New Research in Macro Behavioral: Consumer Behavior and Inflation

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NBER Macro Behavioral Bootcamp

SOCIAL
ECONOMICS
LAB

Social Economics Surveys and Experiments

- Surveys have been used for a long time for measurement & statistics.

  We now have high-quality admin data on many variables (income, family situation, employment, etc.)

- Yet, **some things remain invisible** in data other than survey data (even great data!): **perceptions, attitudes and beliefs, knowledge, and reasoning.**

  Critical role in social, economic, and political outcomes.

- Revealed preference approach – our holy grail – can be challenging due to lack of data and identifying variation.

  We often do not "reveal" our beliefs, attitudes, perceptions, etc. on important issues with our micro, observed behaviors.

- Surveys are more than a measurement tool. Control of data generating process. **"Creating your own identifying variation and uncovering the invisible."**

How may surveys be used in your own research?

- If used well, approach can be applied to many settings and questions (including as complement to other approaches).
- New mobile technologies & platforms offer opportunities.
- For the results to be reliable, it is critical that these surveys are well-designed, carefully calibrated, and deployed on appropriate samples.
- **Comprehensive guide**: "How to Run Surveys: A guide to creating your own identifying variation and revealing the invisible." (socialeconomicslab.org/how-to-run-surveys/)

“The How and Why of Household Reactions to Income Shocks”

Roberto Colarieti, Pierfrancesco Mei, and Stefanie Stantcheva

Using Surveys in Macro (I)

Application: How do households reason and make decisions when faced with unexpected and transitory income shocks of different sign and size?

Survey use 1: Model selection

Which model, among several consistent ones, explains data patterns? We can ask people more directly about their "mode of functioning" and mental models.

Adjustment margins: what decisions - e.g. spending, (de)leveraging, saving, labor supply - are affected by the shock?

Motivations/Reasons: why do households choose to use or not certain adjustment margins?

Heterogeneity. Ask detailed questions about economic and financial circumstances, past salient events, perceptions, expectations, hurdles and constraints, goals...

Using Surveys in Macro (II)

Survey use 2: Estimate key parameters

Hypotheticals. Recover estimates that are hard to obtain using revealed behavior (e.g., iMPCs out of hypothetical income changes).

Experiments. Provide randomized info or framing (e.g., shift macro perceptions).

Higher-order beliefs. How do you think others react in some scenarios? Relevant for policy and expectations.

Example: Estimating iMPCs from Survey Data

- Auclert et al. (2018, 2020): a limited set of moments - iMPCs - are key sufficient statistics to study the GE propagation of shocks and policies.
- Matrix $\mathbf{M}$ of iMPCs:

$$\mathbf{M} = \begin{bmatrix} \frac{\partial \mathcal{C}_0}{\partial Z_0} & \frac{\partial \mathcal{C}_0}{\partial Z_1} & \frac{\partial \mathcal{C}_0}{\partial Z_2} & .. \\ \frac{\partial \mathcal{C}_1}{\partial Z_0} & \frac{\partial \mathcal{C}_1}{\partial Z_1} & \frac{\partial \mathcal{C}_1}{\partial Z_2} & .. \\ \frac{\partial \mathcal{C}_2}{\partial Z_0} & .. & .. & .. \\ .. & .. & .. & .. \end{bmatrix}$$

- Available data allow to estimate the first rows of the first column.
  - Solution: match available estimates, then use models to extrapolate to other columns.
- Survey estimates allow to study the planned spending response to future anticipated income shocks $dZ_1, dZ_2, \ldots$
  - Use these estimates to parametrize the infinite-dimensional matrix $\mathbf{M}$.

The Sample

Sample and Representativeness

- We designed and conducted a survey of around 3,000 U.S. households between November 2022 and January 2023.
  - Survey distributed through Lucid Marketplace.
    - ★ Leading platform granting researchers access to multiple suppliers of survey takers.
  - Focus on respondents who are in the labor force at the time of the interview and aged between 25 and 65.
  - $\approx$ 25 minutes to complete the survey.
- We set quotas on age, total annual household gross income, gender and race to target U.S. population shares from the CPS-ASEC (2022).
- **Data quality**: robust sample (exclude respondents based on abnormal time to complete, patterns in closed-ended questions, inconsistencies in open-ended questions).
- **Older waves of data collection**: survey on iMPCs estimation (May - October 2021; $\approx$ 1450 respondents); survey on model selection (February - March 2022; $\approx$ 900 respondents).

Sample and Representativeness: Targeted Characteristics

	U.S. Population	Survey
Male	.53	.53
25-29 years old	.13	.13
30-39 years old	.28	.28
40-49 years old	.25	.25
50-59 years old	.24	.24
60-65 years old	.1	.1
$0-$19,999	.04	.04
$20,000-$39,999	.11	.11
$40,000-$69,999	.2	.2
$70,000-$124,999	.29	.29
$125,000+	.36	.36
White	.61	.73
Black/African-American	.12	.12
Hispanic/Latino	.18	.13
Asian/Asian-American	.07	.03
Full time employed	.78	.79
Part time employed	.09	.08
Self-employed	.1	.08
Unemployed	.03	.05
U.S. total popluation	260,329	–
U.S. labor force, age 25-65	129,923	–
Sample size	–	2923

Sample and Representativeness: Non-targeted Characteristics

		U.S. Population	Survey
Primary residence:	ownership rate	.64	.75
	value (mean)	368000	339000
	value (median)	243000	325000
Business:	ownership rate	.13	.24
	value (mean)	1235000	623000
	value (median)	105000	300000
Checking accounts:	ownership rate	.94	.93
	value (mean)	10347	11728
	value (median)	2500	4000
Total assets:	value (mean)	823000	1113000
	value (median)	236000	507000
Mortgages on primary residence:	share with mortgages	.49	.45
	value (mean)	201000	150000
	value (median)	150000	138000
Credit card balances:	value (mean)	6386	5872
	value (median)	3000	3250
Total debts:	share with debts	.86	.73
	value (mean)	166000	152000
	value (median)	97000	93000

Tot. assets: real estate, HH shares in business, motor vehicles, checking & short-term accounts, CDs, hedge funds, treasuries, bonds, stocks, pension accounts.

Tot. debts: credit card balances, mortgages, motor vehicle loans, education loans, residual debts.

