Five Facts about MPCs

Johannes Boehm, Sciences Po Etienne Fize, French Council of Economic Analysis Xavier Jaravel, London School of Economics

T2M Conference

June 1, 2023

Motivation

Recent years have seen many fiscal stimulus policies that transfer money directly to households.

Impact of these transfers on consumption and demand depends on the propensity to consume out of these transfers.

Despite large literature, estimates of MPCs vary widely

- Tax rebates/fiscal transfers: Parker et al. 2006, 2013, Orchard-Ramey-Wieland 2022; Borusyak-Jaravel-Spiess 2022, Lewis-Melcagni-Pilossoph 2021, Sahm-Shapiro-Slemrod 2012, Karger-Rajan 2020, Baker et al. 2020, Coibion-Gorodnichenko-Weber 2020, Hsieh et al. 2010, Geng et al., 2022, and others
- Other income shocks: typical income shocks (Ganong et al. 2020), Lottery winnings (Fagereng et al. 2019, Golosov et al. 2022), Recurring lump-sum (Kueng 2018)

This Paper

Conduct RCT to estimate path of consumption response with a *clean* and *policy-relevant* source of variation: allocate €300 at random across French households through pre-paid cards

- Objective: establish a set of facts about (i)MPCs
- Emphasis on scalability and policy-relevance

Several treatment arms to study the potential **role of transfer design**, in particular through negative interest rates

- 1. No restrictions
- 2. Expiry date after three weeks
- 3. 10% negative rate each week

Implementation with a large French retail bank. Linked bank account data allows precise measurement of consumption expenditure:

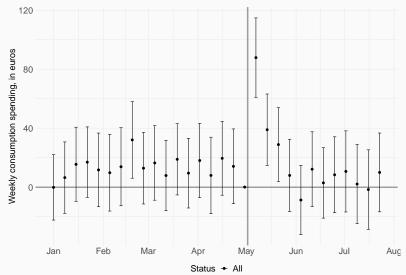
- · High-frequency expenditure data
- · Rich set of household covariates

Collaboration with French retail bank Credit Mutuel/CIC • data

- · Observe all account movements of 85,756 households that
 - · are 25-75 years old
 - have a permanent address, are not very poor (→ not ethically problematic)
 - bank mostly/entirely with CIC and use their accounts regularly (→ can measure consumption expenditure well)
- 922 households receive €300 treatment card by mail (+ call from bank advisor)
 - N = 381 card 1 (cash-like)
 - N = 272 card 2 (short expiry date)
 - N = 271 card 3 (negative interest rate) details
- · 9.7% choose not to use the card

Weekly consumption, event study graph

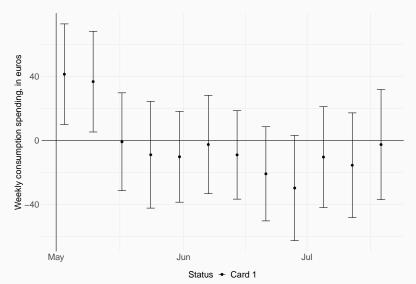
Sum of weekly card expenditures (any card) + cash withdrawals.



TWFE w/ household and week \times #eligible FE. Pooled across treatment groups.

Fact 1. Low/Moderate MPC on no-restriction cash-like transfers

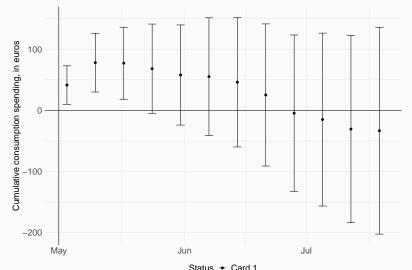
Treatment group 1 (cash-like) only:



Fact 1. Low/Moderate MPC on no-restriction cash-like transfers

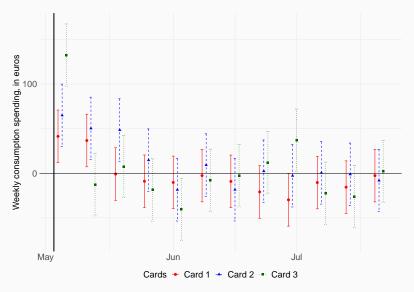
Treatment group 1 (cash-like) only.

Cumulative de-meaned consumption. ⇒ 22% 1-month MPC



Fact 2. Transfer design can substantially increase MPC

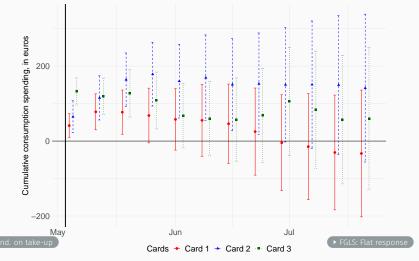
IRF by treatment group.



Fact 2. Transfer design can substantially increase MPC

Cumulative de-meaned consumption.

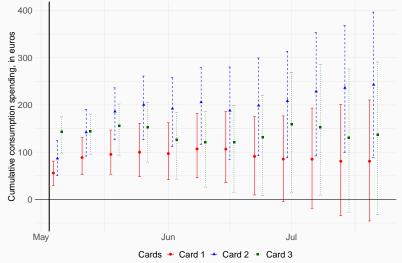
 \Rightarrow 60 % avg. 1m MPC on 3-week expiry card (70% cond. on take-up), 36% on neg. interest card.



Fact 3. Consumption responses are concentrated early on

Estimate σ_i using pre-period data, then GLS. Bootstrapped Cl's.

 \Rightarrow High MPC in first 1-3 weeks, flat after.



Fact 4. Significant MPC heterogeneity by obs. characteristics

We consider potential sources of MPC heterogeneity across household:

- 1. () **Net liquid wealth** (avg. in the three months prior to the experiment)
 - current account + liquid savings accounts (*Livret A, Livret Jeune, Livret épargne populaire*) net of consumption debt
- 2. (\) Average income in the three months prior to the experiment
- 3. (\) Average weekly expenditures (proxy for permanent income)
- 4. Gender (of card recipient) Men: higher MPC
- 5. () Age (of card recipient)

While individual characteristics are usually significant, signs of coefficients move when including them jointly





► Avg. Expend.











Fact 4. Significant MPC heterogeneity by obs. characteristics

We consider potential sources of MPC heterogeneity across household:

- 1. (\(\) Net liquid wealth (avg. in the three months prior to the experiment)
 - current account + liquid savings accounts (Livret A, Livret Jeune, Livret épargne populaire) net of consumption debt
- 2. (\searrow) Average income in the three months prior to the experiment
- 3. (\searrow) Average weekly expenditures (proxy for permanent income)
- 4. Gender (of card recipient) Men: higher MPC
- 5. (↗) Age (of card recipient)

While individual characteristics are usually significant, signs of coefficients move when including them jointly





▶ Avg. Expend.





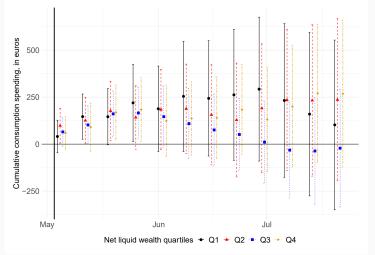






Even HH's with lot's of liquid wealth have MPC >> 0

Cumulative MPC, group 2 (short expiry date)



High MPC for households with high liquid assets inconsistent with standard two-asset HANK models

Most papers on estimating MPCs try to get at differences in MPCs by observable characteristics.

