

Fiscal Stimulus Plans and Households' Expectations

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The views expressed are solely our own and do not reflect those of the BIS

- Role of monetary policy surprises for households' expectations widely investigated
 - ▶ Significant impact found in “controlled” experiments
 - ▶ Limited impact found in “natural” experiments
 - ▶ Date of monetary policy event easy to identify
- Role of fiscal policy surprises less explored:
 - ▶ Significant obstacle is identification of relevant date along a typically long legislative process

Questions

1. How to identify dates when fiscal stimulus affects households' expectations?
2. Do households' expectations react to news on fiscal stimulus?
3. Do households grasp the transmission of fiscal policy to the economy?

Roadmap

- Build a Google trends index to measure households' evolving attention to each of three large US fiscal stimulus plans
- Use data from FRBNY Survey of Consumer Expectations to measure impact of fiscal stimulus around peak dates of Google index
- Test whether a reaction occurs at specific dates of the fiscal plans (ie announcement, proposal, approval or implementation)
- Compare expectations on inflation, taxes, earnings, unemployment, interest rates and debt with textbook transmission of fiscal expansions

Data: FRBNY Survey of Consumer Expectations

- US nationally representative household survey
- Monthly coverage: Jan2013 to Mar2023
- Online survey, rotating panel of approx 1300 household heads
- Participation up to 12 months
- Tracks same individuals over time
- Provides info on individual household characteristics

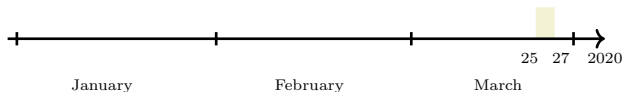
Data: Variables of interest

Overview of economic and financial expectations (12-months horizon)

Variable Name	Survey question	Answer format
Inflation	What do you expect the rate of inflation/deflation to be over the next 12 months?	Percent change
Unemployment	What do you think is the percent chance that 12 months from now the unemployment rate in the US will be higher than it is now?	Probability, 0–100%
Earnings	What do you expect to have happened to your earnings on this job, before taxes and deductions?	Percent change
Interest rate	What do you think is the percent chance that 12 months from now the average interest rate on saving accounts will be higher than it is now?	Probability, 0–100%
Government debt	Over the next 12 months by about what percent do you expect the level of U.S. government debt to decrease/increase?	Percent change
Taxes	What do you expect to have happened to the total amount of taxes you will have to pay, including federal, state and local income, property and sales taxes?	Percent change

Fiscal stimulus plans

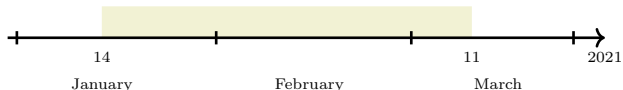
- CARES Act (2020), 10.4% of GDP
 - ▶ One-time cash payments to households and unemployment benefits



- Tax Cuts and Job Acts (2017), 9.8% of GDP
 - ▶ Tax rates reduction for individuals, deductions and family tax credits



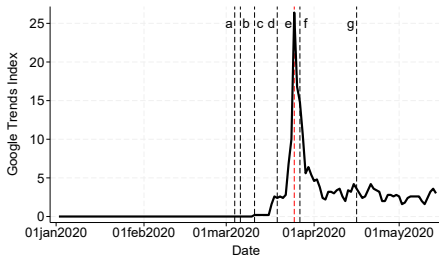
- American Rescue Plan (2021), 8.1% of GDP
 - ▶ One-time checks to families, tax credits, unemployment benefits



An index of households' evolving attention

- Google Trends is a web-based tool measuring the relative popularity of search queries over time
- We build an index based on the words *fiscal stimulus*, *tax cut*, *stimulus bill*, *stimulus package* and one among "CARES/TCJA/ARP"
- Index is simple average of the occurrence of the selected words
- Candidate fiscal events are all local and global peaks in this index