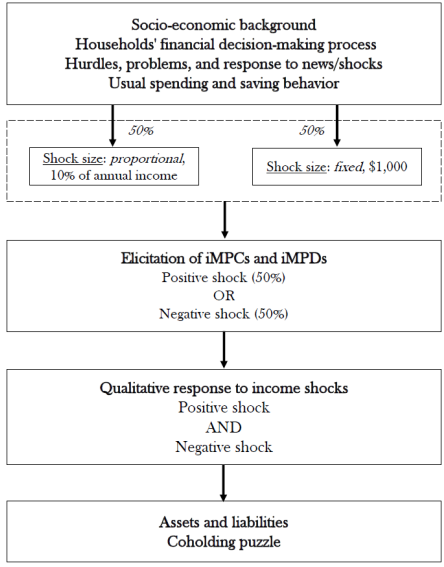
Cross-Validation of Survey Responses

Cross-Validation

Paper	Estimate	Sample	Value	Our estimate
Patterson (2023)	**MPC** out of income loss due to unemp.	CEX, PSID	.53	.59 (.024)
Kaplan et al. (2014)	Share of HtM households	SCF	.31	.31 (.013)
	Share of wealthy HtM out of total HtM		.62	.64 (.036)
Chetty and Szeidl (2007)	Share of committed expenditures	CEX, PSID	0.5 (update: 0.6)	.62 (.005)
Baugh et al. (2021)	**MPC** out of tax refund, 30 days before receipt	Admin data, account aggregator	.001	.01 (.002)
	MPC out of tax refund, 30 days after receipt		.07	.091 (.009)
	MPC out of tax refund, 30-60 days after receipt		.03	.096 (.009)
Baugh et al. (2021)	**MPC** out of tax payment, 30 days before due	Admin data, account aggregator	.001	.044 (.007)
	MPC out of tax payment, 30 days after due		.001	.026 (.004)
	MPC out of tax payment, 30-60 days after due		.01	.02 (.004)
Di Maggio et al. (2017)	**Car spending/initial mort. paym.** out of cuts in mort. paym.	BlackBox Logic, Equifax	.043	.065 (.02)
	Repaym. of mortgage debt/initial mort. paym. out of cuts in mort. paym.		.043	.059 (.008)
Karger and Rajan (2021)	**MPC** out of the first EIP	Facteus bank-account data	.46	.5 (.024)
Misra et al. (2022)	**MPC** out of the first EIP	Facteus data, ZIP code level	.51	
Chetty et al. (2023)	**MPC** out of the first EIP	Affinity Solutions, aggregated data	.37-.61	

The Survey

Survey flow


Socio-economic background
Households' financial decision-making process
Hurdles, problems, and response to news/shocks
Usual spending and saving behavior
50%
50%
Shock size: proportional, 10% of annual income
Shock size: fixed, $1,000
Elicitation of iMPCs and iMPDs
Positive shock (50%)
OR
Negative shock (50%)
Qualitative response to income shocks
Positive shock
AND
Negative shock
Assets and liabilities
Coholding puzzle

iMPC and iMPD elicitation

Please provide an estimate of your **total household income**, after taxes and transfers, in 2021.

- ○ $0 - $14,999
- ○ $15,000 - $19,999
- ○ $20,000 - $24,999
- ○ $25,000 - $29,999
- ○ $30,000 - $39,999
- ◉ $40,000 - $49,999
- ○ $50,000 - $59,999
- ○ $60,000 - $69,999
- ○ $70,000 - $79,999
- ○ $80,000 - $99,999
- ○ $100,000 - $149,999
- ○ $150,000 - $249,999
- ○ $250,000 or more

Quantitative iMPC and iMPD elicitation

Suppose that today you learn that you and your household will receive an **unexpected, one-time payment** of approximately 10 percent of your total household annual income (after taxes and transfers). You can think of this payment as a government stimulus check, tax refund, bonus, inheritance, gift, or lottery win. This one-time payment, which will not be taxed, will be available on your bank account or as a check in your mailbox within a few days.

Now, consider ways in which you and your household could use this additional income:

1. **Additional spending:** purchases of durable goods (e.g., cars, furniture, jewelry, etc.) or non-durable goods and services that do not last for a long time (e.g., food, clothes, vacation, etc.) in addition to those you have already planned.
2. **Additional debt repayments:** principal and interest payments to reimburse outstanding debt (e.g., credit card debts, mortgages, student and consumer loans, etc.) in addition to those you have already planned.
3. **Savings:** amount of additional income that is neither spent nor used to repay debt. It is left for future use, for instance by depositing it in checking, savings, or pension accounts, or by purchasing financial assets.

We would like to understand how you and your household would allocate this one-time payment to additional spending and debt repayments in the next few quarters.

Quantitative iMPC and iMPD elicitation

Suppose that today you and your household receive a one-time payment of the following amount:

$4500

Please enter how you would **allocate this one-time payment to additional spending and debt repayments** in different 3-month periods. Money that you do not use for additional spending and debt repayments during these periods will **saved for future use**.

	Additional spending	Additional debt repayments
Between today and 3 months from now		
Between 4 and 6 months from now		
Between 7 and 9 months from now		
Between 10 and 12 months from now		

Savings: $4500

Quantitative iMPC and iMPD elicitation

Suppose that today you and your household receive a one-time payment of the following amount:

$4500

Please enter how you would **allocate this one-time payment to additional spending and debt repayments** in different 3-month periods. Money that you do not use for additional spending and debt repayments during these periods will **saved for future use**.

	Additional spending	Additional debt repayments
Between today and 3 months from now	500	300
Between 4 and 6 months from now	200	200
Between 7 and 9 months from now	100	
Between 10 and 12 months from now		

Savings: $3200

Quantitative iMPC and iMPD elicitation

Consider a hypothetical scenario identical to the question above, except that today you learn that you and your household will receive a future one-time payment of approximately 10 percent of your total household annual income (after taxes and transfers). You can think of this payment as a government stimulus check, tax refund, bonus, inheritance, gift, or lottery win.

This one-time payment will be **available** on your bank account or as a check in your mailbox **3 months from now**.

Will you and your household be able to increase spending and debt repayments over the next 3 months ahead of the one-time payment?

Yes	No
○	○

Qualitative response to a positive income shock

Suppose that today you learn that you and your household will receive an **unexpected one-time payment** of **$4500** (e.g., a government stimulus check, tax refund, bonus, inheritance, gift, or lottery win). This one-time payment (which will not be taxed) will be available in your bank account or as a check in your mailbox in just a few days.

We will now ask you a few questions about how you and your household would react to this unexpected payment.

Qualitative response to a positive income shock: adjustment margins

Suppose that today you learn that you and your household will receive an **unexpected one-time payment** of **$4500** (e.g., a government stimulus check, tax refund, bonus, inheritance, gift, or lottery win). This one-time payment (which will not be taxed) will be available in your bank account or as a check in your mailbox in just a few days.

We will now ask you a few questions about how you and your household would react to this unexpected payment.

Would you do any of the following after receiving the unexpected one-time $4500 payment?

