ONLINE APPENDIX

"The How and Why of Household Reactions to Income Shocks"

by Roberto Colarieti, Pierfrancesco Mei, and Stefanie Stantcheva

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A-1.1 Data quality

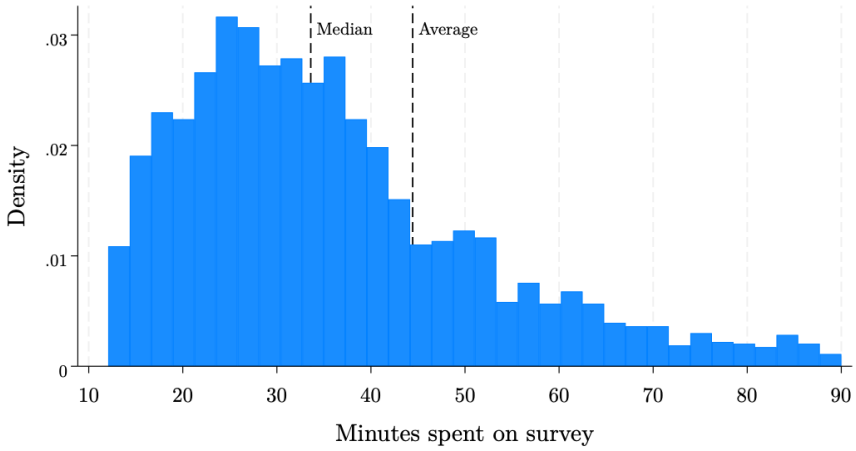
We follow multiple strategies to ensure high data quality. Firstly, we insert three attention checks in both questionnaires. Respondents are immediately excluded from the survey if they fail one of the first two checks (located at the beginning of the questionnaire), while they are flagged as inattentive if they fail the third one (located immediately before the core blocks eliciting the responses to the hypothetical income shock).

Moreover, we drop respondents who report gender and age (by more than one year difference) inconsistently between the Marketplace Screener and our survey. We also drop respondents who reply inconsistently to open-ended questions (we identify them manually), and who spend less than 12 minutes on our survey. Finally, we remove respondents who reply in a row (i.e., selecting the same answer option) to each set of questions on why they respond in a given way to a positive or negative income shock.[1]

Furthermore, we identify some respondents as inaccurate based on whether they report inconsistent actions between the quantitative (*i*MPC and *i*MPD elicitation) and the qualitative elicitation (margins and reasons) blocks. In particular, respondents may: (1) have one-year (cumulative) $MPC > 0$ but say that they do not use the spending margin in the qualitative part, or have one-year (cumulative) $MPC = 0$ but say that they use the spending margin in the qualitative part; (2) have one-year (cumulative) $MPD > 0$, but say that they do not use the debt margin in the qualitative part or have one-year (cumulative) $MPD = 0$, but say that they use the debt margin in the qualitative part. In particular, we find that 4.5% of respondents display both inconsistencies (1) and (2), while 27.8% of respondents display either inconsistency (1) or (2). While we do not exclude these respondents from the baseline analysis, we verify that their exclusion does not affect our results. See Appendix A-4.5 for replication of our main results excluding these respondents.

For older samples (May - October 2021) we still adopt the initial screening questions. We also drop respondents who reply inconsistently to questions on age and gender and who spend less than 12 minutes on our survey.

FIGURE A-1: DISTRIBUTION OF TIME SPENT ON THE SURVEY



Notes. The figure shows the distribution of the time (in minutes) spent by respondents to complete the survey for our sample (excluding those who spend less than 12 minutes). We exclude from the figure the 5% slowest responses (more than 90 minutes spent on the survey).

[1] More precisely, we adopt a more conservative criterion and we exclude respondents who reply in a row to at least every "why" question but two.

A-1.2 Data to Assess Sample Representativeness

To compute the population characteristics in Table 1 (hence, excluding the part on "assets and liabilities"), we use the Current Population Survey (CPS), 2020 Annual Social and Economic Supplement (ASEC) data from March 2020. We construct variables and categories that are as comparable as possible between our sample data and the population statistics. The datasets can be downloaded from the Census website at the URL CPS-ASEC (2020). The downloadable CSV data file contains three different datasets, depending on whether the observation unit is at the household, family, and person level (the files are called, respectively, *hhpub20*, *ffpub20*, *pppub20*).

To compute all the variables different from household income we use the person level dataset (i.e., *pppub20*) and we exclude the individuals that are not in the labor force and outside the age group 25-65 years old. Moreover, we compute population statistics weighting by the person level weight MARSUPWT. We recode the following variables.

- **Age bracket**: A_AGE variable divided in brackets, i.e., "25-29," "30-39," "40-49," "50-59," "60-65."
- **Gender**: A_SEX for gender, i.e., "male" and "female."
- **Race and ethnicity**:

  Hispanic/Latino: PEHSPNON is equal to 1.
  White: PRDTRACE = "white only" and not hispanic.
  Black/African-American: PRDTRACE = "black only" and not hispanic.
  Asian/Asian-American: PRDTRACE = "asian only" and not hispanic.

- **Labor force status**: we include in the labor force all the categories of the variable A_LFSR except for "children or armed forces" and "not in the labor force."
- **Employment status**: the variable is built as follows.

  Self-Employed: "self-employed incorporated" and "self-employed non-incorporated" (values 5 and 6).
  Full-time employed: A_WKSTAT is "full-time schedules" and the person is not self-employed.
  Part-time employed: A_WKSTAT is "part-time for economic reasons, usually FT," "part-time for non-economic reasons, usually PT," "part-time for economic reasons, usually PT" and the person is not self-employed.
  Unemployed: A_WKSTAT is "unemployed FT" and "unemployed PT."

To compute the income shares we have to merge the household and the person level datasets to link the total household annual income with the age and labor force status of the household reference person (we drop non-reference individuals). We divide the variable HTOTVAL in the relevant brackets ("$0-19," "$20-39,", "$40-69,", "$70-109," "$110+") and we compute summary statistics weighting by the household level weighting function HSUP_WGT.

In the last rows of Table 1 we consider the total "civilian non-institutional population" (U.S. total population) and "civilian labor force population" restricted to the age group 25-65 (U.S. labor force, age 25-65). Numbers are taken from the BLS for the 2020 annual averages. They can be found on the BLS website through the link BLS (2020).

To obtain statistics for the assets and liabilities variables in Table A-1 we use the Summary Extract Public Data[2] from the 2019 Survey of Consumer Finances (SCF). The dataset is downloadable through the link SCF (2010). We exclude individuals out of the labor force (i.e., variable lf = 0) and out of the age range 25-65. All summary values (shares, means, and medians) are computed weighting by the sample weight WGT. We use the following variables.

[2]Summary variables used in the Federal Reserve Bulletin article and all dollar variables inflation-adjusted to 2019 dollars.

- **Primary residence**: value of primary residence. Excludes the part of a farm or ranch used in a farming or ranching business.

  Ownership rate: is the fraction of households with strictly positive primary residence value (if variable HOUSES > 0).
  Value: either mean or median of primary residence value conditional on owning a primary residence.

- **Business**: value of active (i.e., directly managed) business(es) calculated as net equity if business(es) were sold today, plus loans from the household to the business(es), minus loans from the business(es) to the household not previously reported, plus value of personal assets used as collateral for business(es) loans that were reported earlier.

  Ownership rate: is the fraction of households with an actively managed business (if variable ACTBUS > 0).
  Value: either mean or median of actively managed business conditional on owning an actively managed business.

- **Checking accounts**: money market accounts are not included in the value of checking accounts.

  Ownership rate: is the fraction of households with a checking account (if variable NOCHK $= 0$).
  Value: either mean or median of checking accounts (variable CHECKING) conditional on owning a checking account.

- **Total assets**: the sum of financial assets and nonfinancial assets. We take either the mean or the median of total assets (variable ASSET).
- **Mortgages on primary residence**: all mortgages and home equity loans secured by the primary residence.

  Share: is the fraction of households with mortgage secured by the primary residence (if variable NH_MORT > 0).
  Value: either mean or median of mortgages secured by the primary residence conditional on having such a mortgage.

- **Credit card balances value**: credit card balances consist of the amount outstanding on all credit cards and revolving store accounts after the last payment. Balances do not include purchases made since the last account statement. We take either the mean or the median of credit card balance (variable CCBAL) conditional on holding strictly positive balances (i.e., if variable CCBAL > 0)
- **Total debts**. Includes principal residence debt (mortgages and HELOCs), other lines of credit, debt for other residential property, credit card debt, installment loans, and other debt.

  Share with debts: is the fraction of households with debts (if variable HDEBT $= 1$).
  Value: either mean or median of total debts (variable DEBT) conditional on owning a checking account.

A-1.3 Assets and liabilities statistics

Table A-1: Assets and Liabilities Statistics

		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	0.94	.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

Notes. This table displays statistics on assets and liabilities for the overall U.S. population (column 1) and compares it to the characteristics of our sample (column 2). National statistics on assets and liabilities are from the SCF (2019). See Appendix A-1.2 for details on how the summary statistics are constructed.