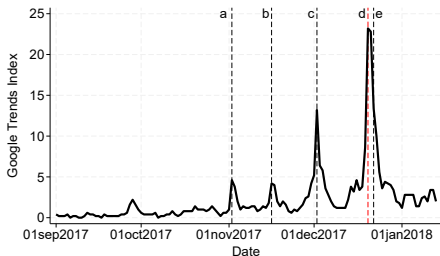
Google trends index: CARES Act (2020)



Google Trends index and relevant dates

- (a) Phase I introduced
- (b) Phased I signed
- (c) Phase II introduced in house
- (d) Phase II signed by the president
- (e) Senate approves CARES Act on 25 March
- (f) President signs CARES Act
- (g) Stimulus checks paid

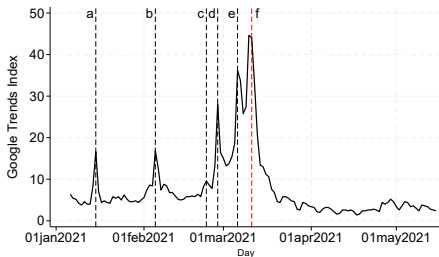
Google trends index: Tax Cut and Jobs Act (2017)



Google Trends index and relevant dates

- (a) TCJA introduced
- (b) TCJA passed in house
- (c) Senate approves with amendment
- (d) House agrees to amendment on 20 December**
- (e) President signs the TCJA

Google trends index: American Rescue Plan (2021)



Google Trends index and relevant dates

- (a) American Rescue Plan unveiled
- (b) Senate passes the budget resolution
- (c) American Rescue Plan introduced in house
- (d) Plan passed in house
- (e) Senate approves with an amendment
- (f) President signs the American Rescue Plan Act on 11 March

Baseline regression

$$\Delta y_{w,h}^e = \alpha_w + \beta_w I_{w,h} + \gamma_w X_{w,h} + \varepsilon_{w,h}$$

w = window, h = household

- $\Delta y_{w,h}^e$: month-on-month change in the 12m-ahead-expectations in the variables of interest, for household h over window w
- $I_{w,h}$: “treatment” dummy (= 0 if the household responded before the event date and 1 if up to w days after the event)
- $X_{w,h}$: set of controls (including household characteristics, state of residency, and latest data release of y at time of response)
- Events are local and global peaks of index
- But significant effects only around max

12-months ahead inflation expectations

	<i>Window length</i>				
	3 days	5 days	10 days	15 days	20 days
$\hat{\beta}_w$	0.24 (0.807)	0.39 (0.638)	0.613 (0.455)	0.28 (0.714)	0.45 (0.488)
Observations	591	613	675	748	877
Treated households	37	59	121	194	323
R-squared	0.086	0.090	0.084	0.075	0.058
<i>Notes:</i>	*p<0.1; **p<0.05; ***p<0.01 In percentage points				

CARES Act: financially literate households

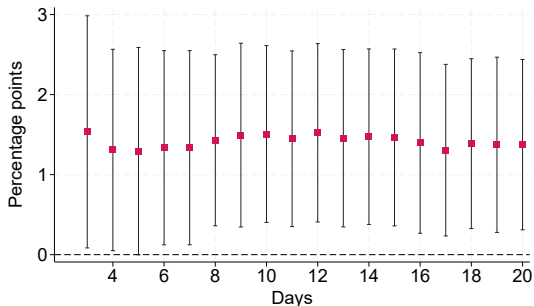
Financially literate: at least 5 correct answers out of 7 questions

12-months ahead inflation expectations

	<i>Window length</i>				
	3 days	5 days	10 days	15 days	20 days
$\hat{\beta}_w$	1.53** (0.043)	1.30* (0.056)	1.67*** (0.008)	1.60*** (0.008)	1.57*** (0.007)
Observations	404	417	460	514	591
Treated households	26	39	82	136	215
R-squared	0.137	0.127	0.134	0.099	0.082
Notes:	*p<0.1; **p<0.05; ***p<0.01 In percentage points				

CARES Act: financially literate households

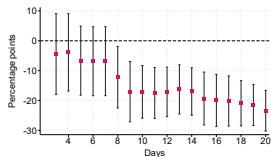
12-months ahead inflation expectations: more window lengths