But distribution of MPCs relevant for full response of the economy to shocks (e.g. Auclert, 2019)

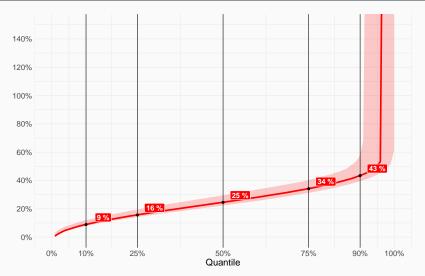
Large advantage of experiments: assumptions for identification of unconditional *distribution* of MPCs much more likely to be satisfied. Idea:

$$Y(1) = \beta + \varepsilon$$
$$Y(0) = \varepsilon$$

We know that the *distribution* of the outcome of treated differs from the *distribution* of the outcome of the control only through the treatment effect.

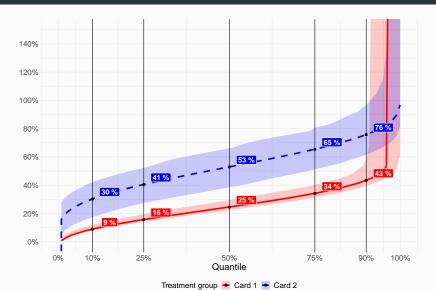
If $\beta \perp \varepsilon$, then β is (nonparametrically) identified.





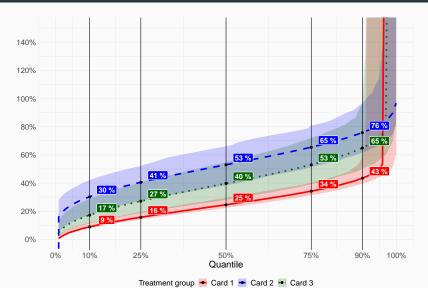
Treatment group 🕶 Card 1

Numbers refer to 4-week cumulative % deviation from weekly consumption. Estimator imposes constraint that treatment effect is nonnegative.



Numbers refer to 4-week cumulative % deviation from weekly consumption.

Estimator imposes constraint that treatment effect is nonnegative.



Numbers refer to 4-week cumulative % deviation from weekly consumption.

Estimator imposes constraint that treatment effect is nonnegative.

5 Facts: Implications for Models

Standard calibrated HANK models

- Precautionary savings with borrowing constraints
- Calibrate parameters to match moments of the liquid/illiquid wealth distribution and income processes
- Predict a quarterly MPC of 16%, and an annual MPC of 41% (Kaplan and Violante, 2014, 2022)
 - \Rightarrow cannot match the estimated monthly MPC in the data

More broadly, household behavior for Card 1 vs. Cards 2-3 reject standard "rational" models treating money as fungible Smoking Gun

- Consider only transactions under 300 euros:
 - 88% of households in Group 2 spent at least 300 euros on the main bank account before the expiry date Card 2
- Costless to perfectly substitute current account spending for prepaid card spending

Behavioral Models

Present-bias models

- Spender-saver model (Campbell and Mankiw 1989)
- Hyperbolic discounting models (Laibson 1997, LMM 2021)
 - ⇒ cannot account for differences between Card 1 and Cards 2-3

Model with "salience" are better able to match the evidence

- Salience as a psychological foundation for mental accounting (Bordalo, Gennaioli, Shleifer 2012, 2013, 2021)
 - Models of salience show "how bottom-up attention affects economic choice by distracting decision makers from relevant choice attributes"
- Consistent with prior work on non-fungibility of money (Hastings-Shapiro 2013, 2018)

Conclusion

- Experimental estimates of MPC with policy-relevant, scalable intervention
 - · Overall: 37% monthly MPC
 - · No restriction: 22% monthly MPC
 - · Short expiry date prepaid cards: 60% monthly MPC
- 2. Spending response is concentrated in the first month
- 3. Large heterogeneity in MPCs, some explained by observed characteristics

Takeaways:

- ⇒ implementation design of transfers matters
- ⇒ importance of behavioral features for macro models (e.g., salience)

Thank you!

johannes.boehm@sciencespo.fr

Fact 1. Low/Moderate MPC on no-restriction cash-like transfers. 22% monthly MPC.

Fact 2. Transfer design can substantially increase MPC. 60 % average monthly MPC on 3-week expiry card (70% cond. on take-up), 36% on neg. interest card.

Fact 3. Consumption responses are concentrated early on.
Higher-than-usual consumption in first 1-3 weeks, back to trend
after

Fact 4. Significant MPC heterogeneity by observed household characteristics.

Current income, permanent income, liquid wealth, gender, age.

Fact 1. Low/Moderate MPC on no-restriction cash-like transfers. 22% monthly MPC.

Fact 2. Transfer design can substantially increase MPC. 60 % average monthly MPC on 3-week expiry card (70% cond. on take-up), 36% on neg. interest card.

Fact 3. Consumption responses are concentrated early on.
Higher-than-usual consumption in first 1-3 weeks, back to trend
after.

Fact 4. Significant MPC heterogeneity by observed household characteristics.

Current income, permanent income, liquid wealth, gender, age.

Fact 1. Low/Moderate MPC on no-restriction cash-like transfers. 22% monthly MPC.

Fact 2. Transfer design can substantially increase MPC. 60 % average monthly MPC on 3-week expiry card (70% cond. on take-up), 36% on neg. interest card.

Fact 3. Consumption responses are concentrated early on. Higher-than-usual consumption in first 1-3 weeks, back to trend after.

Fact 4. Significant MPC heterogeneity by observed household characteristics.

Current income, permanent income, liquid wealth, gender, age.

Fact 1. Low/Moderate MPC on no-restriction cash-like transfers. 22% monthly MPC.

Fact 2. Transfer design can substantially increase MPC. 60 % average monthly MPC on 3-week expiry card (70% cond. on take-up), 36% on neg. interest card.

Fact 3. Consumption responses are concentrated early on. Higher-than-usual consumption in first 1-3 weeks, back to trend after.

Fact 4. Significant MPC heterogeneity by observed household characteristics.

Current income, permanent income, liquid wealth, gender, age.

Fact 1. Low/Moderate MPC on no-restriction cash-like transfers. 22% monthly MPC.

Fact 2. Transfer design can substantially increase MPC. 60 % average monthly MPC on 3-week expiry card (70% cond. on take-up), 36% on neg. interest card.

Fact 3. Consumption responses are concentrated early on. Higher-than-usual consumption in first 1-3 weeks, back to trend after.

Fact 4. Significant MPC heterogeneity by observed household characteristics.

Current income, permanent income, liquid wealth, gender, age.

