREED)



Note: Sample: 2,006 respondents. Outcome: “To what extent do you think corporate greed is causing high inflation in the US?” (Not at all (1); Not much (2); A fair amount (3); A great deal (4)). 95% C.I.

Table C.1: Experimental Analysis: By Party ID

	OLS		
	Republican sample	Democratic sample	Independent sample
	(1)	(2)	(3)
	Pr(Dem=1)		
SPENDING	0.004 (0.021)	0.007 (0.015)	-0.155*** (0.056)
GREED	-0.000 (0.021)	-0.005 (0.016)	-0.090 (0.058)
Constant	0.046*** (0.015)	0.972*** (0.011)	0.562*** (0.040)
Observations	633 (4)	648 (5)	457 (6)
	Approve Dem in Congress		
SPENDING	0.039 (0.078)	-0.047 (0.074)	-0.251*** (0.088)
GREED	-0.010 (0.078)	0.050 (0.068)	-0.125 (0.095)
Constant	1.463*** (0.057)	3.022*** (0.053)	2.093*** (0.065)
Observations	665 (7)	679 (8)	620 (9)
	Approve Rep in Congress		
SPENDING	0.141* (0.079)	-0.046 (0.077)	-0.042 (0.081)
GREED	0.026 (0.088)	0.029 (0.075)	-0.060 (0.084)
Constant	2.668*** (0.061)	1.636*** (0.054)	2.023*** (0.058)
Observations	665 (10)	679 (11)	620 (12)
	Rep Better at Handling Inflation		
SPENDING	-0.071 (0.063)	-0.193** (0.086)	0.148 (0.104)
GREED	-0.162** (0.069)	-0.134 (0.084)	-0.057 (0.107)
Constant	3.561*** (0.045)	1.728*** (0.064)	2.505*** (0.075)
Observations	665	679	620
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1			

Note: OLS regression with robust standard errors. The dependent variables capture voting behaviour, approval for Democrats and Republicans in Congress, and assessment of how parties handle inflation. SPENDING and GREED are the two treatments. Sub-samples by party identification: Republicans, Democrats, and Independents.

Appendix E: Full Survey

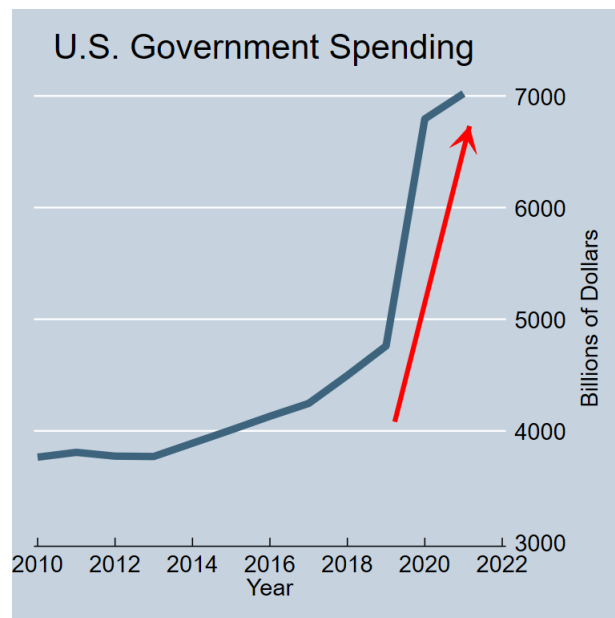
1. Do you rent or own the residence in which you live?
 - Rent
 - Own
2. Approximately how much time do you spend driving to work per day (roundtrip)?
 - 0-30 minutes
 - 30-60 minutes
 - 60-90 minutes
 - Greater than 90 minutes
 - I work from home
 - I commute but I do not drive
3. We are interested in how people are getting along financially these days. Would you say that you and your family living here are better off, worse off, or just about the same financially as you were a year ago?
 - A lot better off
 - A little better off
 - A little worse off
 - A lot worse off
 - Just about the same
4. Over the past year, has unemployment increased, decreased or stayed about the same?
 - Increased a lot
 - Increased a little
 - Stayed about the same
 - Decreased a little
 - Decreased a lot
5. How satisfied are you with government regulation of businesses and industries in the US?
 - very satisfied
 - somewhat satisfied
 - somewhat dissatisfied
 - very dissatisfied
6. Where would you rate yourself on a scale of 1 to 5, where 1 means you think the government should do only those things necessary to provide the most basic government functions, and 5 means you think the government should take active steps in every area it can to try and improve the lives of its citizens?
[1/2/3/4/5]
7. Do you think abortion should be legal in all cases, legal in most cases, illegal in most cases, or illegal in all cases?
 - Legal in all cases
 - Legal in most cases

