Supplementary Appendix for Information, Uncertainty, & Public Support for Brinkmanship during the 2023 Debt Limit Negotiations

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Abstract

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Appendix

Contents

1 Balance Table

Table A1: Balance of Covariates

	Control		Treat (Pooled)			
	Mean	Std. Dev.	Mean	Std. Dev.	Diff. in Means	Std. Error
Debt General	3.5	1.2	3.5	1.2	0.0	0.1
Debt Spending	2.7	1.4	2.7	1.3	0.0	0.1
Debt Taxes	2.5	1.3	2.5	1.3	0.0	0.1
PartyID	2.3	2.1	2.3	2.1	0.0	0.1
Age	45.3	15.6	45.8	16.0	0.5	0.9
Woman	0.5	0.5	0.5	0.5	0.0	0.0
Income	2.2	1.5	2.1	1.5	-0.1	0.1
Education	2.4	0.7	2.4	0.7	0.0	0.0
Biden Approval	0.9	0.9	0.9	0.9	0.0	0.0
Right Wing News	0.2	0.4	0.2	0.4	0.0	0.0
Urban Rural	3.1	0.7	3.1	0.7	0.0	0.0
Observations	490		992 (494 + 498)			

2 Full Regression Tables

Table A2: Effect of Treatments on Importance of Conceding

	Information	Certainty	Certain vs. Uncertain
Information	0.279***		
	(0.054)		
Certain		0.345***	0.131*
		(0.062)	(0.062)
Uncertain		0.214***	
		(0.062)	
Control			−0.214***
			(0.062)
debtpreA	0.012	0.010	0.010
	(0.024)	(0.024)	(0.024)
female_dummy	0.101*	0.102*	0.102*
	(0.051)	(0.051)	(0.051)
partyid_2	0.294***	0.293***	0.293***
	(0.073)	(0.073)	(0.073)
inc_4	0.120+	0.120+	0.120+
	(0.072)	(0.072)	(0.072)
education_3	0.078	0.081	0.081
	(0.053)	(0.053)	(0.053)
approval_biden_2	0.261***	0.257***	0.257***
	(0.053)	(0.053)	(0.053)
Num.Obs.	1482	1482	1482
R2	0.048	0.051	0.051

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A3: Effect of Treatments on Importance of Conceding by Party

	Democrats	Democrats	Democrats	Republicans	Republicans	Republicans
Information	0.371***			0.390*		
	(0.093)			(0.151)		
Certain		0.512***	0.284**		0.369*	−0.045
		(0.106)	(0.102)		(0.173)	(0.179)
Uncertain		0.228*			0.413*	
		(0.106)			(0.178)	
Control			−0.228*			−0.413*
			(0.106)			(0.178)
debtpreC	0.040	0.037	0.037			
	(0.037)	(0.036)	(0.036)			
age	0.004	0.004	0.004			
	(0.003)	(0.003)	(0.003)			
female_dummy	0.151+	0.145+	0.145+			
	(0.088)	(0.087)	(0.087)			
inc_1	0.178	0.167	0.167			
	(0.110)	(0.109)	(0.109)			
inc_4	0.249*	0.237*	0.237*	0.318	0.315	0.315
	(0.119)	(0.119)	(0.119)	(0.207)	(0.207)	(0.207)
inc_5	0.247+	0.232	0.232			
	(0.149)	(0.150)	(0.150)			
education_3	0.231*	0.245**	0.245**			
	(0.093)	(0.092)	(0.092)			
RWnews_1	0.201	0.190	0.190			
	(0.135)	(0.135)	(0.135)			
approval_biden_2	0.079	0.067	0.067	0.644+	0.642+	0.642+
	(0.094)	(0.094)	(0.094)	(0.338)	(0.338)	(0.338)
passcheck				0.075	0.075	0.075
				(0.313)	(0.313)	(0.313)
partyid_5				0.252+	0.249+	0.249+
				(0.148)	(0.149)	(0.149)
inc_0				0.646**	0.640**	0.640**
				(0.243)	(0.246)	(0.246)
inc_2				0.344*	0.341*	0.341*
				(0.170)	(0.171)	(0.171)
Num.Obs.	685	685	685	332	332	332
R2	0.064	0.074	0.074	0.067	0.068	0.068

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3 Outcome Question Preamble

"You might have heard that Republicans and Democrats are debating whether and how to raise the Federal Government's debt ceiling.

The debt ceiling is a self-imposed rule that prevents the government from borrowing more money after it reaches a certain level.