Implications

- MPC estimates present a set of facts that models of consumption ought to match
 - Concentration of consumption response early on cannot be accounted for in standard calibrated HANK models (Kaplan-Violante 2014, Auclert-Rognlie-Straub 2018)
 - Heterogeneity by treatment group difficult to match for standard macro models without "behavioral" features
 - · Results point towards salience / mental accounting
- Implementation design & household targeting can greatly alter the MPC and the effectiveness of short-run stimulus
 - $\cdot \Rightarrow$ relevance for policy

Roadmap

1. Data & Experimental Design

2. Results

3. Lessons for models of the consumption response to transfers & policy

The "Crédit Mutuel Alliance Fédérale" Data

- · Random sample of 300,000 households
 - · Sampling frame by age and province
 - Reweighting approach (not today)
- · Rich bank data on financial flows and household balance-sheet
 - · Credit card transactions and expenditures at daily frequency
 - Balances of all current and savings accounts, mutual funds, debt held within the bank
 - Prior works shows sample is representative of French households and macro trends (Bounie et al. 2020, Insee 2021)
- Our household-level measure of consumption expenditures...
 - includes all weekly purchases & cash withdrawals from payment cards (winsorized at 99th pc.)
 - for today, excludes utility bills, wire transfers (e.g., rents, large durables, transfer to other accounts), checks



The "Crédit Mutuel Alliance Fédérale" Data

- · Random sample of 300,000 households
 - · Sampling frame by age and province
 - Reweighting approach (not today)
- · Rich bank data on financial flows and household balance-sheet
 - Credit card transactions and expenditures at daily frequency
 - Balances of all current and savings accounts, mutual funds, debt held within the bank
 - Prior works shows sample is representative of French households and macro trends (Bounie et al. 2020, Insee 2021)
- Our household-level measure of consumption expenditures...
 - includes all weekly purchases & cash withdrawals from payment cards (winsorized at 99th pc.)
 - for today, excludes utility bills, wire transfers (e.g., rents, large durables, transfer to other accounts), checks



The "Crédit Mutuel Alliance Fédérale" Data

- · Random sample of 300,000 households
 - · Sampling frame by age and province
 - Reweighting approach (not today)
- · Rich bank data on financial flows and household balance-sheet
 - Credit card transactions and expenditures at daily frequency
 - Balances of all current and savings accounts, mutual funds, debt held within the bank
 - Prior works shows sample is representative of French households and macro trends (Bounie et al. 2020, Insee 2021)
- Our household-level measure of consumption expenditures...
 - includes all weekly purchases & cash withdrawals from payment cards (winsorized at 99th pc.)
 - for today, excludes utility bills, wire transfers (e.g., rents, large durables, transfer to other accounts), checks



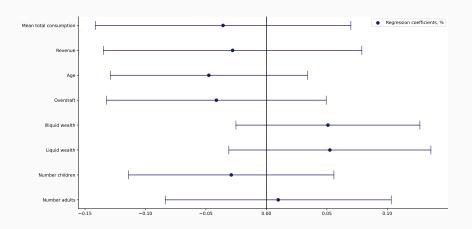
- The transfers take the form of a debit card linked to an account with an initial balance of 300 Euros
 - Card can be used as a means of payment in retail outlets or on the Internet, but recipients cannot withdraw cash at cash machines or transfer money from it to another account
 - All treatment participants receive a letter of instructions and explanations at the start of the trial, and are contacted by their bank advisor
- 924 participants are selected at random from the pool of clients of the bank, subject to eligibility criteria
 - Exclude households (i) above 75 or below 25, (ii) with financial fragility, (iii) with current accounts at other banks
- · Participants are also allocated at random to:
 - · Card types (G1, G2, G3)
 - Framing groups (F1, F2)

- The transfers take the form of a debit card linked to an account with an initial balance of 300 Euros
 - Card can be used as a means of payment in retail outlets or on the Internet, but recipients cannot withdraw cash at cash machines or transfer money from it to another account
 - All treatment participants receive a letter of instructions and explanations at the start of the trial, and are contacted by their bank advisor
- 924 participants are selected at random from the pool of clients of the bank, subject to eligibility criteria
 - Exclude households (i) above 75 or below 25, (ii) with financial fragility, (iii) with current accounts at other banks
- · Participants are also allocated at random to:
 - · Card types (G1, G2, G3)
 - Framing groups (F1, F2)

- The transfers take the form of a debit card linked to an account with an initial balance of 300 Euros
 - Card can be used as a means of payment in retail outlets or on the Internet, but recipients cannot withdraw cash at cash machines or transfer money from it to another account
 - All treatment participants receive a letter of instructions and explanations at the start of the trial, and are contacted by their bank advisor
- 924 participants are selected at random from the pool of clients of the bank, subject to eligibility criteria
 - Exclude households (i) above 75 or below 25, (ii) with financial fragility, (iii) with current accounts at other banks
- Participants are also allocated at random to:
 - Card types (G1, G2, G3)
 - Framing groups (F1, F2)

Randomization Tests

Check whether covariates are correlated with treatment status, with P(Treated) = 1%:



Treatment Arms: Card Types

- For all participants, the initial account balance is EUR 300
- Three treatment types depending on card restrictions:
 - [G1: No restriction, N=381] Card expires six months after, at which point any unspent value on the account is transferred to the participants' main checking account
 - [G2: Short expiry date, N=272] Card expires three weeks and a half after; any unspent value on the account is lost
 - [G3: Negative interest rate, N=271] To approximate a 10% negative interest rate at a weekly frequency, every Monday at 11:59pm the remaining balance decreases by the following amounts:
 - by 30 euros if the balance is in the interval (200, 300]
 - by 20 euros if the balance is in the interval [100, 200]
 - by 10 euros if the remaining balance is below 100



Treatment Arms: Framing Groups

- Two framing groups:
 - F1 participants are told in the instructions letter that they are free to use the money as the please
 - For F2 participants, the letter contains an additional paragraph with the framing treatment, explaining:

 "although you are free to spend the money as you please, you are encouraged to (i) spend quickly, (ii) spend on local services or goods made in France, and (iii) spend on items they would not have purchased otherwise, so that the overall increase of your spending and its impact on the French economy is maximized."
- Each framing group account for half of the participants
 - Balanced across card type groups

Will F2 Group respond to the exhortation to "buy French"?



ARNAUD MONTEBOURG

L'engagement

récit



Timeline of the Experiment

- 1. Wednesday April 27th, 2022: prepaid credit cards are made and sent
- Participants receive the cards and attached explanations around Monday, May 2nd
- 3. **Monday May 9th**: G3 participants experience the first weekly deductions, for any remaining balance
- 4. **Wedneday May 11th**: another letter is sent to all participants, as a reminder
- 5. **Monday May 16th**: second deduction for G3 participants, and so on every week from then onward
- 6. Tuesday May 24rd: card for G2 participants expire
- 7. Mid-june: online survey sent to all participants
- 8. October 3rd: all cards expire



Survey

- We administer a survey to better understand participants' behaviors, with three main types of questions:
 - How did you use the card (covered running expenses / bought "a treat" / made a purchase earlier than planned / gifts / etc.)?
 - Did you spend less on your main account? If so, how will you use the money you saved (precautionary savings / buy something expensive later / invest / pay off debt / etc.)
 - Did you primarily buy local services / products made in France?
- · Response rate: 46%
 - · Assess potential bias / selection by reweighting (not today)

Roadmap

1. Experimental Design & Data

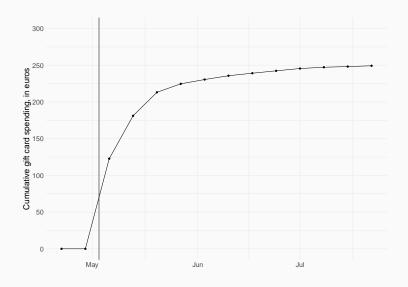
2. Results

- Average MPC
- MPC by card type
- · MPC by framing
- · MPC by household characteristics
- · Distribution of MPCs

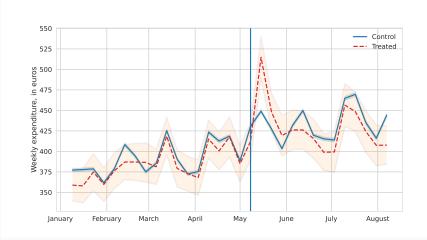
3. Lessons for models of the consumption response to transfers & policy