You can spend all the money in one category or split it among categories.

Repay late bills that we wouldn't normally pay without this extra money.	Yes	No
Invest more than we usually would (e.g., buying more stocks).	Yes	No
Put money into our emergency fund.	Yes	No
Lend money to someone else.	Yes	No
Give some money to someone else as a gift or to charity.	Yes	No
Cut back on our working hours for a while.	Yes	No
Make more repayments on our other loans (e.g., mortgages, auto loans, etc.).	Yes	No
Purchase basic necessities and items that we need and cannot currently afford.	Yes	No
Purchase some bigger-ticket items (e.g., appliances, furniture, car, etc.) that we wouldn't otherwise purchase.	Yes	No
Spend on the things and activities that we like.	Yes	No
Put money aside to be able to spend more over the next few weeks or months.	Yes	No
Make more repayments on our credit card(s).	Yes	No
Put more money towards our long-term goals (e.g., house purchase, education, or retirement).	Yes	No

Qualitative response to a positive income shock: adjustment margins

Suppose that today you learn that you and your household will receive an **unexpected one-time payment** of **$4500** (e.g., a government stimulus check, tax refund, bonus, inheritance, gift, or lottery win). This one-time payment (which will not be taxed) will be available in your bank account or as a check in your mailbox in just a few days.

We will now ask you a few questions about how you and your household would react to this unexpected payment.

Open-ended question

Is there any other action you would take in response to the unexpected one-time $4500 payment?

Would you do any of the following after receiving the unexpected one-time $4500 payment?

You can spend all the money in one category or split it among categories.

Repay late bills that we wouldn't normally pay without this extra money.	Yes	No
Invest more than we usually would (e.g., buying more stocks).	Yes	No
Put money into our emergency fund.	Yes	No
Lend money to someone else.	Yes	No
Give some money to someone else as a gift or to charity.	Yes	No
Cut back on our working hours for a while.	Yes	No
Make more repayments on our other loans (e.g., mortgages, auto loans, etc.).	Yes	No
Purchase basic necessities and items that we need and cannot currently afford.	Yes	No
Purchase some bigger-ticket items (e.g., appliances, furniture, car, etc.) that we wouldn't otherwise purchase.	Yes	No
Spend on the things and activities that we like.	Yes	No
Put money aside to be able to spend more over the next few weeks or months.	Yes	No
Make more repayments on our credit card(s).	Yes	No
Put more money towards our long-term goals (e.g., house purchase, education, or retirement).	Yes	No

Qualitative response to a positive income shock: adjustment margins

Purchase basic necessities and items that we need and cannot currently afford;
Purchase some bigger-ticket items (e.g., appliances, furniture, car, etc.) that we wouldn't otherwise purchase;
Spend on things and activities that we like;
Make more repayments on our credit card(s);
Make more repayments on our other loans (e.g., mortgages, auto loans, etc.);
Repay late bills that we wouldn't normally pay without this extra money;
Put money into our emergency fund;
Put money aside to be able to spend more over the next few weeks or months;
Put more money towards our long-term goals (e.g., house purchase, education, or retirement);
Invest more than we usually would (e.g., buy more stocks);
Give some money to someone else as a gift or to charity;
Lend money to someone else;
Cut back on our working hours for a while

Reasons for adjusting spending to a positive income shock

Why increase spending?

You answered that you would increase your spending in response to an unexpected $4500 payment. How relevant are the following reasons for not increasing your spending by even more?

	Not at all relevant	Somewhat relevant	Very relevant	Extremely relevant
We don't like to splurge too much when we get extra money.	○	○	○	◉
We don't want to think more about how to spend this money.	○	○	◉	○
We try to maintain a relatively stable level of spending.	○	○	◉	○
There is nothing else we currently need or want.	○	○	○	◉

	Not at all relevant	Somewhat relevant	Very relevant	Extremely relevant
We are very self-disciplined in how we spend our money and we mostly stick to our plans.	◉	○	○	○
We don't like spending too much of any extra money because we worry about the future.	◉	○	○	○
This amount of money is too small to spend more time thinking about how to spend it.	◉	○	○	○

Why not increase spending by more?

You answered that you would increase your spending in response to an unexpected $4500 payment. How relevant are the following reasons for not increasing your spending by even more?

	Not at all relevant	Somewhat relevant	Very relevant	Extremely relevant
We don't like to splurge too much when we get extra money.	○	○	○	◉
We don't want to think more about how to spend this money.	○	○	◉	○
We try to maintain a relatively stable level of spending.	○	○	◉	○
There is nothing else we currently need or want.	○	○	○	◉

	Not at all relevant	Somewhat relevant	Very relevant	Extremely relevant
We are very self-disciplined in how we spend our money and we mostly stick to our plans.	◉	○	○	○
We don't like spending too much of any extra money because we worry about the future.	◉	○	○	○
This amount of money is too small to spend more time thinking about how to spend it.	◉	○	○	○

Reasons for adjusting spending to a positive income shock

Why increase spending?

We would like to splurge on something nice;
We really need some items that we cannot otherwise afford;
We have been saving toward a larger purchase (e.g., a car, appliances etc.) and this unexpected payment allows us to purchase it;
We try to save towards our goals, so it's nice to have extra cash for spending;
Most of our wealth is invested and we don't like selling assets for spending. It's nice to have extra cash to spend more freely;
When we get extra money we like to spend it on higher-quality items or activities that we would not otherwise;
We don't have time to think about how to invest or save that money or how else to use it, so we prefer to simply spend it.;
This amount of money is not enough to spend time thinking about;
When we receive some extra money, we cannot resist the temptation to buy something nice;
We like to enjoy what we currently have and not worry too much about future issues.;
We worry that prices will keep rising, so we prefer to use this money to buy things now

Reasons for not adjusting spending by more

→ *Other reasons here.*

Why not increase spending by more?