A-1.4 Previous survey waves

Table A-2: Sample statistics for previous survey wave

	U.S. Population	Survey wave May-Oct 2021
Male	.53	.47
25-29 years old	.14	.13
30-39 years old	.27	.25
40-49 years old	.24	.25
50-59 years old	.24	.26
60-65 years old	.1	.11
$0-$19999	.05	.11
$20000-$39999	.12	.15
$40000-$69999	.21	.2
$70000-$109999	.23	.23
$110000+	.4	.31
White	.63	.79
Black/African-American	.12	.1
Hispanic/Latino	.18	.05
Asian/Asian-American	.07	.03
Full time employed	.75	.72
Part time employed	.1	.11
Self-employed	.1	.07
Unemployed	.04	.1
U.S. total population	260329	–
U.S. labor force, age 25-65	129923	–
Sample size	–	1293

Notes: this table displays statistics for the overall U.S. population (column 1) and compares it to the characteristics of the samples of the first survey wave of May - October 2021 (column 2). National statistics on gender, age, income brackets, race, and employment status are from the CPS-ASEC dataset for March 2020. Numbers for "U.S. total population" and "U.S. labor force, age 25-65" are in thousands. See Appendix A-1.2 for details on how the summary statistics are constructed.

A-2 Variable definition

A-2.1 List of adjustment margins

Positive income shock

- Increase spending: "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."
- Repay debts: "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."
- Save: "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)."
- Work less: "Cut back on our working hours for a while."
- Other: "Give some money to someone else as a gift or to charity," "Lend money to someone else."

Negative income shock

- Cut spending: "Reduce spending on non-essential items," "Reduce spending on essential items," "Postpone some bigger expenses we were planning (e.g., car, appliances, home repairs, etc.)."
- Borrow: "Put it on our credit card(s) and pay it off in full at the next statement," "Put it on our credit card(s) and pay it off over time," "Use a bank loan or line of credit," "Borrow from a friend or family member," "Use a payday loan, deposit advance, or overdraft," "Leave some of our bills unpaid."
- Dissave: "Use money from our checking or savings account(s) or cash," "Dip into our emergency fund," "Sell some financial assets (e.g., stocks, etc.)," "Dip into retirement funds."
- Work more: "Work extra hours to make more money."
- Other: "Sell some big ticket items (e.g., car, jewelry, etc.)," "Sell some small ticket items (e.g., computer, car, etc.)," "Leave part or all of this expense unpaid because I cannot find ways of covering it."

A-2.2 List of aggregated reasons

A-2.2.1 Positive shock

Why increase spending?

- Like to splurge: "We would like to splurge on something nice," "We like to enjoy what we currently have and not worry too much about future issues," "When we get extra money we like to spend it on higher-quality items or activities that we would not otherwise."
- Want to minimize cognitive burden: increase spending since "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," or not repay debts since "This amount of money wouldn't make much of a difference so we'd rather not think about which loans to repay," "Even if we have some additional outstanding bills, credit card payments, or loan payments on which we are late, I don't want to think about it right now," or do not save since "We would like to save more, but we don't want to think about it right now."
- Lack self control: "When we receive some extra money, we cannot resist the temptation to buy something nice."
- Have needs: "We really need some items that we cannot otherwise afford."
- Worry about inflation: "We worry that prices will keep rising, so we prefer to use this money to buy things now."
- Planned a lumpy purchase: "We have been saving toward a larger purchase (e.g., a car, appliances etc.) and this unexpected payment allows us to purchase it."
- Save for long-term goals: "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."

Why not increase spending (by more)?

- Do not need anything: not increase spending since "There is nothing else we currently need or want," or save more since "We don't need to buy anything right now or over the next several months that we haven't already budgeted for," "We plan to use the money for some purchases or activities in a few months, but not now."
- Want to smooth consumption: "We try to maintain a stable spending," "We are very self-disciplined in how we spend our money and we stick to our plans," "We don't like to splurge when we get extra money."
- Want to minimize cognitive burden: "We don't want to think about how to spend this money right now," "This amount of money is too little to spend time thinking about how to spend it."
- Have concerns about future: not increase spending since "We don't like spending too much of any extra money because we worry about the future," or save since "We worry about unexpected things that can happen in the future, so we'd rather save the money," "We worry that in the future we may struggle to access credit (e.g., obtain a loan or credit card) in case we need some money. So, we prefer to save this money."

Why repay debts?

- Have many debts in need of repayment: "We have too many outstanding loans and debts," "We have maxed out or are close to maxing out our credit card(s)," "We are late on our credit card payments/bills or loan payments," "We need to repay friends or family members who lent us money."
- Worry about future credit access and score: "We want to maintain or improve our credit score," "We want to make sure that if we need to borrow or take out credit again in the future, we will be able to do so," "We worry about what could happen and that we may not be able to repay our bills or debts in the future. So, we prefer paying whatever we can now."
- Do not like having debts: "We don't like having debt so we try to reduce them whenever we can."

Why not repay debts (by more)?

- Do not have debts that need faster repayment: "We do not have any outstanding bills, credit card payments, or overdue loan payments," "We do not have any outstanding loans or debts," "The interest rates on all our loans are low," "Even if we have some outstanding bills, credit card payments, or loan payments, we already have a plan for how to repay them over time."
- Cannot adjust debt repayment schedule: "We stick to our regular monthly payments for all our loans or credit cards. It is too complicated to make any change to our plans."

Why save?

- Have long-term goals: "In order to meet our long-term goals, we need to save as much as we can."
- Need to save more: "We don't have as much in savings as we'd like right now," "We are usually not able to save as much as we would like."
- Have preference for savings: "We like saving extra money whenever we can" and other reasons for saving have not been selected.
- Want to exploit market returns: "We want to invest and take advantage of the current market returns and rates."
- Worry about inflation: "We are worried about rising prices, so we prefer to save for future needs."

Why not save (by more)?

- Do not need to save more: "We don't need to save more," "We are well on track to meet our financial goals," "We don't worry too much about the future because we have enough savings if something comes up."
- Do not have good investment opportunities: "We wouldn't be able to invest this money well right now."

Why work less?

- Have flexible hours: "Our main jobs have flexible hours and we can easily adjust our working hours from month to month," "We have second jobs with flexible hours and can easily adjust our working hours from month to month."
- Already work overtime hours: "We already work overtime, so we'd like to reduce our work hours," "We usually work extra hours in some paid activity (such as freelance, driving for a ride-sharing company, babysitting, etc.) that we would be willing to cut down if we could."

Why not work less (by more)?

- Cannot adjust hours: "Our current jobs do not have flexible hours."
- Don't want less labor income: "We want to leave our income from working unchanged."
- Complicated to adjust hours: "It's too complicated to change our work hours."

A-2.2.2 Negative shock

Why cut spending?

- Cut on essential items (but not constrained): "We can no longer afford some items we need because of this expense," but the respondent has not selected one of the following aggregated reasons for not borrowing "Worry about future credit access," or "Borrowing is too complicated," "Cannot borrow," and has not selected one of the following aggregated reasons for not dissaving "Have insufficient savings," or "Have illiquid or hard-to-access savings."
- Can substitute consumption: "We can cut back on some purchases that we don't truly need," "We can reduce our spending by switching to less expensive items and by cutting down on some leisure activities."
- Postpone lumpy purchase: "We were close to making a larger purchase (e.g., a car, appliances, etc.) and this expense will prevent me from making it."
- Have concerns about future: "It is better to reduce our spending because other such unexpected expenses may be looming and we need to be prepared," or not dissave since "We worry about the future and need to keep money stashed away."

Why not cut spending (by more)?

- Only spend on essentials: "We spend only on essential items and cannot cut down further."
- Want to smooth consumption: "We prefer to keep our spending at its current level," "We spend on some non-essential items, but we do not want to forgo them," "We are used to our lifestyle and we don't want to adjust our spending habits."
- Lack self-control: "We have a hard time reducing our spending because we always end up buying things."
- Want to minimize cognitive burden: "We don't want to think about how to reduce our spending, so it's easier to adjust in other ways," "It's hard to decide exactly how to reduce our spending, so it's easier to adjust in other ways."

- Have spending commitments: "Most of our expenses are hard to temporarily suspend or cut (e.g., mortgage or rent payments, subscriptions, phone or internet plans)."

Why borrow?

- Able to repay debt easily: "We would be able to repay the loan or credit card balance quickly," "We would be able to repay the loan or credit card balance over time."
- Easy to borrow: "The easiest thing would be to use our credit card(s) or take out a bank loan," "The easiest thing would be to borrow from friends or family."

Why not borrow (by more)?

- Worry about future credit access: "We could borrow money or put this on our credit card, but we worry that we already have too much outstanding debt," "We worry about what could happen and that we may not be able to repay our credit cards or loans in the future. So, we prefer not to borrow," 'We want to maintain or improve our credit score."
- Borrowing is too complicated: "Borrowing from a bank or other lender would be too complicated and time-consuming."
- Cannot borrow: "We wouldn't be able to get a loan from a bank to cover this expense," "We have already maxed out or am close to maxing out all our credit cards," "None of our friends or family would lend me the money."

Why dissave?

- Have sufficient savings for future goals and concerns: "We are well on track to meet our financial goals and it's fine to dip into our savings," "We don't worry too much about future problems because we have enough savings if something comes up."
- Have saved for such unexpected expenses: "We specifically saved for such unexpected expenses."
- Have easily-accessible savings: "Our savings are easily accessible (e.g., in a checking account or cash)."

Why not dissave (by more)?

- Have financial goals: "We need savings to meet our financial goals."
- Have preference for savings: "We like having at least a certain amount stashed away" and other reasons for not dissaving have not been selected.
- Have insufficient savings: "We do not have enough savings."
- Have illiquid or hard-to-access savings: "We cannot easily access savings for immediate use (e.g., they are all in stocks or bonds that we cannot easily sell or in retirement accounts)," "If we try to draw from our savings, there are penalties (e.g., for early withdrawal)."
- Want to exploit market returns: "We want to take advantage of the current market returns, invest as much as we can, and not dip into our savings or investments."

Why work more?