Average MPC

Cumulative Spending on Prepaid Card



Total Spending: Raw Data, Weekly





Regression Specification

Standard specification with household fixed effects:

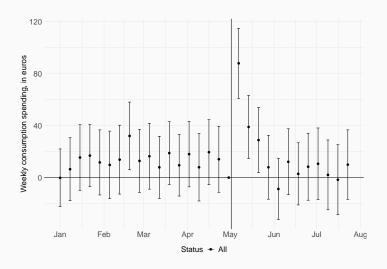
$$Y_{it} = \sum_{\tau=-T}^{\widetilde{T}} \beta_{\tau} 1(\tau \text{ weeks since } i \text{ treated})_{it} + \alpha_i + v_{tE} + \varepsilon_{it}$$

Include fixed effects v_{tE} for "week by number of eligibile household members" since eligibility was determined at the individual level, while outcome are observed at the household level

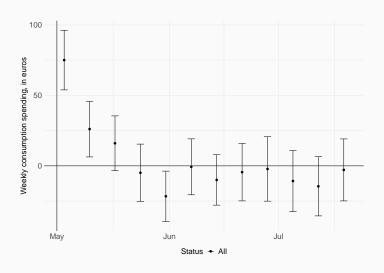
 Households with more eligible individuals are more likely to be treated

Preferred specification imposes no leads for efficiency

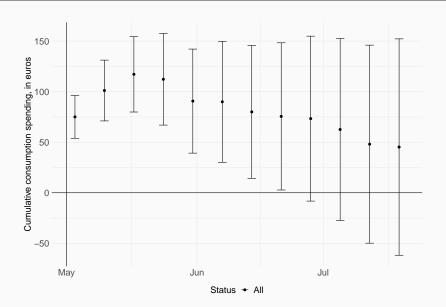
Total Spending Response, Weekly



Total Spending Response, Weekly



Total Spending Response, Cumulative

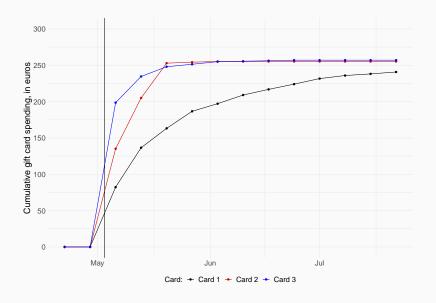


Understanding participants' spending behavior

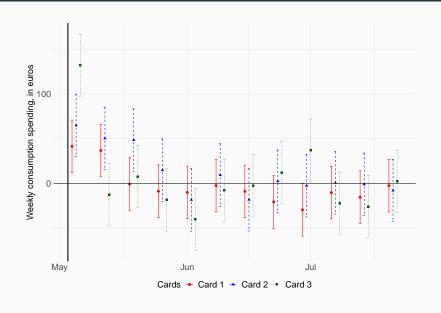
- To understand participant's spending behavior, we combine two approaches:
 - survey questions
 - analyze spending categories for prepaid cards and linked bank accounts
- Takeaways (not in detail today):
 - well aware that they spend less on their main account Slide; they mention precautionary savings as key motive Slide
 - use the prepaid card primarily to cover running expenses Slide, and spend extra on clothing and household equipment (furniture, consumer electronics, etc.) Slide
 - spend slightly more on durables Slide and imported goods

MPC by Card Type

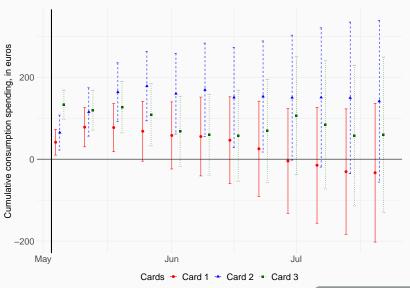
Cumulative Spending on Prepaid Card, by Card Type



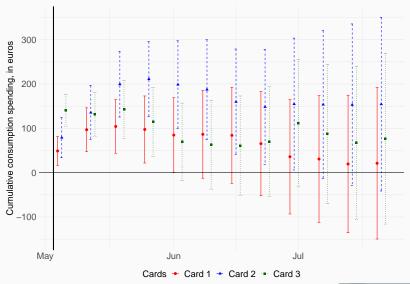
Total Spending Response: By Group, Weekly



Cumulative Spending Response by Group

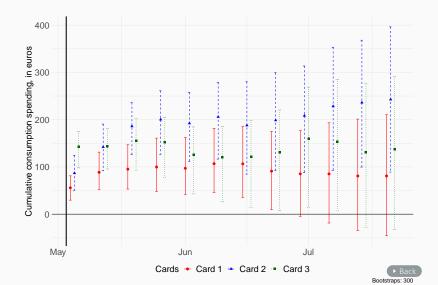


Cumulative Spending Response by Group, cond. on take-up



FGLS estimates

Estimate σ_i using pre-period data, then GLS. Bootstrapped Cl's.

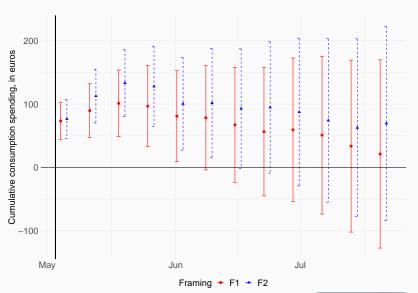


Understanding participants' spending behavior

- Main differences in stated and measured spending behavior for households with cards 2 & 3 (not in detail today)
 - less likely to cover running expenses and more likely to make large purchases earlier
 - slightly more likely to purchase imported goods Slide
 - no evidence for purchases of goods with "negative externalities"
 Slide (tobacco, drinking, betting, lottery)
 - no evidence for detrimental lack of consumption smoothing
 Slide

MPC by Framing

Consumption response by framing treatment



Causal Effects of Framing?

Point estimates between framing groups somewhat different (10pp at 1m horizon) but not stat. significant.

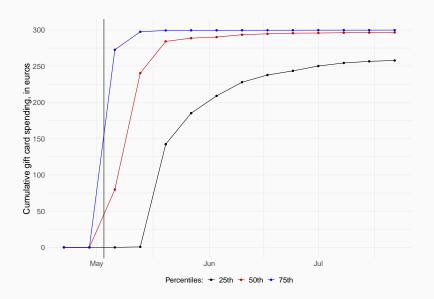
No difference between framing groups in composition of purchases (import content). • Imports

In the survey, participants with framing treatment are more likely to state they tried to buy "a treat" and that they made purchases that were not planned

► What did you buy? ► Planned?