There is nothing else we currently need or want;
We don't like to splurge too much when we get extra money;
We try to maintain a relatively stable level of spending;
We don't want to think more about how to spend this money;
This amount of money is too little to spend more time thinking about how to spend it;
We are very self-disciplined in how we spend our money and we mostly stick to our plans;
We don't like spending too much of any extra money because we worry about the future

Four different household types

Characteristics	**Strongly constrained**	**Spenders**	**Precautionary**	**Quasi-smoothers**
MPCs/MPDs after positive shock	Low MPCs, high MPDs	High MPCs, low MPDs	Low MPCs, low MPDs	Slightly higher MPCs, low MPDs
MPCs/MPDs after negative shock	Average MPCs, high MPDs on impact only	Low MPCs, high MPDs	High MPCs, low MPDs	Slightly lower MPCs, low MPDs
Main reaction after positive shock	Deleverage	Spend more	Save	Save
Main reason	Too many debts	Minimize cognitive burden, splurging	Concerns about future and long term goals	Do not need things, have long term goals
Main reaction after negative shock	Cut spending and borrow	Mix of spending, borrowing and dip into savings	Dip into saving and cut consumption	Dip into savings
Main reason	Future concerns, substitute away towards lower quality & cannot borrow more	Easy to borrow, want to minimize cognitive burden	Future concerns and because they have buffer stock for such situations	Want to smooth consumption and have easily accessible savings
Decision making characteristics	Can only handle very limited unexpected expenses, unable to stick to plans because of volatility and shocks, planning horizon short	Average length planning horizon. Able to withstand average unexpected expenses	Large planned investments, stick to plans in disciplined manner	Longer planning horizon, able to stick to plans, can handle large unexpected expenses
Main socioeconomic characteristics	Women, older; low income, low assets of all types	Younger, higher income and assets; with children, low income risk	Somewhat older, higher assets, lower debts. Typically low income risk	Older, high assets, low debt
Other characteristics	Risk aversion, lots of concerns, high income risk	Low self-control, low risk-aversion	High self-control, high planned investments	High self-control, high risk aversion

“People’s Understanding of Inflation”

Alberto Binetti, Francesco Nuzzi, and Stefanie Stantcheva

Research question: How do people understand inflation?

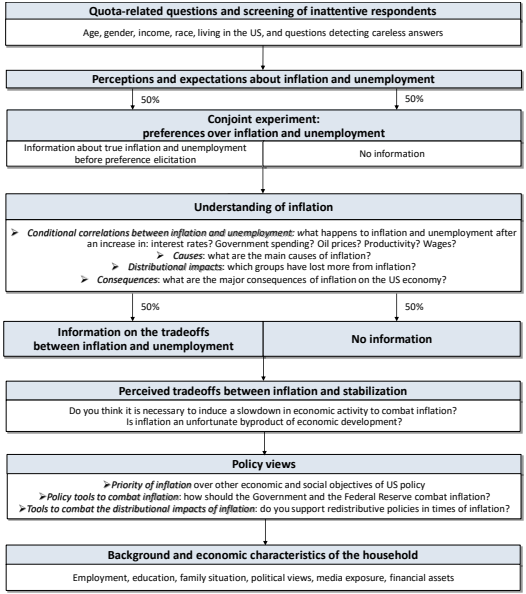
Inflation is a **complex** phenomenon.

How do people perceive its **causes, consequences, & trade-offs**?

What **policies** do they support to fight inflation?

We run a **new survey inspired by the macroeconomics literature** to probe people's understanding.

New survey building on the macro literature



Sample

	Survey	US population
Targeted quotas		
Male	0.48	0.49
Female	0.51	0.51
18-29 years old	0.23	0.23
30-39 years old	0.20	0.21
40-49 years old	0.19	0.19
50-59 years old	0.19	0.19
60-69 years old	0.18	0.18
$0-$19,999	0.14	0.13
$20,000-$39,999	0.16	0.16
$40,000-$69,999	0.21	0.20
$70,000-$99,999	0.15	0.15
$100,000-$124,999	0.09	0.09
$125,000+	0.26	0.26
White	0.68	0.6
African-American/Black	0.13	0.13
Hispanic/Latino	0.10	0.19
Asian/Asian-American	0.04	0.06
Sample size	2264	

▸ Non targeted characteristics ▸ Procedure to clean sample

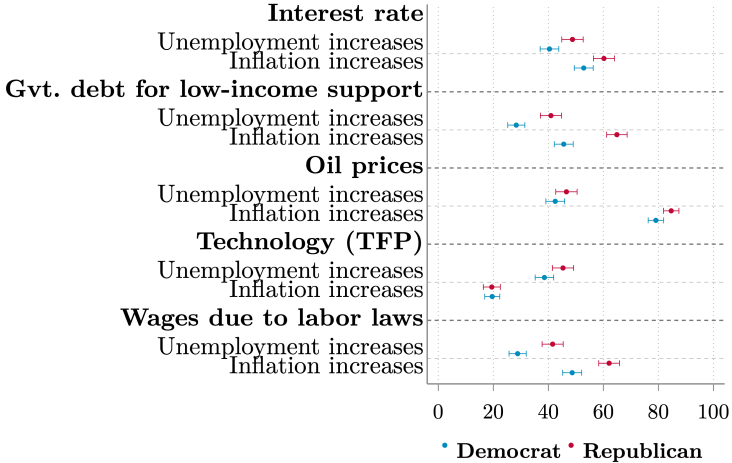
Plan for this talk

1. Understanding of Inflation

2. Policy views

Understanding of Inflation

Inflation & unemployment responses to increases in...



"Correct" share is 12% for interest rate shock, 13% for government debt/spending shock, 42% for oil shock, 28% for wages shock

The causes of inflation

Economics Literature	Our Findings

• **Phenomena with an inflationary potential emphasized by the economics literature:**
  • changes in fiscal policy (e.g., government spending, debt, and taxation);
  • monetary policy actions (e.g., increasing money supply, changing interest rates, and managing inflation expectations);
  • increases in the costs of production (i.e., cost-push shocks);
  • changes in the labor market (e.g., increases in labor market tightness, increase in union power, wage-price spirals);
  • politicians and political interests (e.g., political pressures on central banks, political instability, politicians catering to special interest);
  • increases in household demand (e.g., due to sentiment or inflation expectations changes);
  • firms' pricing decisions (e.g., in response to inflation expectation changes).
	• **Perceived as most important causes**
	  • Government spending, debt, and taxation (67%), increases in the costs of production (43%), actions by the Federal Reserve (31%), politics and politicians (22%), actions by firms and businesses (15%), changes in the labor market (13%), households spending more (10%).
	• **Relevant heterogeneity**
	  • Republicans:
	  ∗ blame the Government and Fed more;
	  ∗ blame firms and businesses less.
	  • Older respondents:
	  ∗ more likely to blame politicians and political interests and actions of firms and businesses;
	  ∗ less likely to blame the government or changes in the labor market.
	  • Fox News viewers (opposite holds for NPR listeners):
	  ∗ blame the Government more;
	  ∗ blame firms and businesses less.

How we ask about the causes of inflation

Open-ended question on the causes of inflation

In your opinion, what are the primary causes of inflation?