- Have flexible hours: "Our jobs have flexible hours," "We can choose to put in some overtime hours at our jobs."
- Can find new job: "We can find an additional job quickly," "We can work extra hours in another job (such as in a freelance job, driving for a ride-sharing company, babysitting, etc.)."

Why not work more?

- Don't have flexible hours: "Our current job(s) don't have flexible hours," "Our jobs don't pay extra for overtime hours."
- Cannot find additional jobs: "We would need to find another job (such as a freelance job, driving for a ride-sharing company, babysitting, etc.) and we cannot find one."
- Complicated to work more: "Our current job(s) would allow me to work extra hours, but it would be complicated to do so," "We don't have the time to work any more than we already do."

A-2.3 Other variables

A-2.3.1 Socio and economic characteristics

Female: respondent is female.

Age: 25-34: respondent's age is between 25 and 34 years.
Age: 35-49: respondent's age is between 35 and 49 years.
Age: 50-65: respondent's age is between 50 and 65 years.

White race: respondent's ethnicity is White (usually omitted category in the regressions).
Black race: respondent's ethnicity is African American/Black.
Other race: respondent's ethnicity is Hispanic/Latino, Asian/Asian American, Mixed races or other.

Number of household members: number of individuals belonging to respondent's household.
Household with children: respondent has children.

High education: respondent has at least a 4-year college degree.

Full time employed: respondent is full-time employee.
Part time employed: respondent is part-time employee.
Self-employed: respondent is self-employed.
Temporarily laid-off: respondent is unemployed and looking for work.
Unemployed: respondent is unemployed and looking for work.

A-2.3.2 Income, assets, and debts

N.B. We impute to each of the assets and liabilities in our dataset the midpoint of the bracket selected by respondents.

Low income: indicator variable equal to one if respondent's household total net annual income is in the lowest 50% of the sample income distribution (usually omitted category in the regressions).
High income: indicator variable equal to one if respondent's household total net annual income is in the highest 50% of the sample income distribution.

Liquid assets: are equal to the sum of checking and short-term accounts balances.
Low liquid assets: indicator variable equal to one if respondent's total household liquid assets value is in the bottom 50% of the sample liquid assets value distribution (usually omitted category in the regressions).
High liquid assets: indicator variable equal to one if respondent's total household liquid assets value is in the top 50% of the sample liquid assets value distribution (usually omitted category in the regressions).

Zero credit card debt: indicator variable equal to one if respondent's total household credit card debt is zero (usually omitted category in the regressions).
Have credit card debt: indicator variable equal to one if respondent's total household credit card debt is positive.

Illiquid assets: are equal to the sum the value of real estate properties, of shares in business activities (directly managed), motor vehicles, CDs, mutual funds, ETFs, or hedge funds, treasuries, muni bonds, stock holding, corporate bonds, pension accounts.
Low illiquid assets: indicator variable equal to one if respondent's total household illiquid assets are in the lowest 50% of the sample total debts value distribution (usually omitted category in the regressions).
High illiquid assets: indicator variable equal to one if respondent's total household illiquid assets are in the highest 50% of the sample total debts value distribution.

Illiquid debts: are equal to the sum of total outstanding mortgages, motor vehicle loans, education loans, other residual debts.
Low illiquid debts: indicator variable equal to one if respondent's total household illiquid debts are in the lowest 50% of the sample total debts value distribution (usually omitted category in the regressions).
High illiquid debts: indicator variable equal to one if respondent's total household illiquid debts are in the highest 50% of the sample total debts value distribution.

Total assets: are equal to the sum of liquid and illiquid assets.
Total debts: are equal to the sum of credit-card balances and illiquid debts.
Net worth: is equal to total assets minus total debts.

A-2.3.3 Preferences

Impatient: indicator variable equal to one if the respondent falls within the 50% least patient individuals according to the self-reported [scale 0-10] measure of impatience.
Patient: indicator variable equal to one if the respondent falls within the 50% most patient individuals according to the self-reported [scale 0-10] measure of impatience.

High risk-aversion: indicator variable equal to one if the respondent falls within the 50% least risk-loving individuals according to the self-reported [scale 0-10] measure of risk-aversion.
Low risk-aversion: indicator variable equal to one if the respondent falls within the 50% most risk-loving individuals according to the self-reported [scale 0-10] measure of risk-aversion.

High self-control: indicator variable equal to one if respondent "never," "rarely," or "sometimes" makes purchases that he/she later regrets (usually omitted category in the regressions).
Low self-control: indicator variable equal to one if respondent "often" or "very often" makes purchases that he/she later regrets.

Negative past experience: indicator variable equal to one if respondent self-reports that her economic and financial situation worsened significantly or slightly over the previous two years [exact question "Do you think that your and your household's overall economic and financial situation has worsened or improved over the past 2 years?" (*Significantly worsened; Slightly worsened; Stayed the same; Slightly improved; Significantly improved*)].

A-2.3.4 Concerns, expectations, and plans

Concern income/unemployment: indicator variable equal to one if the respondent reports that "our concern about someone in our household losing their job" or "our concern about having a lower income in the future" are "extremely relevant."
Concern repay debts/access credit: indicator variable equal to one if the respondent reports that "our concern about not being able to access credit (e.g., obtain a mortgage, loan, or credit card) in the future" or "our concern about not being able to repay our debts in the future" are "extremely relevant."
Concern health expenses: indicator variable equal to one if the respondent reports that "our concern about incurring large expenses due to health-related events or other forms of family support (e.g. nursing homes)" is "extremely relevant."
Concern retirement: indicator variable equal to one if the respondent reports that "our concern about not having enough money to meet basic needs during retirement" or "our concern that our investments and retirement savings will not grow fast enough due to low returns" are "extremely relevant."

Low income risk: indicator variable equal to one if the respondent reports that she is "extremely certain," "very certain," "somewhat certain" about her total household income over the next 12 months.
High income risk: indicator variable equal to one if the respondent reports that she is "neither certain nor uncertain," "somewhat uncertain," "very uncertain," "extremely uncertain" about her total household income over the next 12 months.

Total planned investments: sum of target amounts for the long-term goals "saving for retirement," "large housing-related spending," "large purchases of durable goods," "large education-related spending," "major health expenses."
Low planned investments: indicator equal to one if respondent is in the bottom 50% of *total planned investments* distribution.
High planned investments: indicator equal to one if respondent is in the top 50% of *total planned investments* distribution.

A-2.3.5 Spending commitments and constraints

Low commitments: indicator variable equal to one if respondent's committed expenditures are in the lowest 50% of the sample committed expenditure distribution (usually omitted category in the regressions).
High share committed expenses: indicator variable equal to one if respondent's committed expenditures are in the highest 50% of the sample committed expenditure distribution.

Constrained index: sum of indicators for not owning checking accounts, having low checking accounts balances (i.e., less than $1300), not having credit cards, having high credit card balances relative to the credit card limit (i.e., usually use more than 75% of credit card limit), have a high credit card usage (i.e., current credit card outstanding balances more than 75% of the credit card limit), have bad FICO (i.e., below 625).
Unconstrained: indicator variable equal to one if respondent's "constrained index" is in the bottom tercile of the sample constrained index distribution.
Constrained: indicator variable equal to one if respondent's "constrained index" is in the top tercile of the sample constrained index distribution.

Not enough for basic needs: indicator variable equal to one if respondent reports not having enough money for basic spending needs (e.g., on food, housing, health, and other necessities).

A-2.4 Wealthy and Poor HtM (for cross-validation table)

We follow the baseline criteria of Kaplan et al. (2014) to compute the share of wealthy and poor HtM in our survey data. They argue that HtM agents can be identified as those individuals who are at two possible kinks in the intertemporal budget constraint: (i) zero liquid assets, and (ii) at their unsecured credit limit. In theory, these agents should either bring zero assets from period t to $t+1$ or be at their binding credit constraint. In the data, we would ideally want to observe liquid balances and borrowing at the end of the pay-period (i.e., the period of time included between two sequential income receipts) to identify an agent as being HtM. Unfortunately, survey data report assets and debts either as averages or at a random point in time. Therefore, HtM shares are measured with error. Let m_t^i be agent's i liquid balances, a_t^i her illiquid assets, and y_t^i her net income in pay-period t. A household is identified as HtM if (i) it has zero liquidity, i.e., its average

liquid assets is non-negative but less than its average income over the pay-period)[3]:

$$0 \leq m_t^i \leq \frac{y_t^i}{2},$$

or (ii) is at her unsecured credit limit (hence, its average liquid assets are negative and within a distance of the average income over the pay-period from the credit limit):

$$m_t^i < 0 \text{ and } m_t^i \leq \frac{y_t^i}{2} - \underline{\mathrm{m}}_t^i,$$

where $-\underline{\mathrm{m}}_t^i < 0$ is the unsecured credit limit. HtM are then further classified as *poor* if $a_t^i < 0$ and *wealthy* otherwise.

The previous identification strategy for HtM allows to compute a lower bound for the share of HtM agents[4] when assets and liabilities are reported as averages. However when they are reported at a random point in time, as in our survey data, the previous identification strategy is more problematic since it will misreport some non-HtM agents as HtM and viceversa.[5]

We follow the baseline assumptions of Kaplan et al., 2014. We assume that the pay-period is bi-weekly. In our survey date, we obtain y_t^i dividing total household net annual income by 24. Then, we assume that $\underline{\mathrm{m}}_t^i$ is equal to 1-month income. Moreover, we use the definition of liquid and illiquid assets constructed according to Kaplan et al., 2014 (see following section on HtM indices).

HtM indices

Liquid assets KV (i.e., according to Kaplan et al., 2014): are equal to the sum of liquid assets, long-term treasuries, municipal bonds, and corporate bonds.