If Congress agrees to raise the debt ceiling, this will allow the government to pay for things Congress has already committed to fund. If Congress does not raise the debt ceiling, the US Treasury can not legally borrow more money and the United States will default on its obligations.

Many Republicans want to impose budget cuts and limits on future spending in exchange for voting to lift the debt ceiling. Democrats are opposed to these measures and want to increase the debt ceiling without any conditions."

4 Collected Outcome Questions

- *In your opinion, How important is it for the government to increase the debt ceiling?*[Not important at all, slightly important, somewhat important, very important, extremely important]
- How important is it for the government to increase the debt limit even if Democrats must make concessions? [Not important at all, slightly important, somewhat important, very important, extremely important]
- How important do you think it is for the government to increase the debt limit even if Republicans CAN NOT get Democrats to agree to spending cuts? [Not important at

all, slightly important, somewhat important, very important, extremely important]

- Do you think Democrats should agree to Republican demands for spending cuts now OR wait longer with the hope Republicans drop their demands? [Agree to budget cuts now, Wait longer, don't know]

- Do you think Republicans should drop their demands for spending cuts now OR wait longer with the hope Democrats agree to budget cuts? [Drop demands now, Wait longer, don't know]

- If Republicans and Democrats cannot come to an agreement and the debt ceiling is breached, who would you blame more? [Blame Democrats more, Blame Republicans more, Blame both equally, Neither, Don't know]

- Would you be willing to sign a petition in support of a "clean debt ceiling increase"? We will direct you to the petition at the end of this survey.

5 Results with *Willingness to Sign a Petition*

As we mention above, we also asked respondents to indicate if they would be willing to sign a petition to support a "clean debt ceiling increase". The binary outcome gets us closer to a behavioral outcome. Approximately, 25% of our respondents reported the willingness to sign a petition. Figure A1 shows the effect of the information on reported willingness. We see that the information treatments increase the probability of willingness to sign a petition by 0.07 [0.020, 0.104].

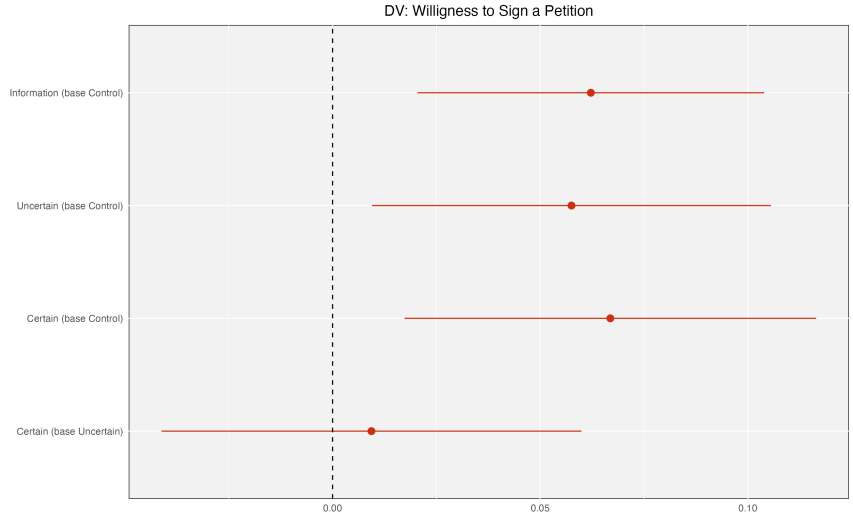

Figure A1: **Willingness to Sign a "Clean Debt Ceiling Increase" Petition (0, 1):** The coefficient plot presents the results of a linear probability model. As with other models, covariates were selected with a preceding LASSO model. the dots indicate the point estimates and 95% confidence intervals from these two regressions. N=1482. All models were estimated with robust standard errors. Missing observations of covariates are replaced with the mean or median value.