For each item listed below, please tell us whether or not you think it is an important cause of inflation

1. Government spending, debt and taxation	2. Actions by the Federal Reserve	3. Increases in the costs of production	4. Changes in the labor market	5. Politicians and political interests	6. Households spending more	7. Actions by firms and businesses

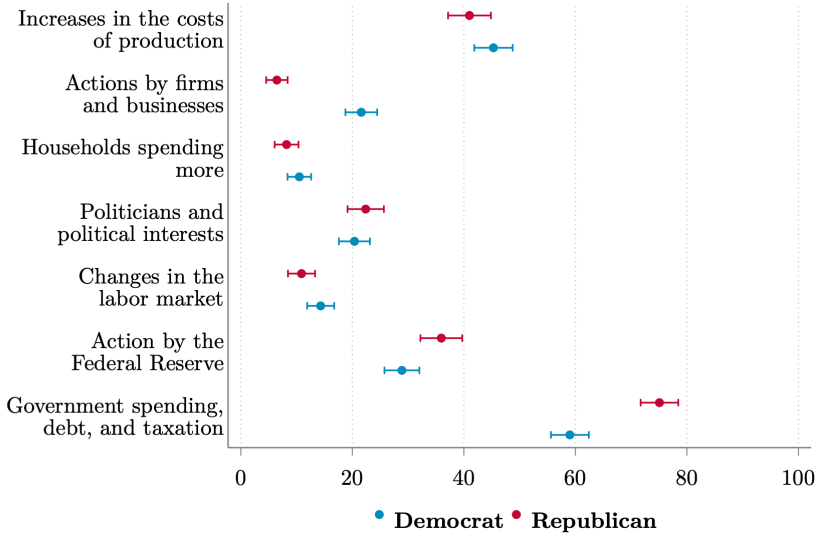
From the previous list, please select the 2 most important causes of inflation

For each item listed below, please tell us whether or not you think it is an important cause of inflation
(Each respondent was displayed the lists of items pertaining to the top 2 causes of inflation selected above)

Government spending, debt and taxation:	Actions by the Federal Reserve:	Increases in the costs of production:	Changes in the labor market:	Politicians and political interests:	Households spending more:	Actions by firms and businesses:
❑ Income tax cuts ❑ Increase in government debt for foreign assistance ❑ Debt-financed increase in spending (defense/infrastructure) ❑ Debt-financed increase in spending (Covid stimulus) ❑ Debt-financed increase in spending (social programs)	❑ Interest rate cuts ❑ Increases in interest rates ❑ Increases in money supply ❑ Failure to take appropriate action ❑ Unclear announcements about future intentions	❑ Oil price increases ❑ Energy price increases ❑ Large-scale disruptions in other countries (wars or disasters) ❑ Disruptions in international supply chains ❑ Cost increases induced by the Pandemic	❑ Wage increases due to labor rights or unionization ❑ Wage increases due to labor shortages ❑ Workers asking for wage increases after increases in the cost of living		❑ Due to expected price increases in the future ❑ Due to optimism about the economy	❑ Higher prices due to higher expectations ❑ Higher prices to increase profits, even if costs have not increased ❑ Lack of competition and the rise of big firms without competitors

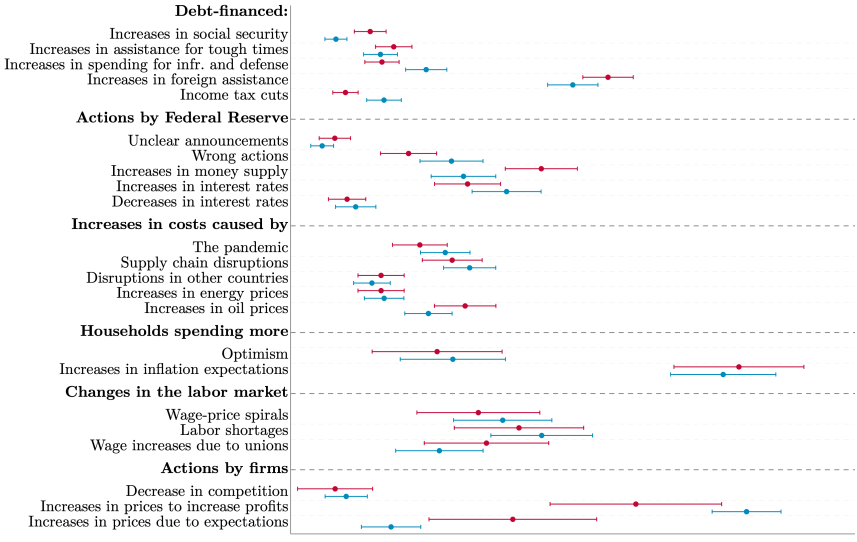
From the previous list, what is the most important cause of inflation?
(This question was asked for each list pertaining to one of the top 2 causes of inflation selected above)

Top 2 perceived broad causes of inflation



▸ By income ▸ By age

Perceived top detailed causes of inflation



By income By age

Our results on the perceived causes of inflation

Economics Literature	Our Findings

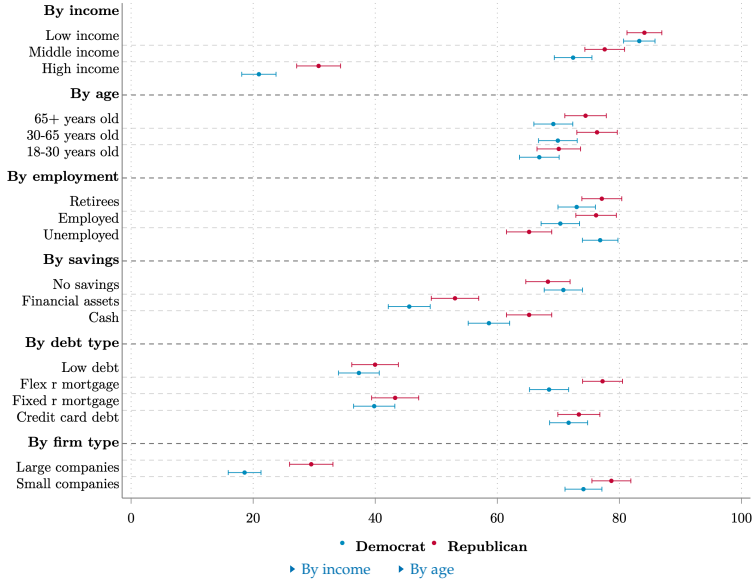
• **Phenomena with an inflationary potential emphasized by the economics literature:**
  • changes in fiscal policy (e.g., government spending, debt, and taxation);
  • monetary policy actions (e.g., increasing money supply, changing interest rates, and managing inflation expectations);
  • increases in the costs of production (i.e., cost-push shocks);
  • changes in the labor market (e.g., increases in labor market tightness, increase in union power, wage-price spirals);
  • politicians and political interests (e.g., political pressures on central banks, political instability, politicians catering to special interest);
  • increases in household demand (e.g., due to sentiment or inflation expectations changes);
  • firms' pricing decisions (e.g., in response to inflation expectation changes).
	• **Perceived as most important causes**
	  • Government spending, debt, and taxation (67%), increases in the costs of production (43%), actions by the Federal Reserve (31%), politics and politicians (22%), actions by firms and businesses (15%), changes in the labor market (13%), households spending more (10%).
	• **Relevant heterogeneity**
	  • Republicans:
	  * blame the Government and Fed more;
	  * blame firms and businesses less.
	  • Older respondents:
	  * more likely to blame politicians and political interests and actions of firms and businesses;
	  * less likely to blame the government or changes in the labor market.
	  • Fox News viewers (opposite holds for NPR listeners):
	  * blame the Government more;
	  * blame firms and businesses less.