Liquid liabilities KV (i.e., according to Kaplan et al., 2014): are equal to the sum of liquid liabilities, education loans, and other debts.

Net liquid assets KV: are equal to liquid assets KV minus liquid liabilities KV.

Poor HtM: indicator variable equal to one if respondent is poor HtM, according to the baseline definition of Kaplan et al., 2014.

Wealthy HtM: indicator variable equal to one if respondent is wealthy HtM, according to the baseline definition of Kaplan et al., 2014.

Non-HtM: indicator variable equal to one if respondent is neither poor not wealthy HtM.

[3] Assuming that income is consumed at a constant rate and depleted at the onset of the next pay-period, average income over the pay-period is equal to half the income received at the beginning of the pay-period.

[4] See discussion in Kaplan et al., 2014.

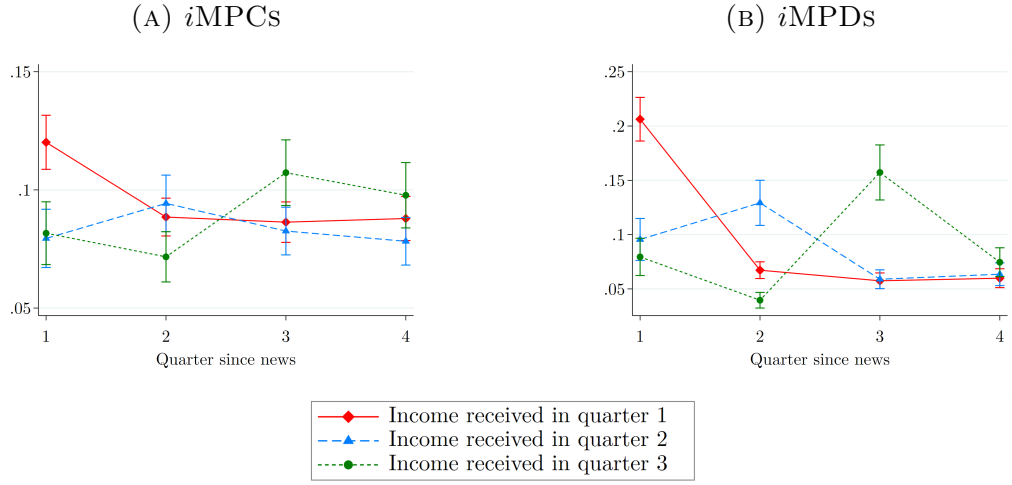
[5] Kaplan et al., 2014 argue that misreporting of non-HtM as HtM is however less problematic when the pay-period is assumed to be of 2 weeks.

A-3 Additional results on quantitative *i*MPCs and *i*MPDs

A-3.1 Proportional income shock

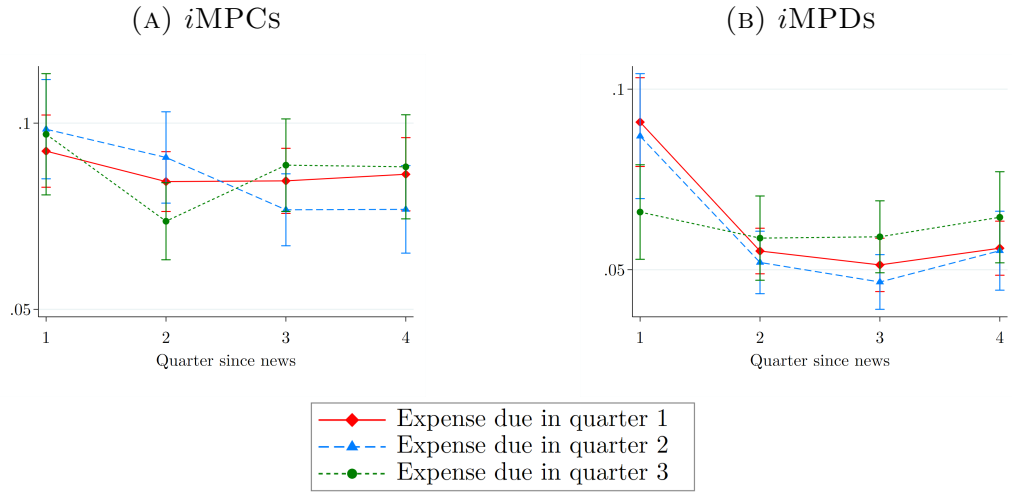
Figures A-2 and A-3 are the analogous of Figures A-2 and A-3, except that now the income shock is worth 10% of household total net annual income. While the patterns are overall similar to the ones for the proportional shock, the MPCs and MPDs are overall smaller. This is consistent with existing estimates in the literature for larger responses to smaller shocks, such as documented in Fagereng et al. (2021) and Kaplan and Violante (2022). As in the fixed case, we still observe spikes at the time of receipt when the shock is received later than when announced - consistently with the presence of a large share of hand-to-mouth respondents.

FIGURE A-2: *i*MPCs AND *i*MPDs OUT OF A POSITIVE PROPORTIONAL INCOME SHOCK



Notes. These figures report *i*MPCs (Panel A) and *i*MPDs (Panel B) over the 4 quarters out of a positive income shock worth 10% of household total net annual income, received in the same quarter of the news, in the following one, and in two quarters from the news. Confidence intervals are at the 90% level.

FIGURE A-3: *i*MPCs AND *i*MPDs OUT OF A NEGATIVE PROPORTIONAL INCOME SHOCK



Notes. These figures report *i*MPCs (Panel A) and *i*MPDs (Panel B) over the 4 quarters out of a negative income shock worth 10% of household total net annual income, received in the same quarter of the news, in the following one, and in two quarters from the news. Confidence intervals are at the 90% level.

A-3.2 Anticipation effects

When eliciting MPCs and MPDs in response to income shocks received either one or two quarters (randomized with a 50% probability) after the announcement, we proceed in two steps. We first ask respondents whether they would be able to increase spending and debt repayments (or whether they will cut spending or increase borrowing) in anticipation of the income shock, as shown in Figure A-53. If they answers no, we show them the matrix question with zeros in the first or the first two rows, corresponding to quarter one and two.[6] Respondents cannot modify these rows. The idea is that we impose their behavior to be consistent with the constraints that they have previously self-reported. Otherwise, if they can anticipate the income shock, we show them the same matrix question as in Figure A-52, Panel C.

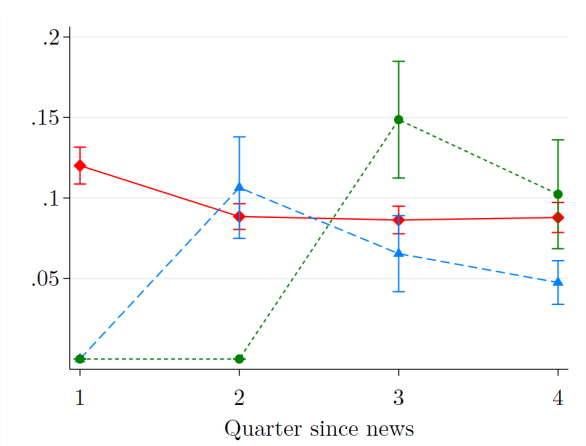
In the following Figures (A-4, A-5, A-6, A-7) we show *i*MPCs and *i*MPDs comparing respondents who self-reported not being able to anticipate the income shock (top Panels) and being able to anticipate it (bottom Panels). We notice that the paths for households who can anticipate the shocks are, as expected, almost identical regardless of the timing of the shock. On the contrary, the time paths for households who are unable to anticipate the shocks show significant spikes at the exact time when the income flow or expense occurs.

[6]The number of rows with zeros depends on whether the income shock is received in one or two quarters after the news.

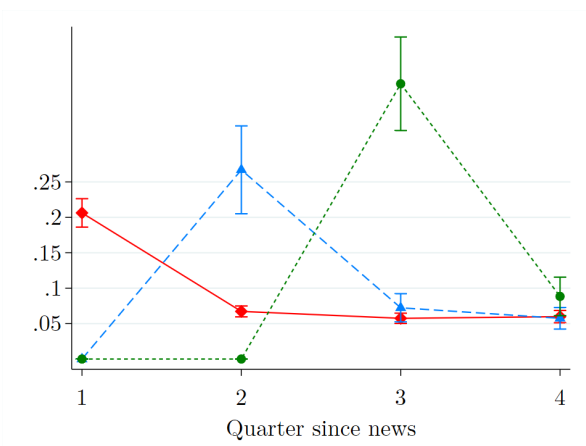
FIGURE A-4: ANTICIPATION EFFECTS: *i*MPCS AND *i*MPDS OUT OF POSITIVE PROPORTIONAL INCOME SHOCK