· Also consistent with experimenter demand effects

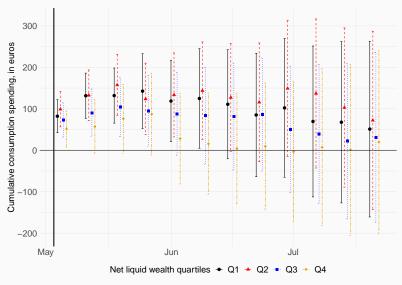
Distribution of Cumulative Spending on Prepaid Card



Household Heterogeneity

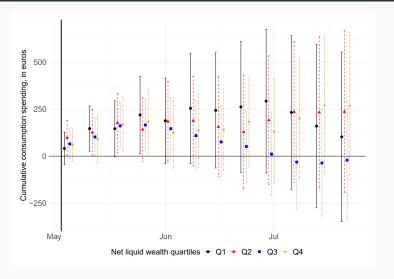
- We consider potential sources of MPC heterogeneity across household:
 - Average net liquid wealth in the three months prior to the experiment
 - current account + liquid savings accounts (Livret A, Livret Jeune, Livret épargne populaire) net of consumption debt
 - 2. Average income in the three months prior to the experiment
 - Average weekly expenditures (proxy for permanent income) over a year
 - 4. Gender (of card recipient)
 - 5. Age (of card recipient)
- 1.-3. are adjusted for household size
- Compare MPCs by quartiles

Cumulative Spending Response by Liquid Assets



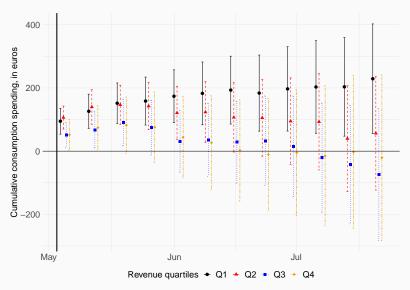


Cumulative Spending Response by Liquid Assets: Group 2



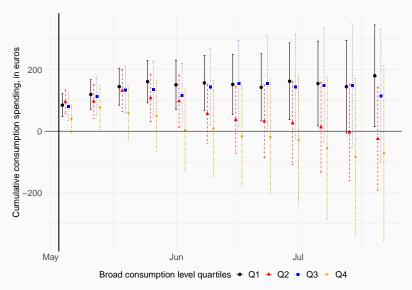
High MPC for households with high liquid assets inconsistent with standard two-asset HANK models

Cumulative Spending Response by Income



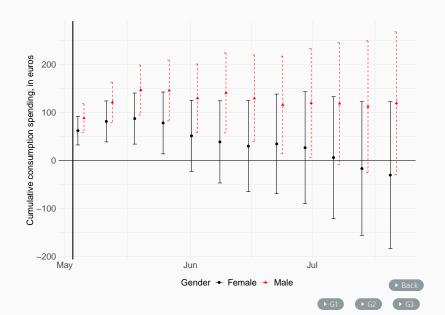


Cumulative Spending Response by Avg. Cons. Level

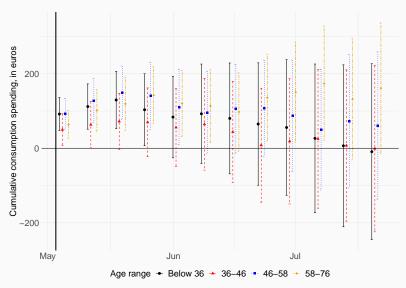




Cumulative Spending Response by Gender



Cumulative Spending Response by Age





Unconditional Distribution of MPCs

Identifying the unconditional distribution of MPCs

Most papers on estimating MPCs try to get at differences in MPCs by observable characteristics.

But distribution of MPCs relevant for full response of the economy to shocks (e.g. Auclert, 2019)

Large advantage of experiments: assumptions for identification of unconditional *distribution* of MPCs much more likely to be satisfied. Idea:

$$Y(1) = \beta + \varepsilon$$
$$Y(0) = \varepsilon$$

We know that the *distribution* of the outcome of treated differs from the *distribution* of the outcome of the control only through the treatment effect.

If $\beta \perp \varepsilon$, then β is (nonparametrically) identified.

Deconvolution Approach to Identification

Full model:

$$\log Y_{it} = \sum_{ au=0}^{T} eta_{ au} 1(au ext{ weeks since treated})_{it} + lpha_i + lpha_{tE} + arepsilon$$

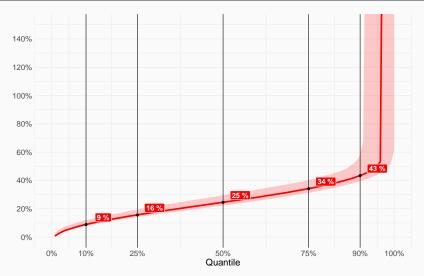
Estimate $\sum_{\tau} \beta_{\tau}$ through deconvolution: what's the distribution of the MPC such that the convolution of the MPC and the error term (estimated from control) has the same distribution as the outcome of the treated?

Implement deconvolution using quadratic-programming-based estimation procedure of Yang et al. (2020): allows for constraints

To assess plausibility of $\beta \perp \varepsilon_{it}$, repeat the analysis with/without observable predictors for MPC heterogeneity (age, income, gender, liquid wealth)

- · the results turn out not to be sensitive to this
- for our results to be biased, unobservable predictors of MPC heterogeneity τ_{it} should much more strongly correlated with unobserved shocks ε_{it} than observable predictors (Oster, 2019)

MPC Heterogeneity

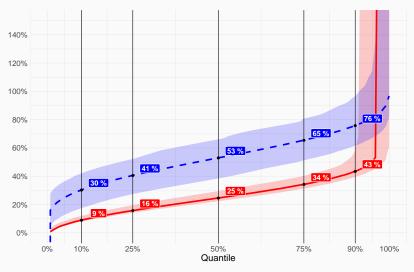


Treatment group 🕶 Card 1

Numbers refer to 4-week cumulative % deviation from weekly consumption. Estimator imposes constraint that treatment effect is nonnegative.

Bootstraps: 150

MPC Heterogeneity

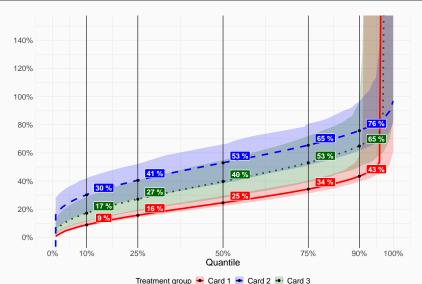


Treatment group - Card 1 - Card 2

Numbers refer to 4-week cumulative % deviation from weekly consumption. Estimator imposes constraint that treatment effect is nonnegative.

Bootstraps: 150

MPC Heterogeneity



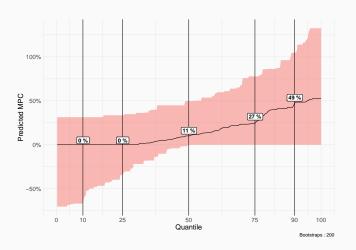
Numbers refer to 4-week cumulative % deviation from weekly consumption.

Estimator imposes constraint that treatment effect is nonnegative.

Bootstraps : 150

Design vs. targeting of transfers

How far can you get with targeting of cash-like transfers? Assume you can target transfers based on age and income.



Distribution of pred. 4w-MPC dist. in a LASSO regression on age and income quartile dummies

Roadmap

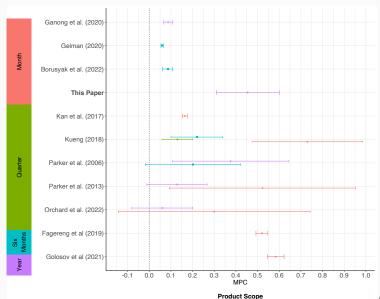
1. Data & Experimental Design

2. Results

3. Lessons for models of the consumption response to transfers & policy

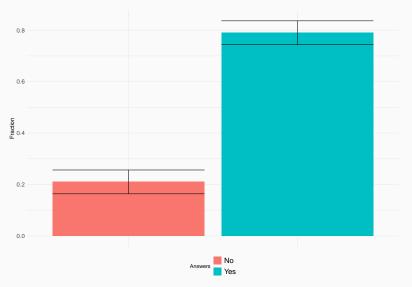
Appendix Slides

Prior Estimates



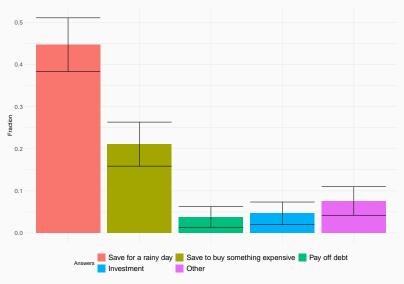


Did you spend less on your main bank account?