The distributional impacts of inflation

Economics Literature	Our Findings

• **Channels through which inflation or inflationary shocks might have unequal impacts**
  • Relative consumption channel (or "inflation inequality"): households with different consumption baskets experience heterogeneous inflation rates.
  • Debt devaluation (or "Fisher") channel: inflation redistributes real wealth from lenders to borrowers.
  • Labor income channel: inflation erodes nominal income and, if wages are sticky, inflation will have larger % impact on higher-incomes.
  • Asset channel: heterogeneous responses of asset prices and dividends to various types of inflation shocks affect households differently based on their portfolio composition.
	• **Perceived distributional impacts of inflation within specific groups**
	  • Income groups: low-income people thought to lose more (84%) than high-income people (25%).
	  • Age groups: perceived to lose uniformly.
	  • Retirees/employed/unemployed: perceived to lose uniformly.
	  • Asset position groups: people without savings perceived to lose more than those with savings; people with little/no debt perceived to lose less than those with debt.
	  • Firm size groups: small firms thought to lose more (75%) than big corporations (25%).
	• **Relevant heterogeneity**
	  • Republicans:
	  ∗ more likely to think some groups lose from inflation (high-income people, people with savings in cash, people with flexible-rate mortgages, big firms).
	  • High-income respondents:
	  ∗ systematically perceive more adverse impacts across different groups.
	  • Fox News viewers:
	  ∗ less likely to perceive adverse distributional impacts (even conditional on political leaning).

% who believes these groups lose from inflation



Findings: the distributional impacts of inflation

Economics Literature	Our Findings

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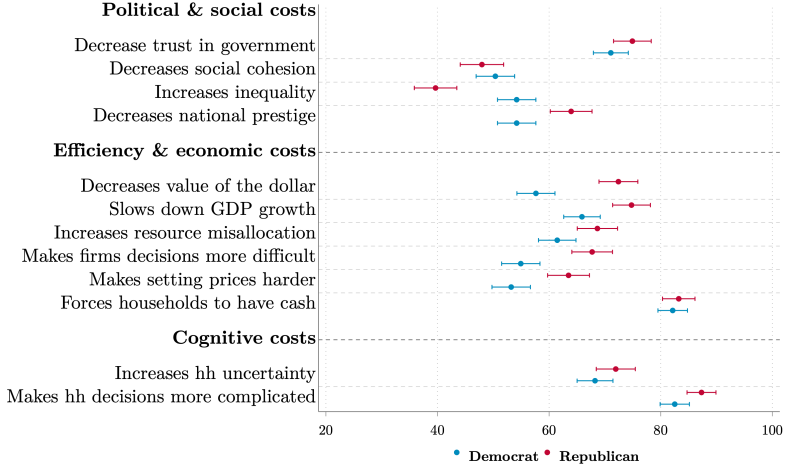
The consequences of inflation

Economics Literature	Our Findings

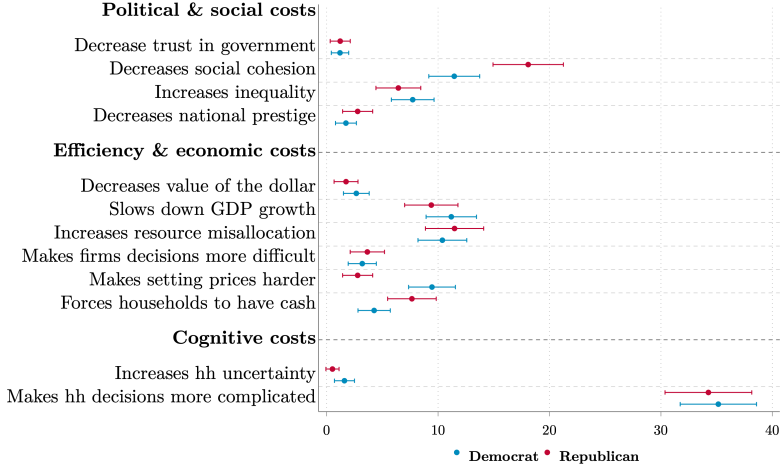
• **Most-studied consequences:**
  • shoe-leather costs;
  • resource misallocation.
• **Less-studied consequences:**
  • uncertainty and unpredictability;
  • decision-making complexity;
  • broader social and economic costs (decreases in trust in government, social cohesion, the value of the dollar, national prestige, GDP growth, and increases in inequality).
	• **Top 5 most-perceived consequences:**
	  • complexity in economic decisions (85%), shoe-leather costs (80%), decreased trust in government (70%), lower GDP growth (70%), uncertainty for households (70%).
	• **Relevant heterogeneity**
	  • Republicans:
	  ∗ perceive more adverse effects for households and businesses, and broader economic costs;
	  ∗ perceive less increases in inequality.
	  • High-income respondents:
	  ∗ perceive more increases in inequality and a decrease in trust for government.

Perceived importance of consequences of inflation



▸ By income ▸ By age

Top perceived consequence of inflation



▸ By income ▸ By age

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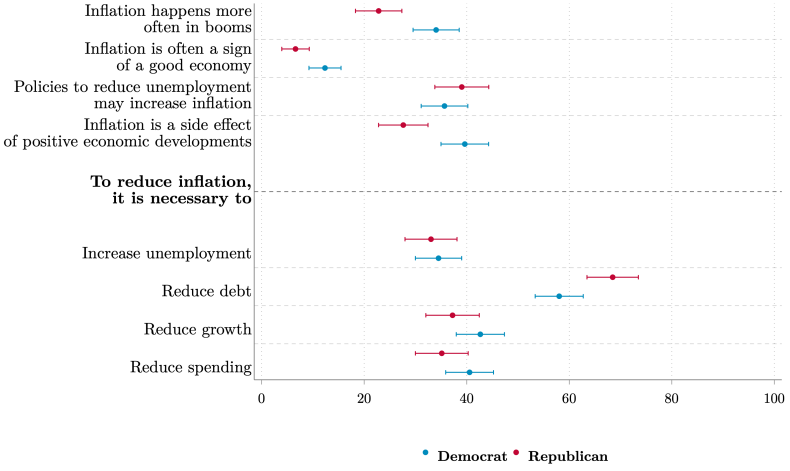
The trade-offs related to inflation