CANNOT ANTICIPATE THE SHOCK

(A) *i*MPCs

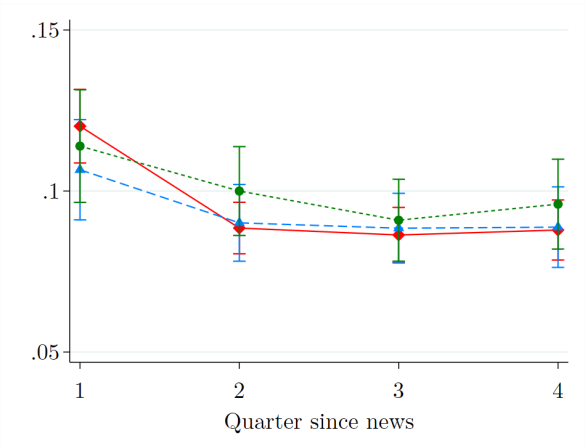


(B) *i*MPDs

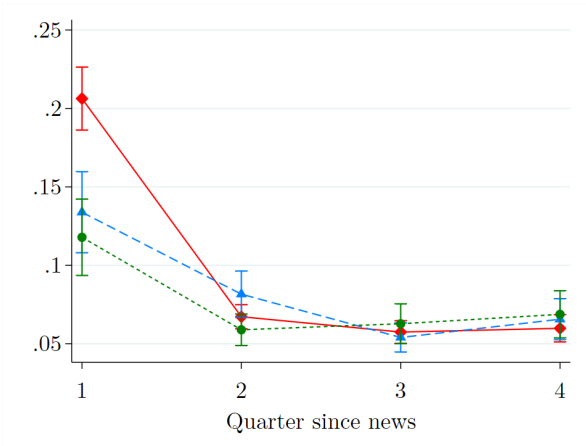


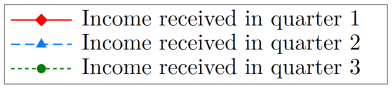
CAN ANTICIPATE THE SHOCK

(C) *i*MPCs



(D) *i*MPDs

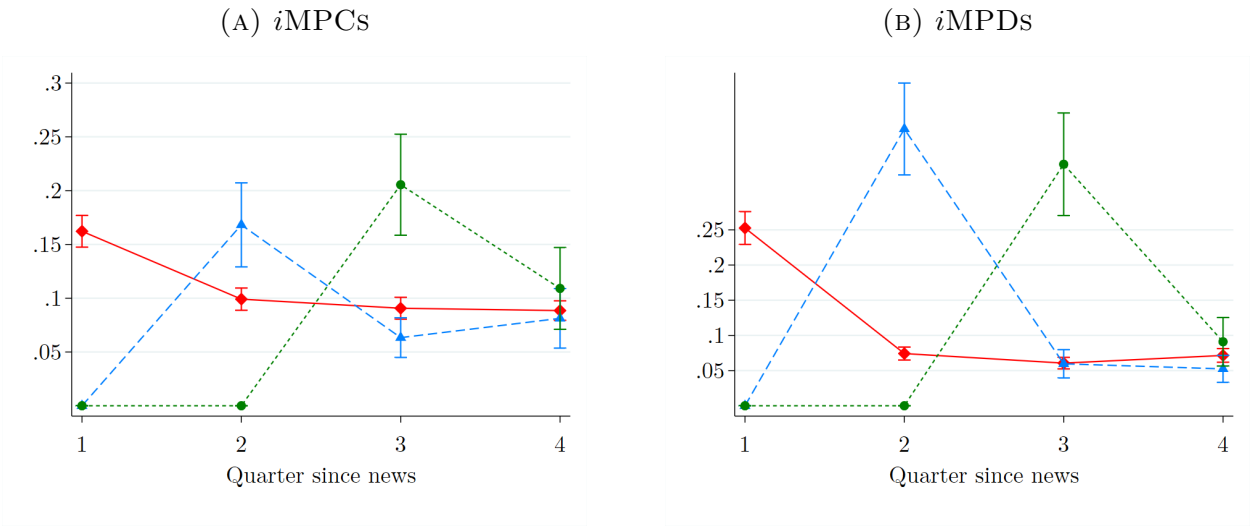




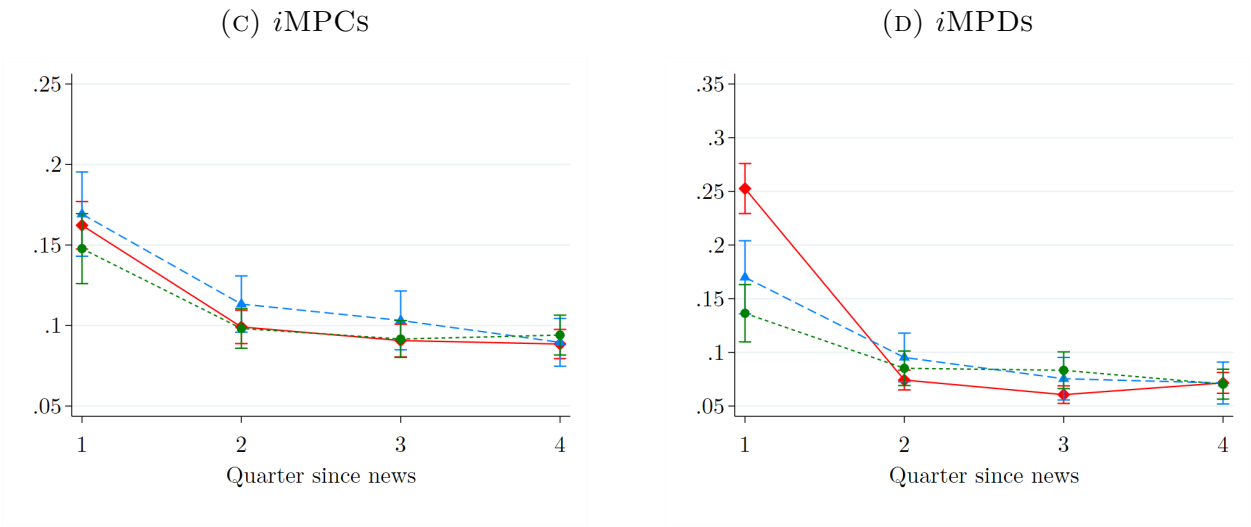
Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) over the 4 quarters out of a positive income shock worth 10% of household total net annual income, received in the same quarter of the news, in the following one, and in two quarters from the news. We show *i*MPCs and *i*MPDs separately for respondents who report that they cannot anticipate (Panel A and Panel B) and that they can anticipate (Panel C and Panel D) the income shock. Confidence intervals are at the 90% level.

FIGURE A-5: ANTICIPATION EFFECTS: *i*MPCS AND *i*MPDS OUT OF POSITIVE FIXED INCOME SHOCK

CANNOT ANTICIPATE THE SHOCK



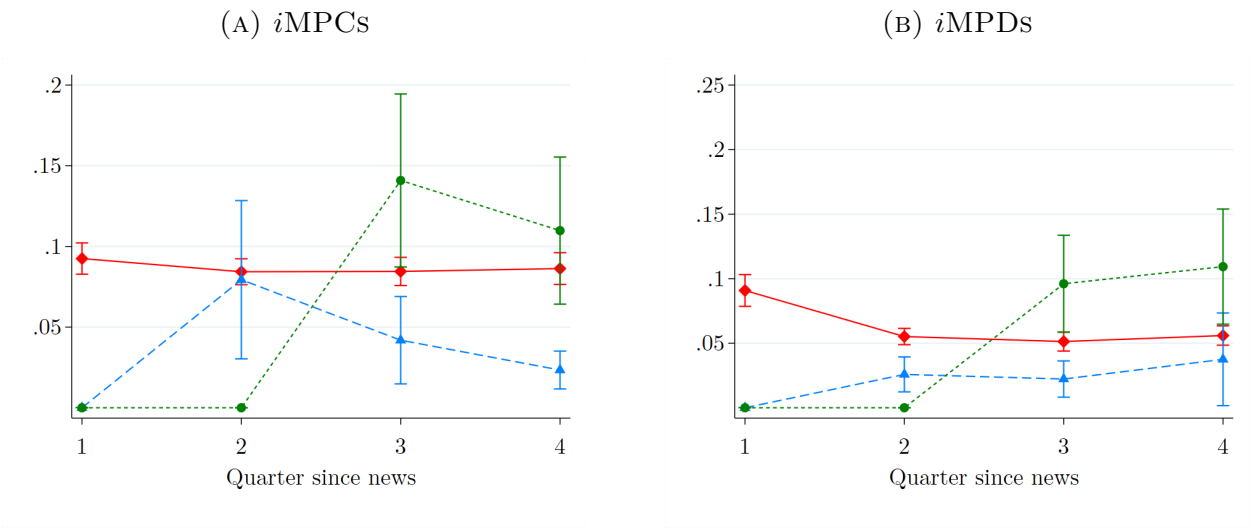
CAN ANTICIPATE THE SHOCK



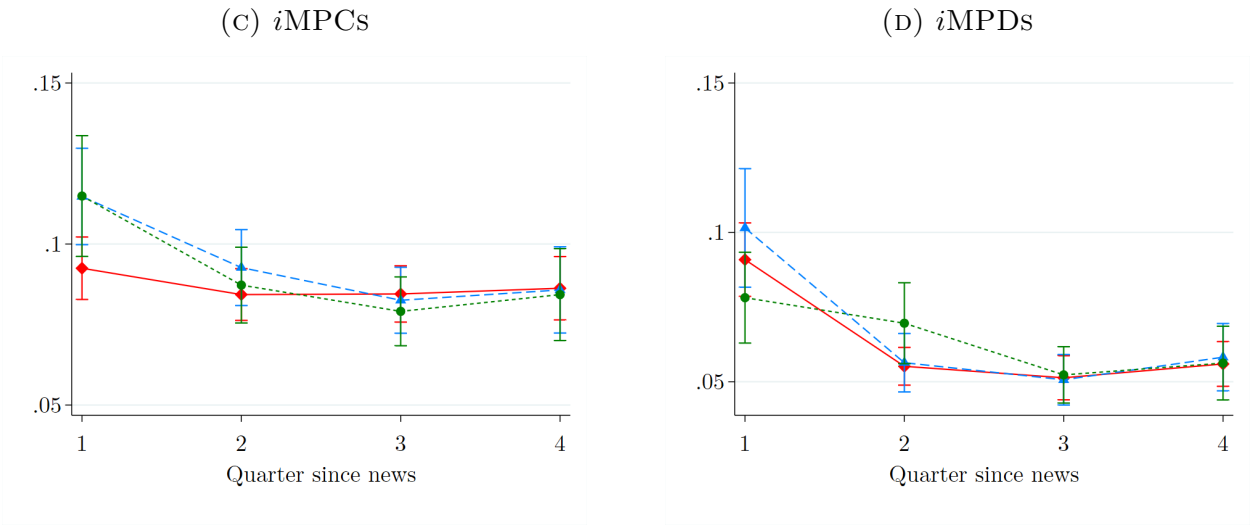
Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) over the 4 quarters out of a positive fixed $1000 income shock received in the same quarter of the news, in the following one, and in two quarters from the news. We show *i*MPCs and *i*MPDs separately for respondents who report that they cannot anticipate (Panel A and Panel B) and that they can anticipate (Panel C and Panel D) the income shock. Confidence intervals are at the 90% level.