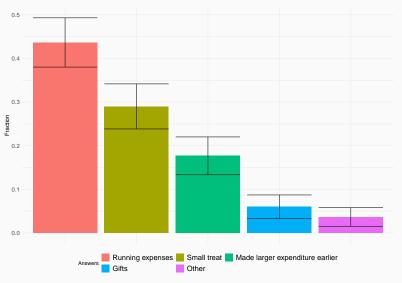


How will you use the money you saved?



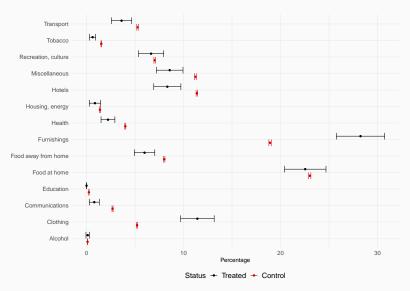


What did you buy with the prepaid card?



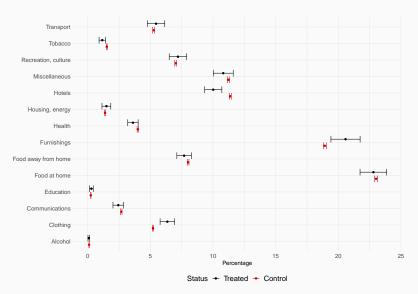


Spending Shares on Prepaid Card



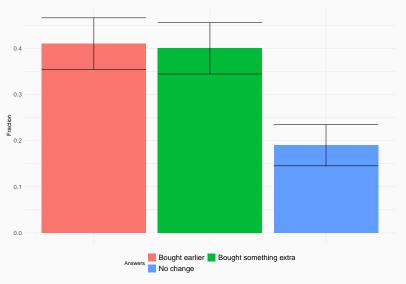


Spending Shares on Bank Account + Prepaid Card



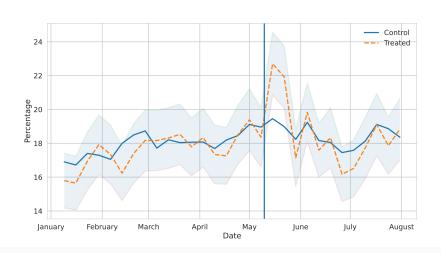


Were the purchases on the prepaid card already planned?



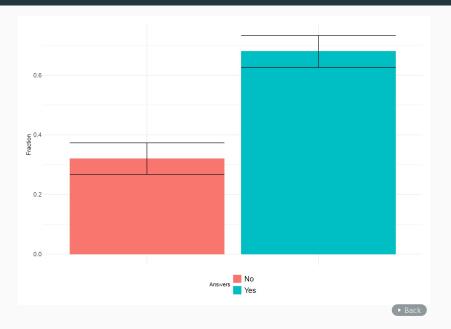


Spending Share on Durables

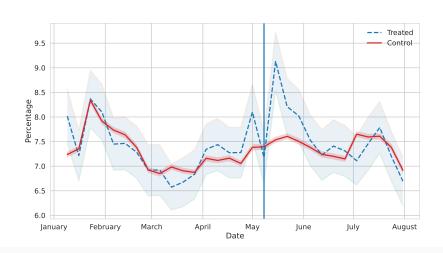




Did you mostly buy services / products made in France?

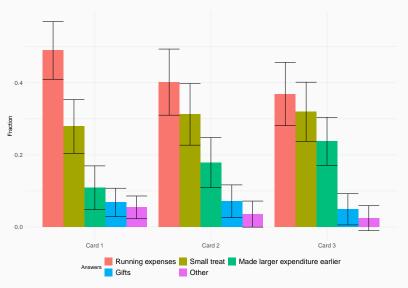


Spending Share on Imported Products



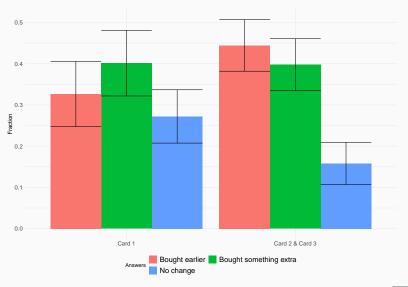


What did you buy with the prepaid card?

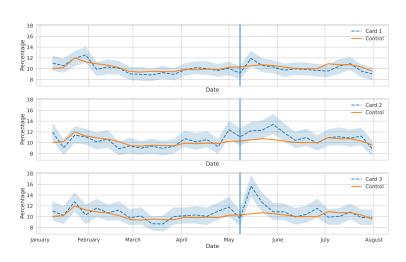




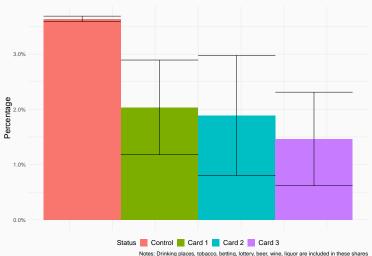
Were the purchases on the prepaid card already planned?



Spending Share on Imported Products

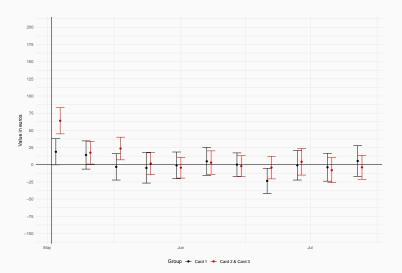


Do Cards 2 & 3 Cause Harm to Participants? Spending Share on Goods with "Negative Externalities"

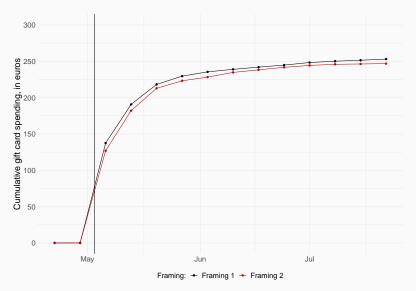




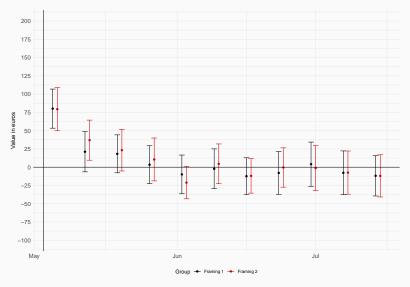
Do Cards 2 & 3 Cause Harm to Participants? Spending Share on Nondurables



Cumulative Spending on Prepaid Card

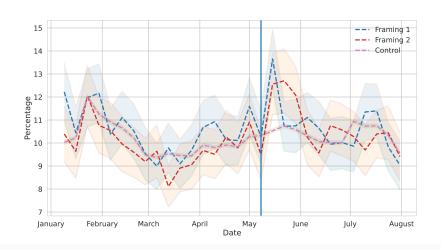


Total Spending Response by Framing, Weekly



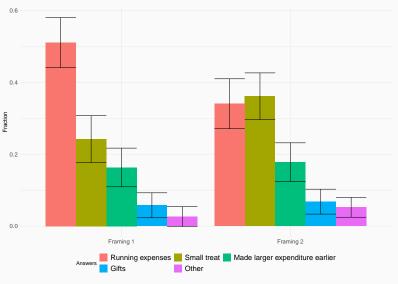


Spending Share on Imported Products by Framing



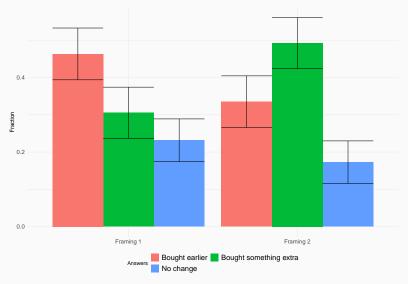


What did you buy with the prepaid card?