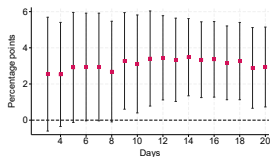
Notes: Error intervals based on a 95% confidence level

CARES Act: reaction of other variables

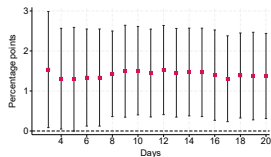
12-months ahead expectations



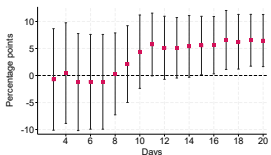
Unemployment



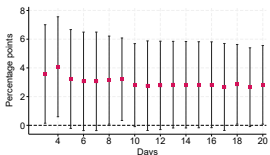
Earnings



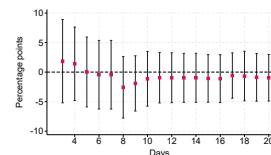
Inflation



Interest rates



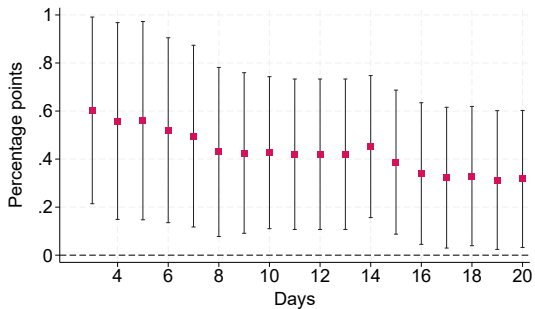
Taxes



Government debt

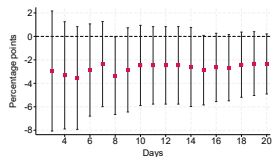
TCJA: financially literate households

12-months ahead inflation expectations

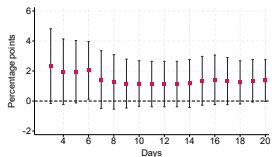


TCJA: reaction of other variables

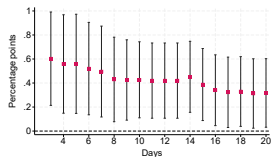
12-months ahead expectations



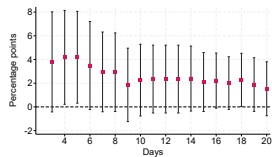
Unemployment



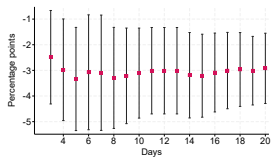
Earnings



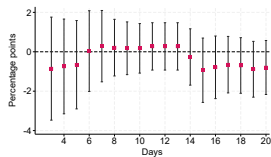
Inflation



Interest rates



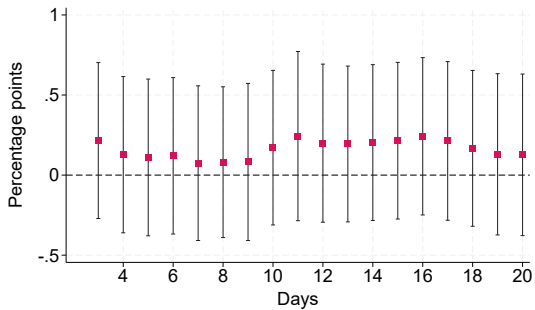
Taxes



Government debt

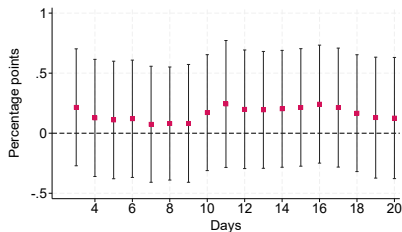
ARP: financially literate households

12-months ahead inflation expectations

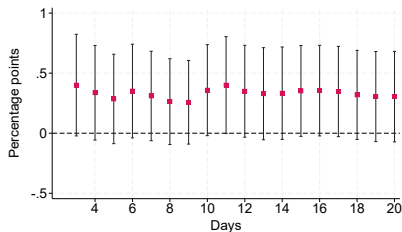


ARP: confounding data releases?