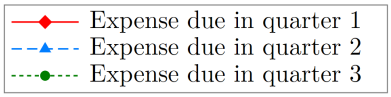
FIGURE A-6: ANTICIPATION EFFECTS: *i*MPCS AND *i*MPDS OUT OF NEGATIVE PROPORTIONAL INCOME SHOCK

CANNOT ANTICIPATE THE SHOCK



CAN ANTICIPATE THE SHOCK

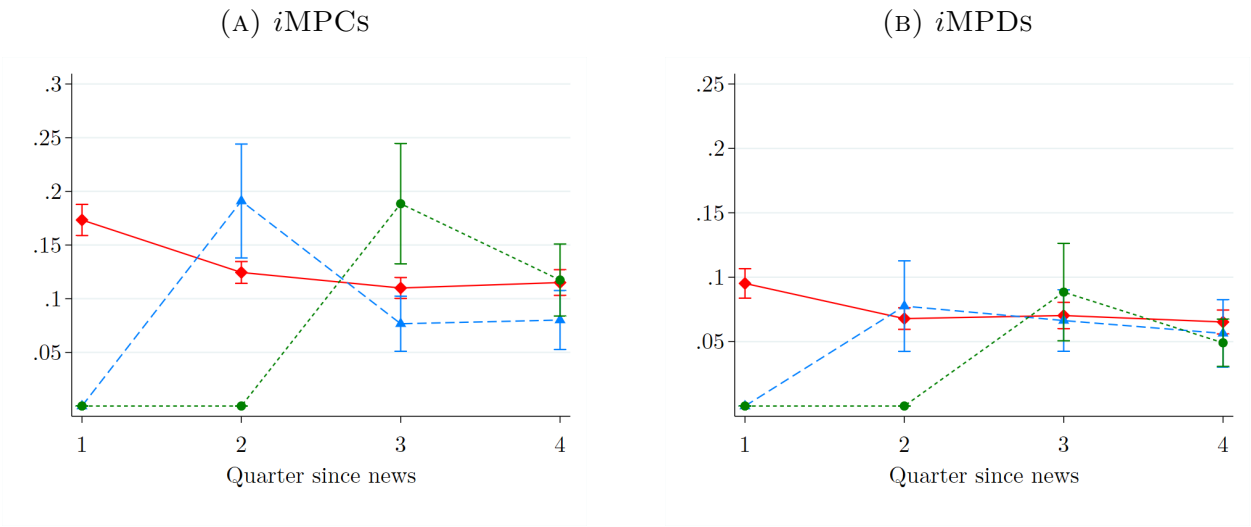




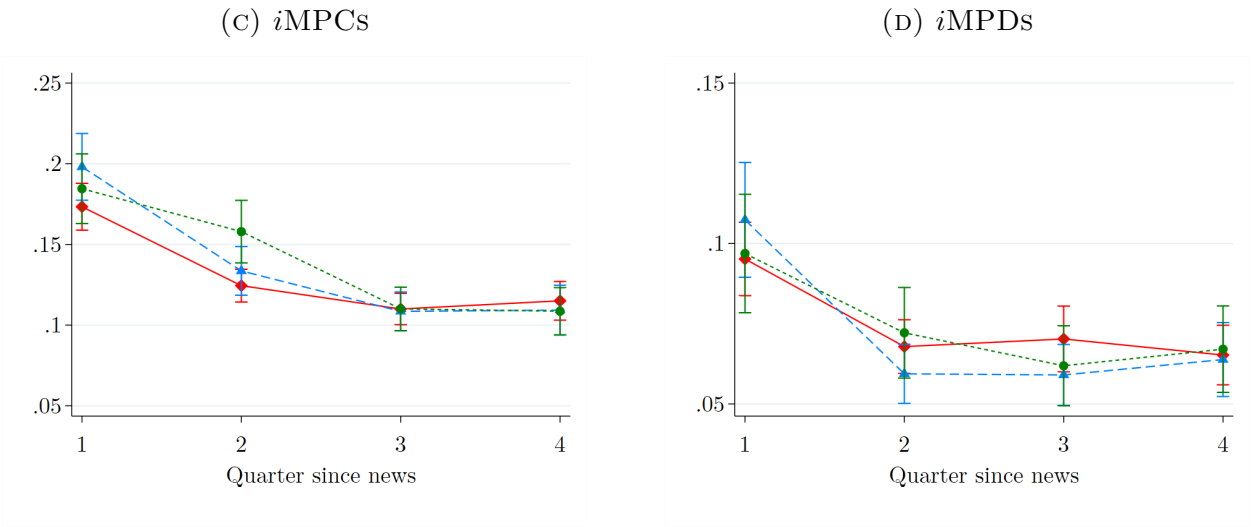
Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) over the 4 quarters out of a negative income shock worth 10% of household total net annual income, received in the same quarter of the news, in the following one, and in two quarters from the news. We show *i*MPCs and *i*MPDs separately for respondents who report that they cannot anticipate (Panel A and Panel B) and that they can anticipate (Panel C and Panel D) the income shock. Confidence intervals are at the 90% level.

FIGURE A-7: ANTICIPATION EFFECTS: *i*MPCS AND *i*MPDS OUT OF NEGATIVE FIXED INCOME SHOCK

CANNOT ANTICIPATE THE SHOCK



CAN ANTICIPATE THE SHOCK

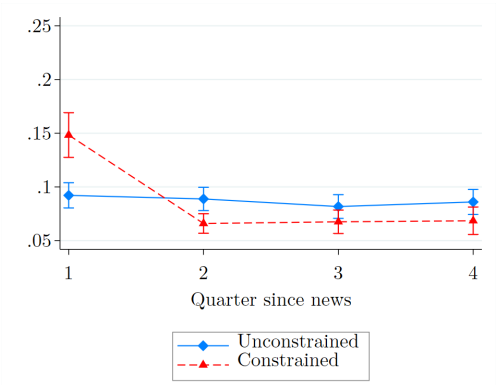


Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) over the 4 quarters out of a negative fixed $1000 income shock received in the same quarter of the news, in the following one, and in two quarters from the news. We show *i*MPCs and *i*MPDs separately for respondents who report that they cannot anticipate (Panel A and Panel B) and that they can anticipate (Panel C and Panel D) the income shock. Confidence intervals are at the 90% level.