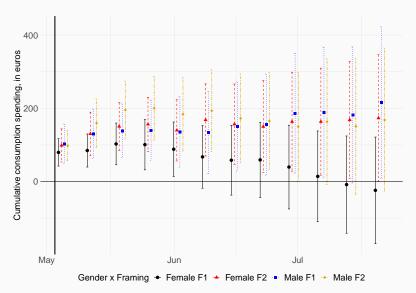


Were the purchases on the prepaid card already planned?





Consumption response by framing treatment: FGLS





Consumption response by framing and gender

GRAPH GOES HERE



Consumption response by framing and gender (FGLS)

GRAPH GOES HERE



Excerpt of Letter to Participants

Vous avez été sélectionné pour participer à une étude* et ainsi bénéficier d'une enveloppe d'un montant de 300 EUR, qui vous est offerte.

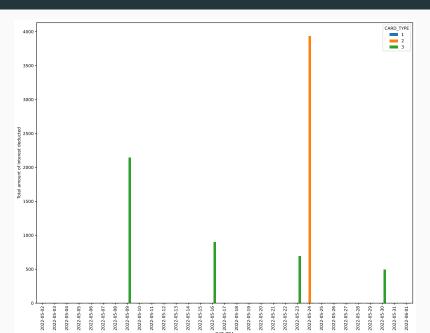
En effet, afin de contribuer au débat économique, le CIC participe à une étude scientifique financée par l'Agence Nationale de la Recherche (ANR). L'objectif de cette initiative est d'étudier, dans le cadre d'une politique destinée à favoriser la relance économique, les comportements de dépenses des personnes lorsqu'une somme d'argent leur est distribuée gratuitement.

Le CIC veille à la protection des données de ses clients. Toutes les analyses réalisées dans le cadre de cette étude seront effectuées sur des données strictement anonymisées sur les seuls systèmes d'information sécurisés du CIC. Il s'agit des mouvements bancaires, de la situation financière et de données socio-économiques.

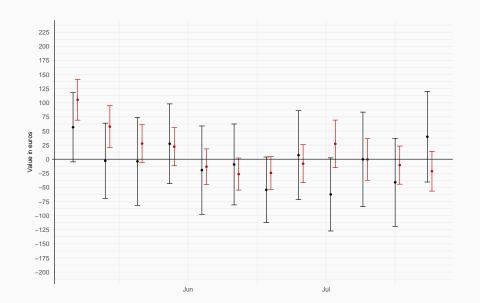
Ce montant de 300 EUR sera utilisable au moyen d'une carte de paiement spécifique. Cette carte vous sera adressée gratuitement par courrier postal dans les prochains jours.

- Le code confidentiel de cette carte est identique à celui de la carte que vous possédez déjà. Vous pouvez le retrouver dans votre espace personnel en ligne, sur l'application mobile ou le site internet www.cic.fr.
- Cette carte peut être utilisée auprès des établissements affichant les logos CB ou Mastercard, ainsi que pour des achats en ligne, dans la limite du solde disponible.
- Il n'est pas possible de retirer des espèces, ni d'effectuer des dépôts.
- Le suivi des opérations et le solde disponible sur cette carte sont consultables dans votre espace personnel en ligne, sur l'application mobile ou sur le site internet <u>www.cic.fr</u>.
- Les conditions générales d'utilisation qui régissent votre carte actuelle, s'appliquent également à cette carte (CG.03.20).

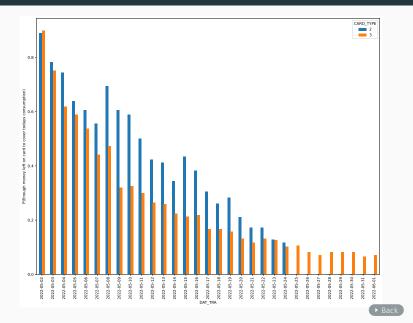
Unspent Amounts



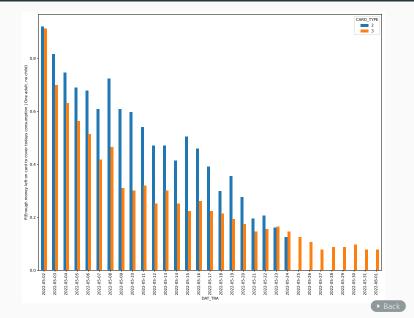
MPC by Survey Response



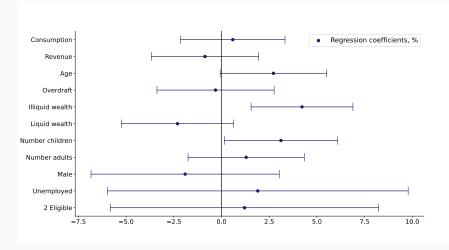
Opportunties to Cover Running Expenses



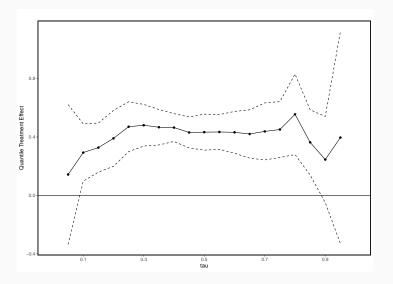
Opportunties to Cover Running Expenses: Singe-adult HH



Correlations take-up and household characteristics



Quantile Treatment Effects, 4-week horizon

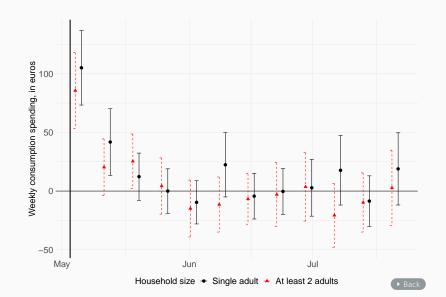


Cumulative Spending Response by Number of Adults in HH

GRAPH GOES HERE



Cumulative Spending Response by Number of Adults in HH (FGLS)