6 Results with *Lifting Debt Ceiling Importance* Outcome

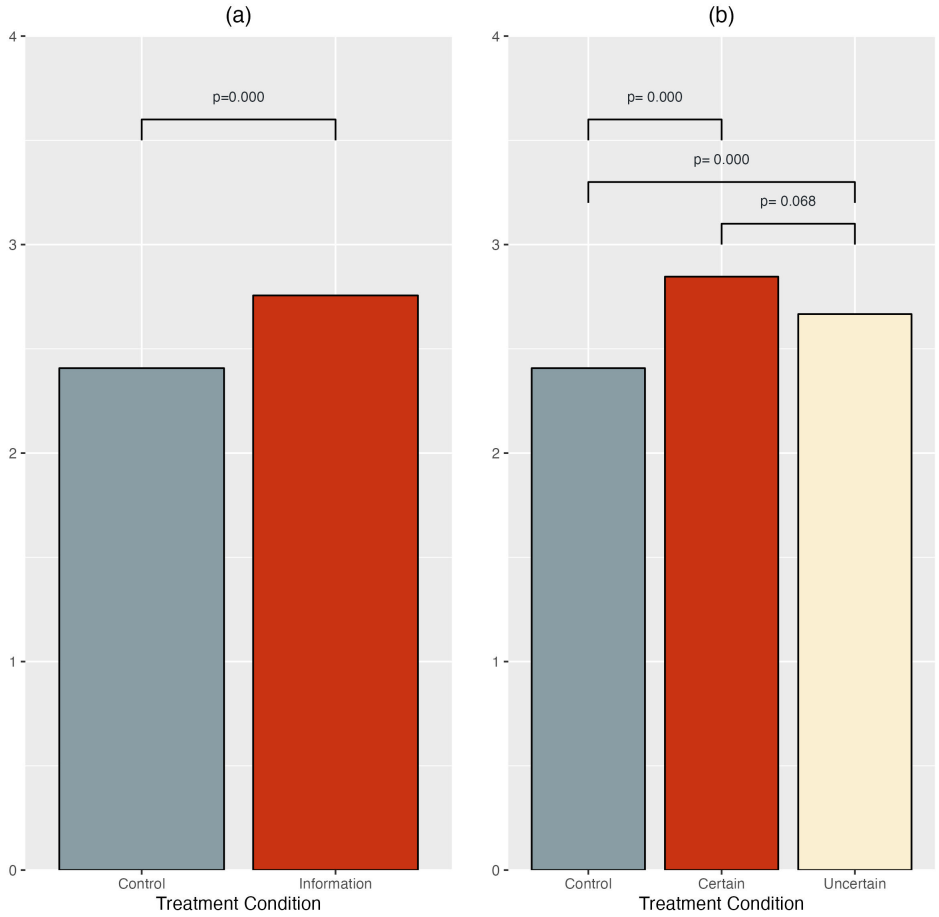

Figure A2: **Importance of Raising The Debt Ceiling by Treatment Condition:** Panel (a) presents the difference in means when pooling the uncertain and certain information treatments. Panel (b) presents the three treatment conditions. Above each comparison is the p-value resulting from an Ordinary Least Squares model in which the covariates were selected via a preceding Lasso model. The outcome are answers the the following question: "In your opinion, How important is it for the government to increase the debt ceiling?" N=1486. Missing observations of covariates are replaced with the mean or median value.