Economics Literature	Our Findings

• **Relation between inflation and economic activity**
  • Equilibrium relation between inflation and economic activity formalized by the New-Keynesian Phillips Curve. In equilibrium, inflation determined by:
  * inflation expectations;
  * economic slack (e.g. output gap, gap between current and potential level of unemployment);
  * cost-push shocks.
• **Policy tradeoffs**
  • When confronted with high inflation, policymakers can:
  * induce a slowdown in economic activity (e.g., increase interest rates, announce future increases in interest rates, decrease spending/debt, increase taxes);
  * manage inflation expectations.
  • Supply side interventions in response to adverse supply shocks less studied in this context.
	• **Perceived reduced-form relation between inflation and economic activity**
	  • Few respondents believe that inflation happens more often in booms than in recessions (30%), that it might be a side effect of positive economic developments (32%), or that it can be associated with a good economy (10%).
	  • Few respondents believe policies designed to reduce unemployment increase inflation (35%).
	• **Perceived policy tradeoffs**
	  • A minority of respondents believe it is necessary for policy makers to induce slow downs in economic activity to decrease intlation (30-40%).
	  • A majority of respondents (62%) believe it is necessary to reduce government debt to reduce inflation.
	• **Relevant heterogeneity**
	  • Republicans.
	  * less likely to think inflation can be a side effects of positive economic development.
	  • NYT readers and CNN viewers (opposite for Fox News viewers):
	  * more likely to consider inflation a potential by-product of a good economy.

Perceived trade-offs related to inflation



▸ By income ▸ By age

Findings: perceived trade-offs related to inflation

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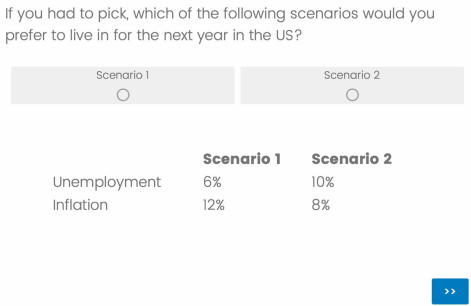
Policy views

Description of conjoint experiment

Each respondent saw 5 questions describing two scenarios characterized by a pair of values of inflation and unemployment. Respondents were then asked which of the scenarios they would prefer.

Values of inflation randomly picked in [0,16], values of unemployment in [2,16]



Estimation from a conjoint experiment

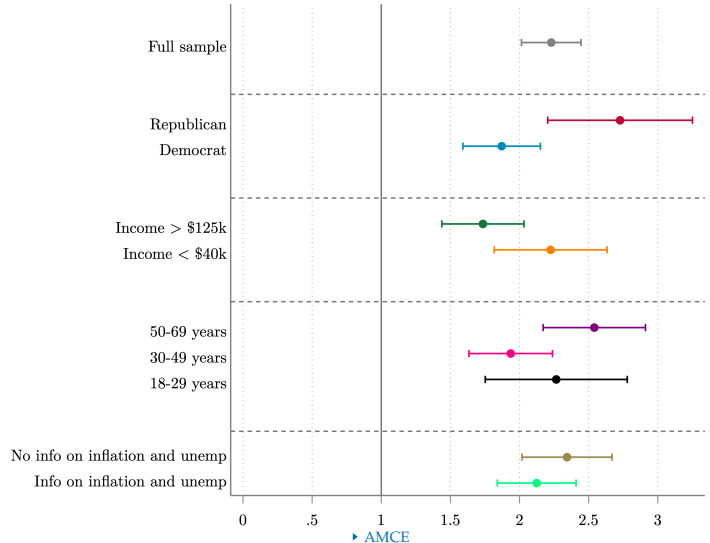
Denote by p a pair of two economies e and e'. We then run the following regression:

$$Y_{e,p,i} = \psi_i + \beta_1 \Delta(\pi)_{e,e',p} + \beta_2 \Delta(u)_{e,e',p} + \varepsilon_{e,p,i}$$

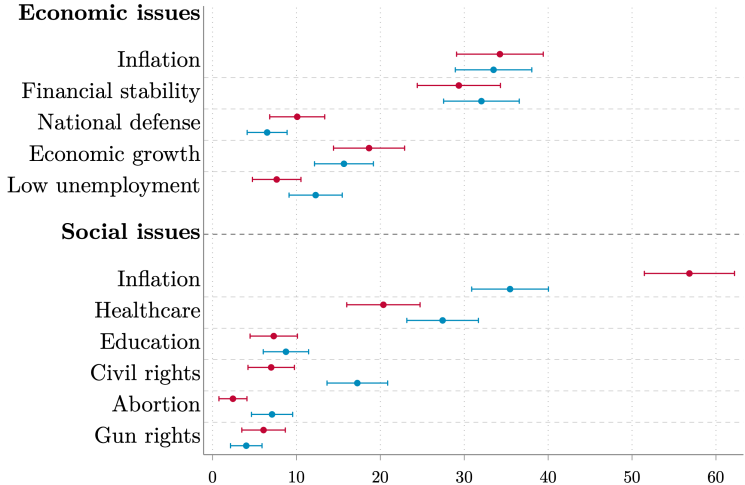
where $Y_{e,p,i}$ is an indicator variable equal to 1 if economy e in pair p was chosen by individual i, $\Delta(\pi)_{e,e',p}$ ($\Delta(u)_{e,e',p}$) is the difference in inflation (unemployment) between e and e' in p, and ψ_i are individual fixed effects.