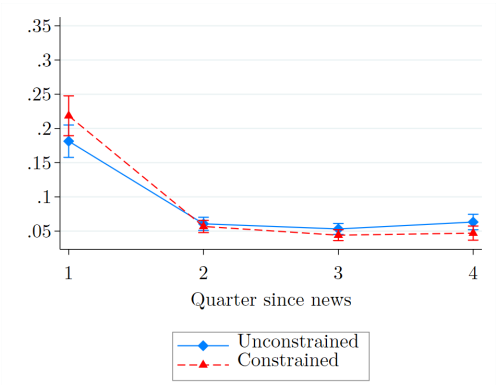
A-3.3 Constrained and unconstrained

FIGURE A-8: *i*MPCs AND *i*MPDs OUT OF A POSITIVE PROPORTIONAL INCOME SHOCK

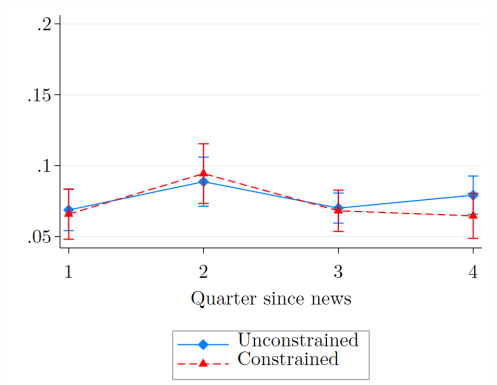
(A) *i*MPCs - INCOME IN QUARTER 1



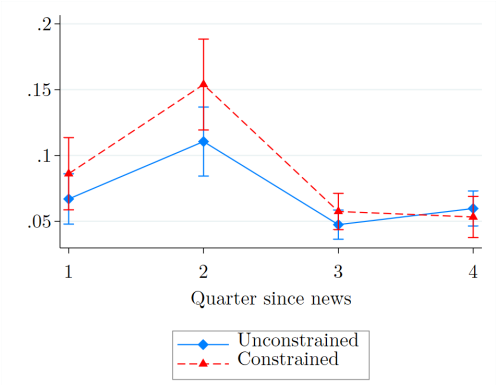
(B) *i*MPDs - INCOME IN QUARTER 1



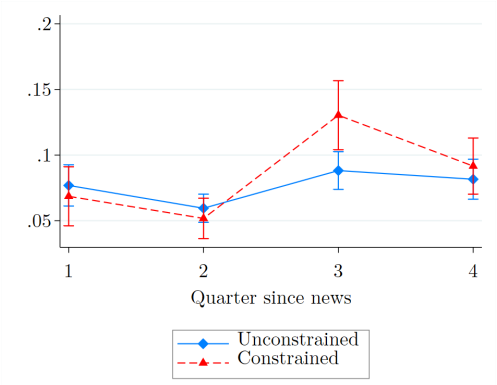
(C) *i*MPCs - INCOME IN QUARTER 2



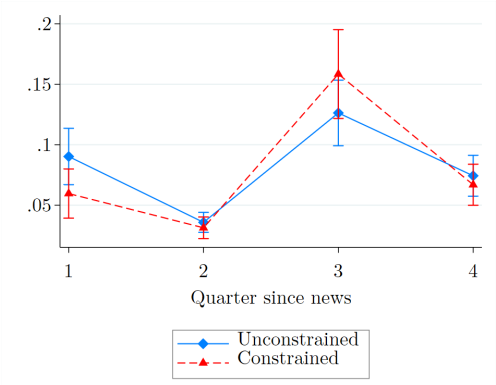
(D) *i*MPDs - INCOME IN QUARTER 2



(E) *i*MPCs - INCOME IN QUARTER 3



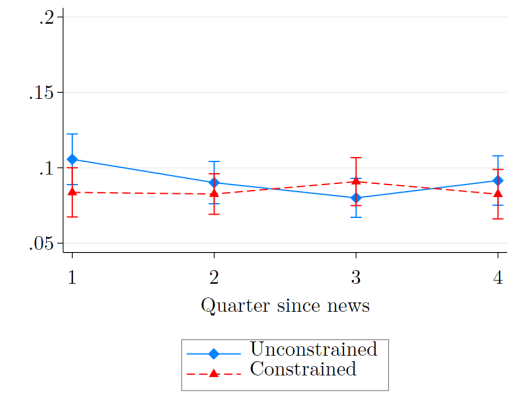
(F) *i*MPDs - INCOME IN QUARTER 3



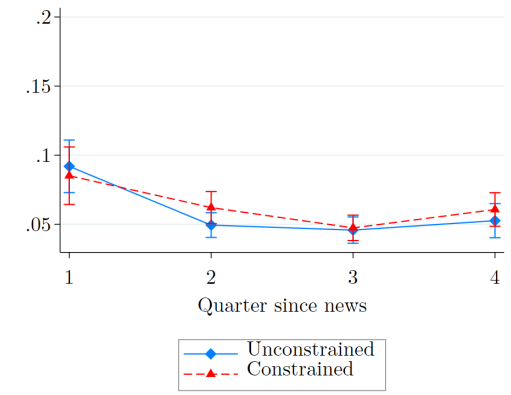
Notes. These figures report *i*MPCs (left Panels) and *i*MPDs (right Panels) over the 4 quarters out of a positive proportional income shock received in the same quarter of the news (Panels A and B), in the following one (Panels C and D), and in two quarters from the news (Panels E and F). We compare individuals who belong to the top (denoted as "constrained") and bottom (denoted as "unconstrained") terciles of the constrained index (see Appendix A-2). Confidence intervals are at the 90% level.

FIGURE A-9: *i*MPCs AND *i*MPDs OUT OF A NEGATIVE PROPORTIONAL INCOME SHOCK

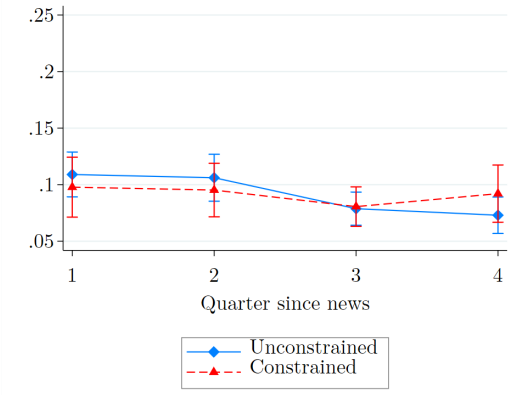
(A) *i*MPCs - EXPENSE IN QUARTER 1



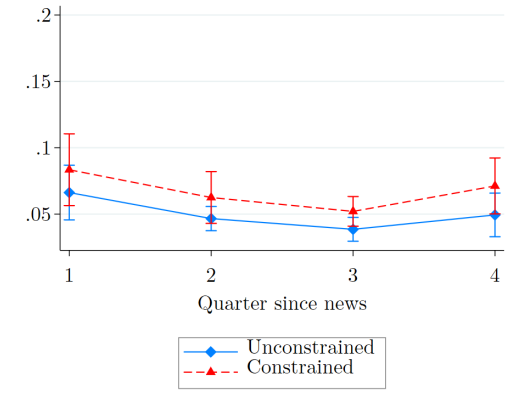
(B) *i*MPDs - EXPENSE IN QUARTER 1



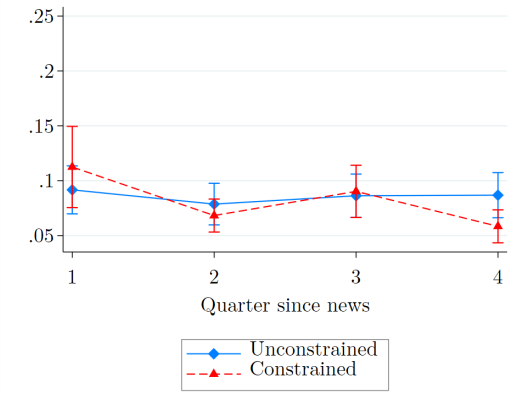
(C) *i*MPCs - EXPENSE IN QUARTER 2



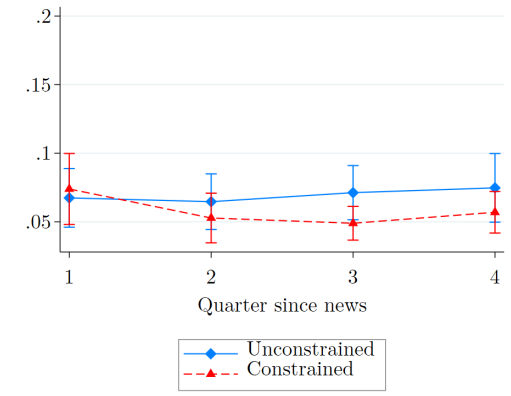
(D) *i*MPDs - EXPENSE IN QUARTER 2



(E) *i*MPCs - EXPENSE IN QUARTER 3



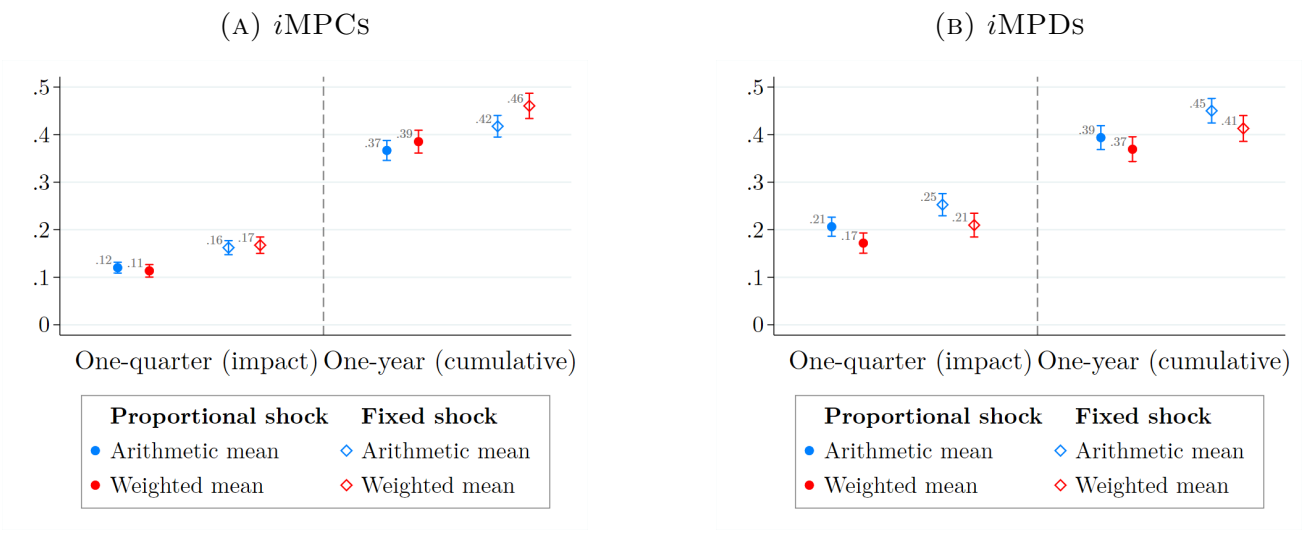
(F) *i*MPDs - EXPENSE IN QUARTER 3



Notes. These figures report *i*MPCs (left Panels) and *i*MPDs (right Panels) over the 4 quarters out of a negative proportional income shock received in the same quarter of the news (Panels A and B), in the following one (Panels C and D), and in two quarters from the news (Panels E and F). We compare individuals who belong to the top (denoted as "constrained") and bottom (denoted as "unconstrained") terciles of the constrained index (see Appendix A-2). Confidence intervals are at the 90% level.