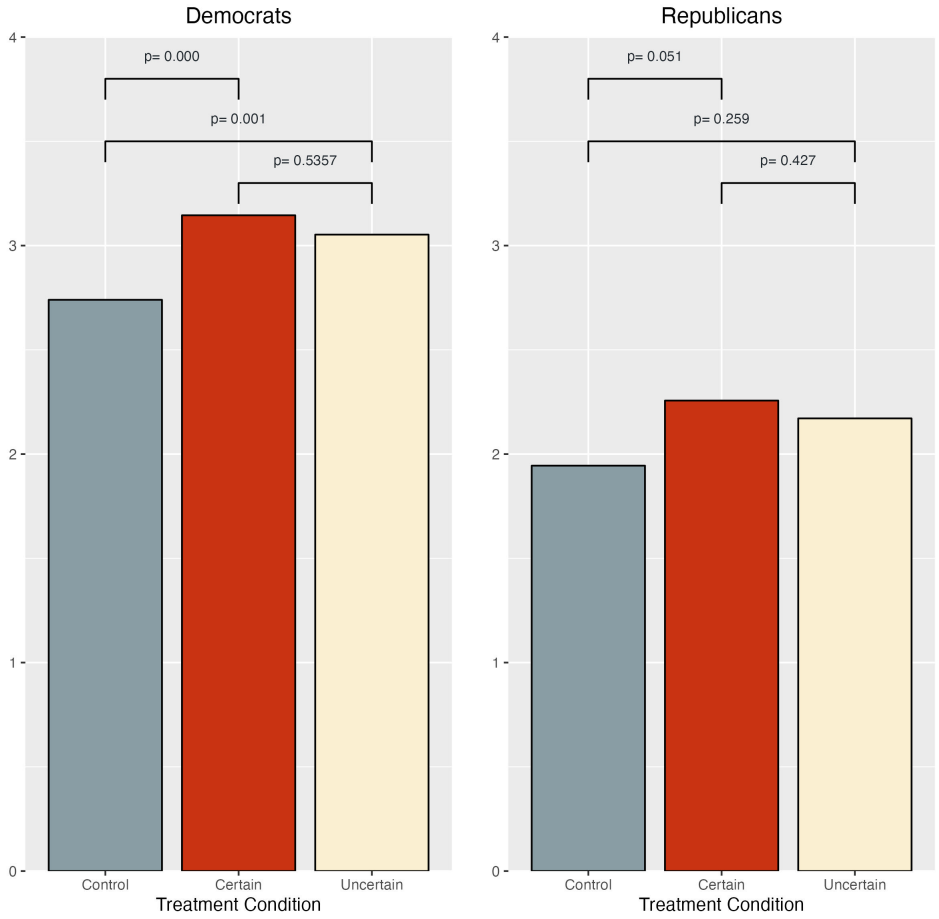

Figure A3: **Importance of Raising The Debt Ceiling Among Republicans and Democrats:** Each panel presents the means of three treatment conditions. Above each comparison is the p-value resulting from an Ordinary Least Squares model in which the covariates were selected via a preceding Lasso model Respondents are considered Democrats (N=685) and Republicans (N=332) if they responded that they are strong or not strong Democrats or Republicans on a traditional party identification two-question survey module. Missing observations of covariates are replaced with the mean or median value.

7 Certainty Manipulation Check

7.1 GPT-4 Scales

To determine if our treatments had the effect of increasing or decreasing outcome certainty over the consequences of a debt ceiling breach, we asked our respondents the following question post-treatment and post-outcome: "In one or two sentences, what do you think will happen if the government DOES NOT increase the debt ceiling?"

We then used OPENAI's GPT-4 to code the degree of certainty in each respondent's answer using one-shot API calls.[1] Generative Process Transformers have been found to be quite adept at text annotation tasks and often outperforms crowd-sourced (e.g. Amazon's Mechanical Turk) workers in both terms of accuracy and consistency (**?**). We prompted GPT with instructions followed by the statement. We asked first to rank certainty on a scale of 0-10 and then we repeated the exercise and asked to rank each statement on a scale of 1-5 and 0-100. We did this to have greater confidence the scale chosen influenced the outcomes. The prompt was as follows: "Before the deadline for reaching the Federal debt limit in May of 2023, I asked Americans the following question 'In one or two sentences, what do you think will happen if the government DOES NOT increase the debt ceiling?' I want you to code the following answer on a scale of 1-5 to reflect their certainty over what will happen if the US does not raise the debt ceiling. If the respondent is very certain about the outcome, code it a 5. If the respondent is very uncertain over what will happen, code a 1. Use your judgement to code between 1-5 for responses that lie between these two extremes. Code a response with 'NA' if there is insufficient information or the response is nonsensical. Reply only with the number or NA. Here is the response: "

Table A4 presents the results from three linear models estimating the certainty of each respondent's statements as a function of the treatment they received. Using either a 5-point, 11-point, or 101-point scale, we see that the certain treatment has a significant and positive

[1] Specifically, we use the model: gpt-4-0613 with a temperature of 0 (indicating more predictable responses).

Table A4: Effect of Treatments on Statement Certainty

	5 Point Scale	11 Point Scale	101 Point Scale
(Intercept)	4.192***	7.568***	79.107***
	(0.047)	(0.093)	(0.969)
Certain	0.201**	0.320*	3.681**
	(0.064)	(0.129)	(1.308)
Control	0.014	0.061	1.291
	(0.067)	(0.137)	(1.398)
Num.Obs.	1417	1415	1409
R2	0.008	0.005	0.005

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

effect on statement certainty when we hold 'uncertain' as the baseline condition. We find no difference in certainty between the control and uncertainty conditions.

This provides greater confidence that our certain and uncertain treatments, while different on a few dimensions, are treating individuals with different levels of outcome uncertainty as intended.