For each subgroup, we plot $\lambda = \frac{\beta_1}{\beta_2}$ which is the marginal rate of substitution between inflation and unemployment under a linearity assumption for preferences

Implicit weight on inflation from conjoint experiment



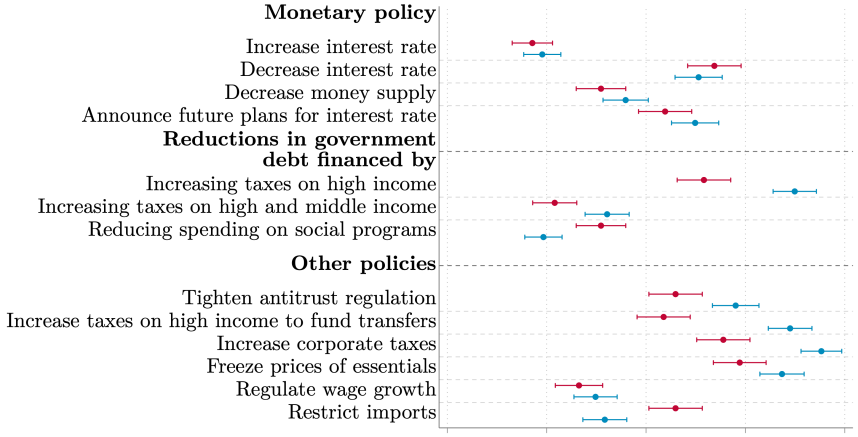
Most important policy priority



▸ By income ▸ By age

Inflation ranked highest regardless of (randomized) order of the sections

Policy views: Monetary, Fiscal, and Other Policies

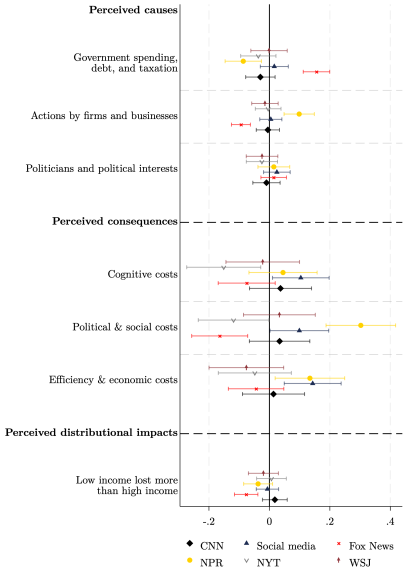


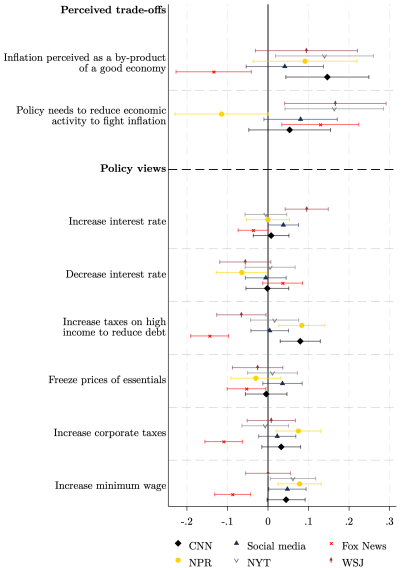
▸ By income ▸ By age ▸ Open-ended answers

Policies to combat redistributive consequences of inflation

▸ By income ▸ By age

News, understanding, and policy views





Information treatment

Inflation is the **rate of increase in prices** over a given period of time, meaning you have to **spend** more money to buy the same things.

Here's the tricky part:
reducing inflation can be like walking a tightrope

Cutting down on how much **money** is floating around might cool off inflation, but...

... this is not without its pains, **affecting jobs and economic vibrancy.**

Importantly, policies that are, in principle, good,

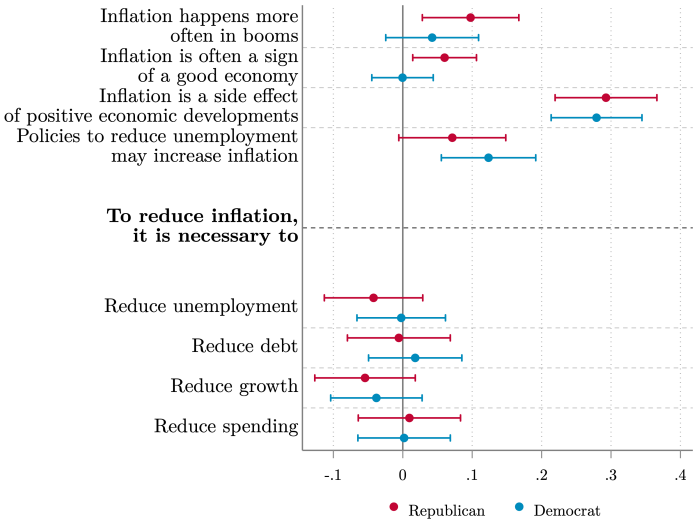
such as those that reduce unemployment and increase economic activity

might, paradoxically, increase inflation too.

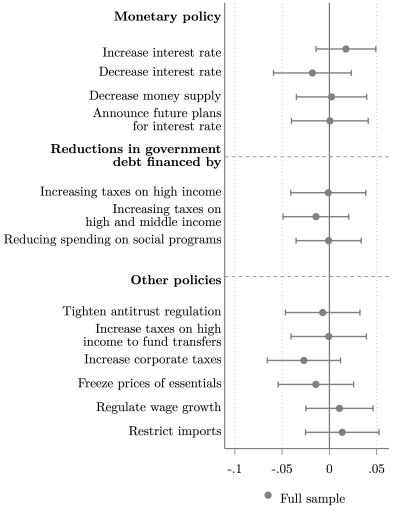
Tax cuts are another example of a policy that can put **more cash in your pocket** and that can **stimulate economic activity.**

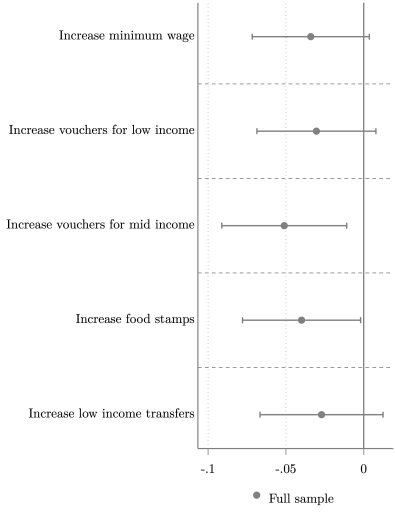
But if lots of people start spending more, **demand outstrips supply**, and that might also result in **inflation.**

First stage: shifting perceptions of trade-offs



Second stage: shifting policy preferences





Conclusion: Summary of Key Findings (I)

Main perceived causes: government actions, esp. foreign assistance (war) and rise in production costs due to COVID, oil prices, and supply chain disruptions.

Key consequence: complicates household decision making

Perceived distributional impacts: low-income people will lose more than high-income ones. Uniform perceived impacts by age.

Significant partisan gaps in most perceptions; News source matters too (Fox News vs. CNN/New York Times/NPR)

Lack of perceived trade-offs: inflation unambiguously "bad" and policymakers not perceived to face stark trade-offs to manage inflation.

Information experiment explaining trade-offs does not shift views

Thank you!

- **Comprehensive guide**: "How to Run Surveys: A guide to creating your own identifying variation and revealing the invisible." (socialeconomicslab.org/how-to-run-surveys/)

- **More projects:** socialeconomicslab.org