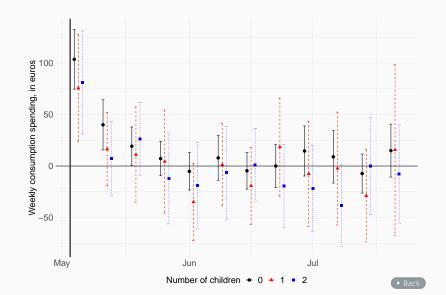


Cumulative Spending Response by Number of Children in HH

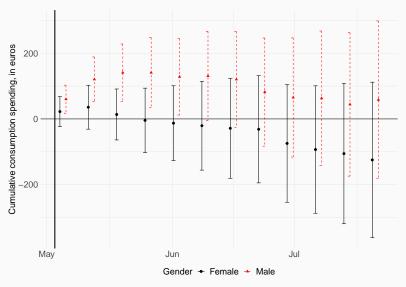
GRAPH GOES HERE



Cumulative Spending Response by Number of Children in HH (FGLS)

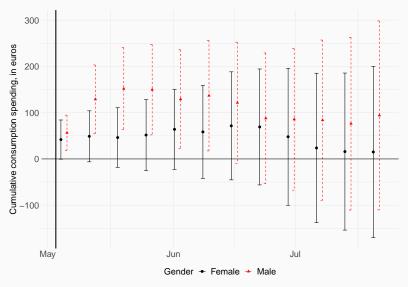


Cumulative Spending Response by Gender: G1



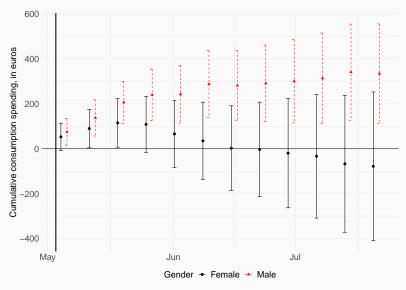


Cumulative Spending Response by Gender: G1 (FGLS)



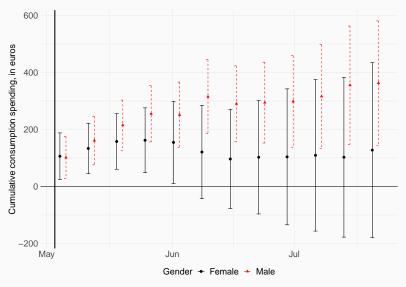


Cumulative Spending Response by Gender: G2



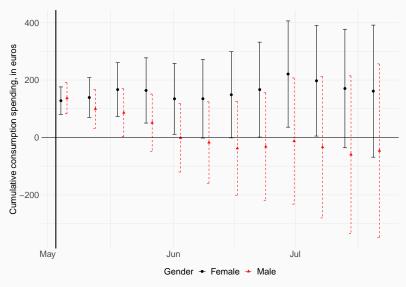


Cumulative Spending Response by Gender: G2 (FGLS)



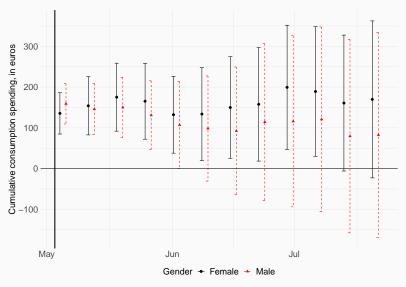


Cumulative Spending Response by Gender: G3





Cumulative Spending Response by Gender: G3 (FGLS)





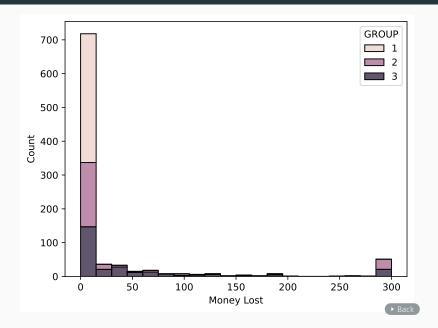
Summary stats, weekly consumption expenditures

	count	mean	std	10%	25%	50%	75%	90%
Cons. expend. (cash and cards)	2,571,360	417.68	435.05	67.30	163.25	315.95	542.65	848.69
Direct debits, stand. ord.	2,571,360	327.18	1,753.78	0.00	18.00	108.97	351.09	892.83
Cons. exp. (broad), excl. treat. cd.	2,571,360	744.77	1,827.21	136.21	274.99	519.88	928.81	1,543.00
Cons. exp. (cash & cards), excl. treat. cd.	2,571,360	417.59	435.03	67.25	163.19	315.88	542.54	848.54
Cash withdrawals	2,571,360	23.74	83.70	0.00	0.00	0.00	0.00	70.00

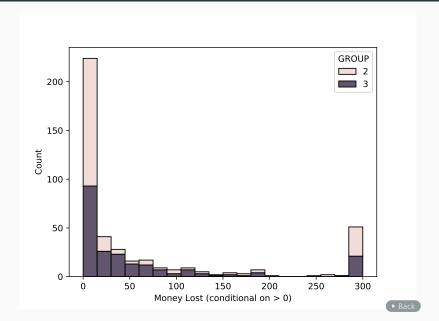
Table shows summary statistics of weekly consumption measures from January to August 2022, for treatment and control.



Amount of money "lost" by households



Amount of money "lost" by households, cond. on > 0



Summary stats, household characteristics

	count	mean	std	25%	50%	75%	max
Age	85,712.00	47.02	12.92	36	46	58	76.00
Number of eligible HH members	85,712.00	1.15	0.36	1	1	1	2.00
Monlthly account inflows, avg	85,697.00	2,654.20	1,439.75	1,796.22	2,381.17	3,159.82	38,824.37
Monlthly income, avg	80,046.00	2,110.31	4,973.28	1,049.97	1,667.97	2,348.72	371,639.03
Monlthly salary, avg	80,046.00	1,631.41	5,008.21	95.72	1,171.66	2,077.57	371,639.03
Monlthly pension, avg	80,046.00	300.67	691.81	0	0	0	10,844.21
Monlthly social allowance, avg	80,046.00	98.05	199.79	0	0	110.92	4,284.88
Monlthly unempl. benefits, avg	80,046.00	80.17	284.11	0	0	0	8,911.42
On Unempl. Benefits Dummy	85,697.00	0.14	0.35	0	0	0	1.00
End-of-month curr. acc. bal., avg.	85,710.00	4,448.72	19,975.12	424.17	1,006.33	2,487.70	1,555,218.17
End-of-month liquid assets, avg.	85,710.00	16,898.65	34,542.55	617.74	5,462.34	19,256.66	1,500,313.07
End-of-month life insurance, avg.	85,710.00	5,867.06	32,463.99	0	0	373.2	2,768,882.29
End-of-month illiquid savings, avg.	85,710.00	995.59	15,812.33	0	0	0	1,995,602.84
End-of-month total debt, avg.	85,710.00	-33,304.37	55,037.30	-52,931.94	-5,640.50	0	382.57
End-of-month cons. debt, avg.	85,710.00	-2,388.43	5,194.48	-2,979.49	0	0	382.57
End-of-month mortgage debt, avg.	85,710.00	-30,875.60	54,318.75	-50,413.24	0	0	0.00
Number of Adults	85,710.00	1.53	0.5	1	2	2	4.00
Number of Children	85,710.00	0.61	0.96	0	0	1	8.00
Total Assets	74,129.00	102,621.94	186,674.40	0	60,000.00	142,857.14	13,600,000.00
Avg monthly cons. expend.	85,702.00	1,205.66	658.29	794.64	1,102.87	1,480.72	25,030.82
Avg. monthly direct debits	85,697.00	925.42	772.52	485.57	799.53	1,148.84	24,024.51
Avg. monthly cons. expend. (broad)	85,691.00	2,131.26	1,188.26	1,440.02	1,941.34	2,546.66	30,449.02