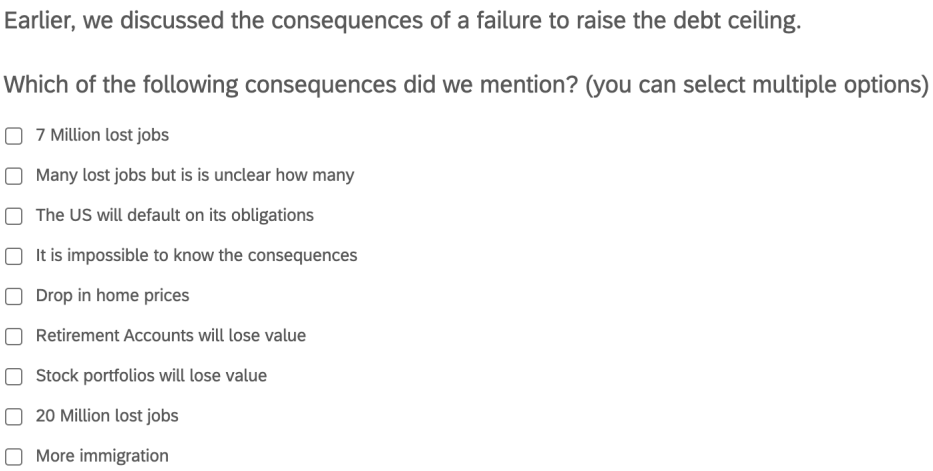

Figure A4: Closed Question Treatment Check

7.2 Closed Question Response

Next, we see if our uncertain treatment was recieved by our respondents by examining the closed multi-choice question displayed in A4. To analyze if respondents in the uncertain condition received the uncertain treatment, we estimate using a linear probability model if they selected "It is impossible to know the consequences" in response to the question.

Figure A5 shows the coefficients from the linear probability model. The figure shows that compared to the 'uncertain' condition, respondents in the 'certain' condition are 33% less likely to select the "impossible to know" outcome. While the uncertain group is 27% more likely to select the outcome compared to the control condition. This gives us confidence that the message was delivered as intended.

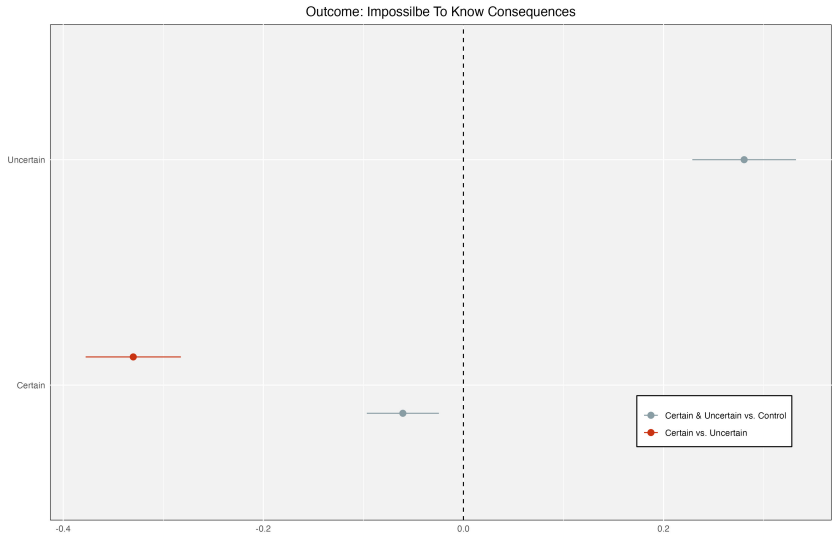

Figure A5: Uncertain Treatment Check Analysis

8 Consent Form

The following passage was presented to respondents as the begun the survey:

"Thank you for agreeing to take part in this research study. The data we collect will be used in academic research to help us understand your perspectives on government policies and elections. If you agree to participate in this study, you will be asked to complete an on-line survey that will take about 5 minutes.

There are no foreseeable risks associated with this project. However, your participation in this study is completely voluntary and you are free to withdraw at any time. Your survey responses will be strictly confidential and data from this research will be reported only in anonymized form. The data will be stored on a secure server and will be opened only by the researchers when conducting analysis on aggregate data. None of your personal information will be collected. We will preserve your data in perpetuity and protect any confidential data. Anonymized data will be shared with others upon publication of any academic papers resulting from the project. We will use the data to conduct statistical analysis from which we will draw general conclusions. The project will be published in open access format so that individuals that are interested can see the final project.

By clicking "I agree" below you are indicating that you are at least 18 years old, have read and understood this consent form, and agree to participate in the research study."

9 Respondent Compensation

Respondents were recruited through the Prolific.co marketplace. Respondents were compensated $0.75 for a five minute survey. This is equivalent to $9.00 per hour. The minimum wage in the United States is $7.25 per hour.