- Illegal in most cases
 - Illegal in all cases
8. For which candidate did you vote in **the November 2020 presidential election**?
- Donald Trump
 - Joe Biden
 - Other candidate.
 - I did not vote in the November 2020 presidential election
9. For which party did you vote in **the November 2018 mid-term election**? [1,4]
- Republican Party
 - Democratic Party
 - Independent
 - I did not vote in the November 2018 mid-term election
10. Do you approve or disapprove of the way President Joe Biden is handling his job as president?
- Approve
 - Disapprove
11. Over the past year, have the prices of things you buy generally increased, decreased or stayed about the same?
- Increased a lot
 - Increased a little
 - Stayed about the same
 - Decreased a little
 - Decreased a lot
12. To what degree have you decreased spending as a result of inflation?
- A great deal
 - Somewhat
 - Not much
 - Not at all
13. How much of a problem is inflation in the US as a whole?
- A very big problem
 - A moderately big problem
 - A small problem
 - Not a problem at all
14. Inflation in your local community is ...
- A very big problem
 - A moderately big problem
 - A small problem
 - Not a problem at all
15. The negative impact of inflation in your local community been ...
- Much more severe than in the nation as a whole

- Somewhat more severe than in the nation as a whole
 - Somewhat less severe than in the nation as a whole
 - Much less severe than in the nation as a whole
 - Don't know/Not sure
16. Who has the greatest ability to control rising prices in order to reduce inflation in the United States?
- The President
 - Congress
 - The Federal Reserve
 - Businesses and corporations
 - Consumers

[INSERT TREATMENTS HERE.]

Figure C.5: TREATMENT 1: Government spending



Note: “Government spending has skyrocketed. Many [OWN PARTY] agree that excessive government spending has caused inflation by increasing the national debt.”

[POST TREATMENT QUESTIONS]

17. How likely is it that you will vote in the November 2022 congressional elections?
- Definitely will vote
 - Probably will vote
 - Might vote
 - Probably will not vote
 - Definitely will not vote
18. If an election for US Congress were being held today, who would you vote for in the district where you live?

Figure C.6: TREATMENT 2: Corporate profits



Note: “Corporate profits have skyrocketed because corporations have raised prices. Many [OWN PARTY] agree that excessive corporate profits caused inflation.”

- The Republican Party candidate
 - The Democratic Party candidate
 - Other
 - I would not vote
19. Do you happen to know the political party of the US congressional representative currently representing your district?
- Republican
 - Democrat
 - Uncertain
20. Do you approve or disapprove of the way Democrats in Congress are handling inflation?
- Approve strongly
 - Approve somewhat
 - Disapprove somewhat
 - Disapprove strongly
21. Do you approve or disapprove of the way Republicans in Congress are handling inflation?
- Approve strongly
 - Approve somewhat
 - Disapprove somewhat
 - Disapprove strongly

22. Do you agree or disagree with the following statement: Republicans would be better at handling inflation than Democrats.
- Strongly agree
 - Agree somewhat
 - Disagree somewhat
 - Strongly disagree
23. To what extent do you think excessive government spending is causing high inflation in the US?
- A great deal
 - A fair amount
 - Not much
 - Not at all
24. Which of the following statements comes closest to describing your view?
- Excessive government spending is THE major reason that inflation is high.
 - Excessive government spending is one of several reasons that inflation is high.
 - Excessive government spending is only a very minor reason that inflation is high.
 - Government spending has no effects on inflation.
25. To what extent do you think corporate greed is causing high inflation in the US?
- A great deal
 - A fair amount
 - Not much
 - Not at all
26. Which of the following statements comes closest to describing your view?
- Corporate greed is THE major reason that inflation is high.
 - Corporate greed is one of several reasons that inflation is high.
 - Corporate greed is only a very minor reason that inflation is high.
 - Corporate greed has no effects on inflation.

Appendix F: Information about the Survey Experiment

Our research adheres to the APSA Principles and Guidance for Human Subjects Research, and has received ethics clearance from the Research Ethics Board of [anonymized information] (REB File #: 22-06-055).

We conducted our original survey with Forthright. The sample was drawn from an online panel that panel operates on a voluntary basis, meaning that members have the option to join and participate. In addition, participants in the study provided their consent after completing a registration process that required them to opt-in twice. This process ensures that the participants are genuinely interested in taking part in the study and that their data is collected in a manner consistent with ethical and legal guidelines, and according to Forthright privacy policies, which are described in further detail here: <https://www.beforthright.com/privacy>.

The study did not involve at-risk or vulnerable populations. Our sample is representative (in terms of age, sex, region, and employment status) of the US adult population. The study did not use deception. The study did not interfere with the political process. The sample is relatively small, and we checked close districts and confirmed that our study could not have affected the results. The study protects the confidentiality of the respondents. We did not collect data that would make the respondents identifiable.

Forthright compensated the respondents for their time. Each survey participant received \$1 for their answers, which represents approximately 32% of the fee we paid to Forthright for them to conduct the survey. This payment is in line with what other similar platforms offer to respondents.

References

Dorn, David, Gordon Hanson, Kaveh Majlesi et al. 2020. “Importing political polarization? The electoral consequences of rising trade exposure.” *American Economic Review* 110(10):3139–83.