- CPI release: 10/03, day before ARP signature and Google index peak
- Collinearity between “last CPI” control and “treatment dummy”
- Impact of CPI release absorbs significance of ARP announcement
- If we drop “last available CPI” control, $\hat{\beta}$ becomes significant



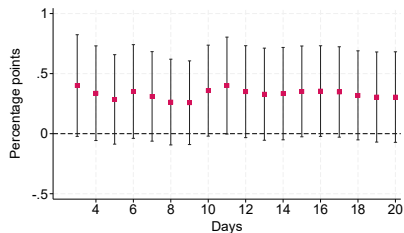
11 March, baseline



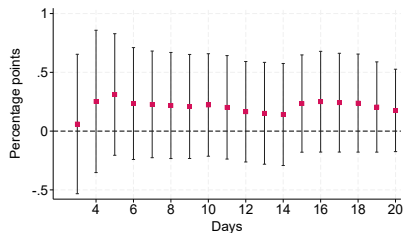
11 March, excluding last CPI

What about FOMC meetings?

ARP: (uneventful) FOMC on 17 March, 6 days after announcement



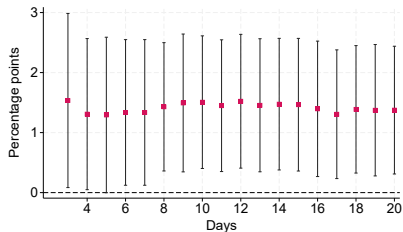
ARP - 11 March



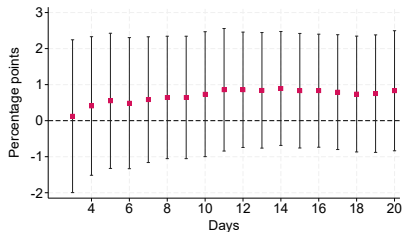
FOMC - 17 March

What about FOMC meetings? [cont'd]

CARES: unscheduled FOMC on 23 March, 2 days before announcement



CARES – 25 March



FOMC – 23 March

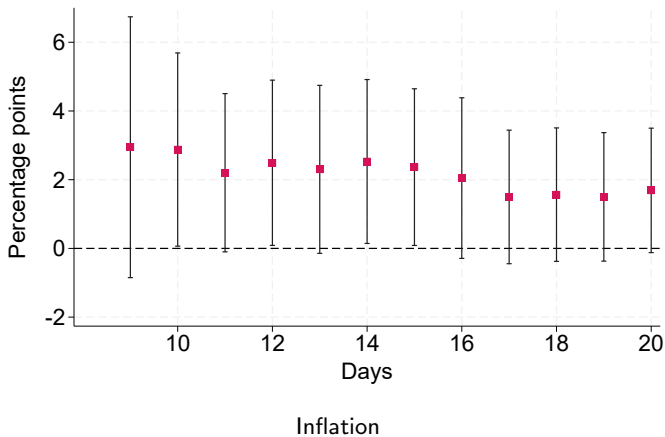
Conclusions

- 1 Significant reaction of households' expectations around global peak in attention, not around local peaks
 - ▶ Global peak when law is passed by Congress or signed by President
- 2 Significant reaction only for financially literate households
 - ▶ Confirms relevance of financial literacy for monetary policy effectiveness
- 3 Reaction of households' expectations points to a basic understanding of the transmission of fiscal stimulus
 - ▶ Inflation, earnings, interest rates expected to rise, unemployment to fall
 - ▶ Taxes to rise or fall depending on nature of fiscal stimulus
 - ▶ No significant increase in expectations of public debt
- 4 Are households more sensitive to fiscal than monetary policy news?

Background Slides

CARES Act: excluding respondents in first 7 days

12-months ahead expectations



TCJA: excluding respondents in the first 7 days

12-months ahead expectations