A-3.4 Income-weighted *i*MPCs and *i*MPDs

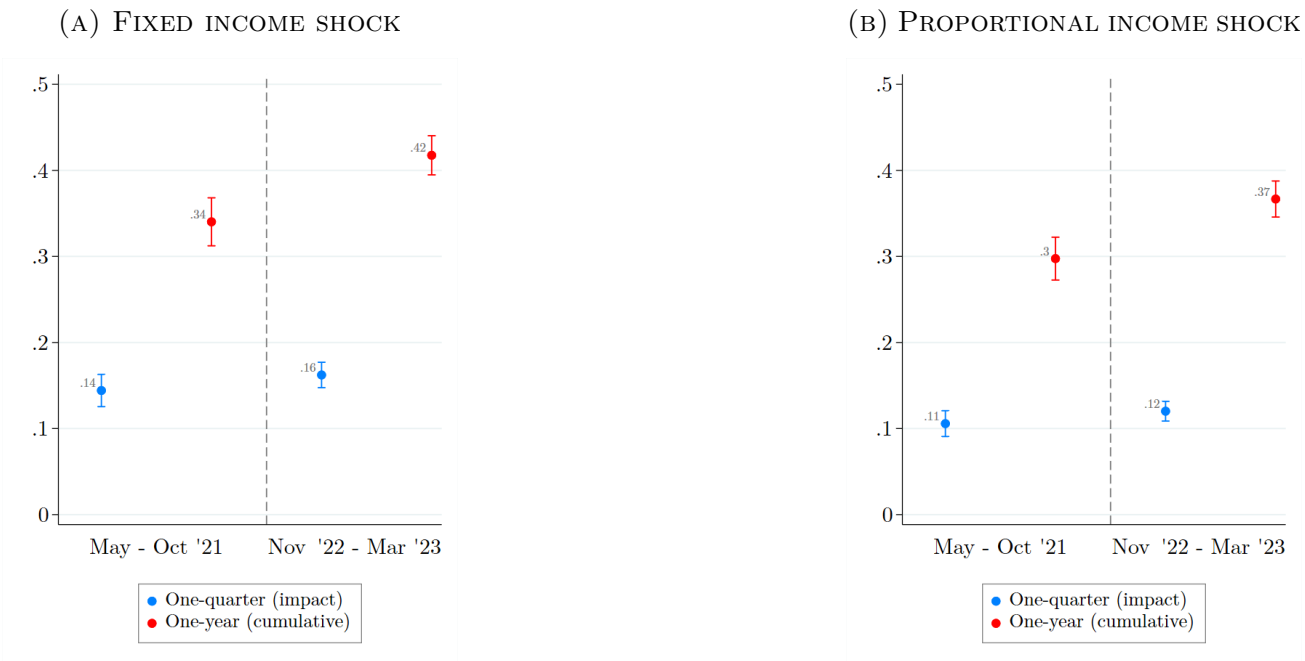
FIGURE A-10: INCOME WEIGHTED MPCS AND MPDS



Notes. These figures report impact and cumulative *i*MPCs (Panel A) and *i*MPDs (Panel B) out of proportional (dots) and fixed (diamonds) positive income shock. We compare the arithmetic means (blue) to the means weighted by household total net annual income (red). Confidence intervals are at the 90% level.

A-3.5 Different survey waves

FIGURE A-11: *i*MPCS ACROSS SURVEY WAVES



Notes. These figure reports impact (blue) and cumulative (red) *i*MPCs over the 4 quarters out of a positive fixed $1000 income shock (Panel A) and a positive income shock worth 10% of household total net annual income (Panel B) received in the same quarter of the news across the survey waves May - October 2021 and November 2022 - March 2023. Confidence intervals are at the 90% level.

A-3.6 Predicting iMPCs and iMPDs

TABLE A-3: PREDICTION OF *i*MPCS AND *i*MPDS OUT OF POSITIVE INCOME SHOCK

	One-quarter (impact) iMPCs			One-year (cumulative) iMPCs			One-quarter (impact) iMPDs			One-year (cumulative) iMPDs		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fixed (smaller) shock	0.042***	0.041***		0.054***	0.053***		0.043**	0.043**		0.054***	0.055***	
	(0.011)	(0.011)		(0.018)	(0.018)		(0.017)	(0.017)		(0.021)	(0.020)	
Number of household members	0.006	0.006		0.020**	0.019**		-0.021**	-0.019**		-0.014	-0.015	
	(0.006)	(0.006)		(0.009)	(0.009)		(0.009)	(0.009)		(0.011)	(0.010)	
Woman	-0.010	-0.008		-0.013	-0.006		0.057***	0.041**		0.037*	0.020	
	(0.012)	(0.013)		(0.020)	(0.020)		(0.019)	(0.019)		(0.022)	(0.023)	
Age: 35-49	0.021	0.022		0.032	0.038		-0.025	-0.031		-0.004	-0.014	
	(0.015)	(0.015)		(0.024)	(0.024)		(0.023)	(0.023)		(0.028)	(0.028)	
Age: 50-65	-0.002	-0.001		-0.047*	-0.034		0.079***	0.053**		0.082***	0.058**	
	(0.016)	(0.017)		(0.026)	(0.026)		(0.024)	(0.024)		(0.029)	(0.029)	
Black race	-0.002	-0.002		0.024	0.019		-0.066**	-0.051*		-0.063*	-0.047	
	(0.018)	(0.018)		(0.028)	(0.028)		(0.027)	(0.027)		(0.033)	(0.032)	
Other races	0.019	0.018		0.040	0.036		-0.037	-0.028		-0.036	-0.026	
	(0.018)	(0.019)		(0.029)	(0.029)		(0.027)	(0.027)		(0.033)	(0.033)	
High education	0.002	0.001		0.020	0.013		0.016	0.021		0.006	0.012	
	(0.014)	(0.014)		(0.023)	(0.023)		(0.022)	(0.021)		(0.026)	(0.026)	
Have children	-0.005	-0.004		0.015	0.021		0.006	0.008		0.030	0.036	
	(0.016)	(0.017)		(0.026)	(0.026)		(0.025)	(0.024)		(0.030)	(0.030)	
High income	-0.007	-0.007		0.000	-0.009		-0.014	0.002		-0.037	-0.024	
	(0.016)	(0.016)		(0.025)	(0.025)		(0.024)	(0.023)		(0.028)	(0.028)	
High liquid assets	-0.006	-0.004		0.025	0.014		-0.031	-0.007		-0.017	0.005	
	(0.014)	(0.015)		(0.023)	(0.024)		(0.022)	(0.022)		(0.026)	(0.027)	
Have credit card debt	-0.021*	-0.022*		-0.053***	-0.053***		0.079***	0.079***		0.126***	0.123***	
	(0.012)	(0.012)		(0.019)	(0.020)		(0.018)	(0.018)		(0.021)	(0.021)	
High illiquid assets	-0.001	-0.005		0.053**	0.036		-0.113***	-0.085***		-0.103***	-0.075***	
	(0.016)	(0.016)		(0.025)	(0.026)		(0.024)	(0.024)		(0.029)	(0.029)	
High illiquid debt	-0.030**	-0.030**		-0.095***	-0.096***		0.130***	0.129***		0.144***	0.141***	
	(0.012)	(0.012)		(0.019)	(0.019)		(0.018)	(0.018)		(0.022)	(0.022)	
Low self-control		0.013	0.005		0.067***	0.068***		-0.067***	-0.062**		-0.063**	-0.039
		(0.016)	(0.016)		(0.026)	(0.025)		(0.024)	(0.024)		(0.029)	(0.029)
Low risk aversion		0.008	0.016		0.026	0.068***		-0.017	-0.063***		-0.000	-0.033
		(0.014)	(0.013)		(0.022)	(0.021)		(0.020)	(0.020)		(0.025)	(0.024)
Patient		0.001	0.001		-0.018	-0.020		0.020	0.014		0.016	0.007
		(0.012)	(0.012)		(0.020)	(0.020)		(0.018)	(0.019)		(0.022)	(0.023)
Concern income/unemployment		-0.019	-0.016		-0.021	-0.017		-0.020	-0.023		-0.009	-0.010
		(0.015)	(0.015)		(0.024)	(0.025)		(0.022)	(0.023)		(0.027)	(0.027)
Concern repay debts/access credit		-0.019	-0.019		-0.035	-0.028		0.040*	0.033		0.035	0.035
		(0.016)	(0.016)		(0.025)	(0.026)		(0.024)	(0.024)		(0.028)	(0.029)
Concern health expenses		0.010	0.012		0.034	0.039		-0.032	-0.033		-0.031	-0.033
		(0.016)	(0.016)		(0.026)	(0.027)		(0.024)	(0.025)		(0.029)	(0.030)
Concern retirement		0.007	0.005		-0.013	-0.019		0.025	0.037		0.055**	0.066**
		(0.015)	(0.015)		(0.024)	(0.025)		(0.023)	(0.023)		(0.027)	(0.028)
High share committed expenses		0.015	0.010		0.008	-0.022		0.069***	0.101***		0.061***	0.092***
		(0.012)	(0.012)		(0.019)	(0.019)		(0.018)	(0.019)		(0.022)	(0.022)
High income risk		0.004	0.005		0.003	-0.011		0.039*	0.050**		0.047*	0.045
		(0.015)	(0.015)		(0.024)	(0.024)		(0.023)	(0.023)		(0.027)	(0.028)
High planned investments		-0.019	-0.018		0.007	0.024		0.025	0.019		0.042*	0.039*
		(0.012)	(0.012)		(0.019)	(0.019)		(0.018)	(0.018)		(0.022)	(0.022)
Not enough for basic needs		-0.018	-0.019		-0.063**	-0.090***		0.096***	0.132***		0.102***	0.139***
		(0.017)	(0.016)		(0.026)	(0.025)		(0.025)	(0.024)		(0.030)	(0.029)
Observations	1406	1400	1403	1396	1390	1393	1182	1177	1180	1142	1137	1139
Adjusted R^2	0.016	0.015	-0.001	0.086	0.093	0.034	0.162	0.201	0.113	0.117	0.150	0.073

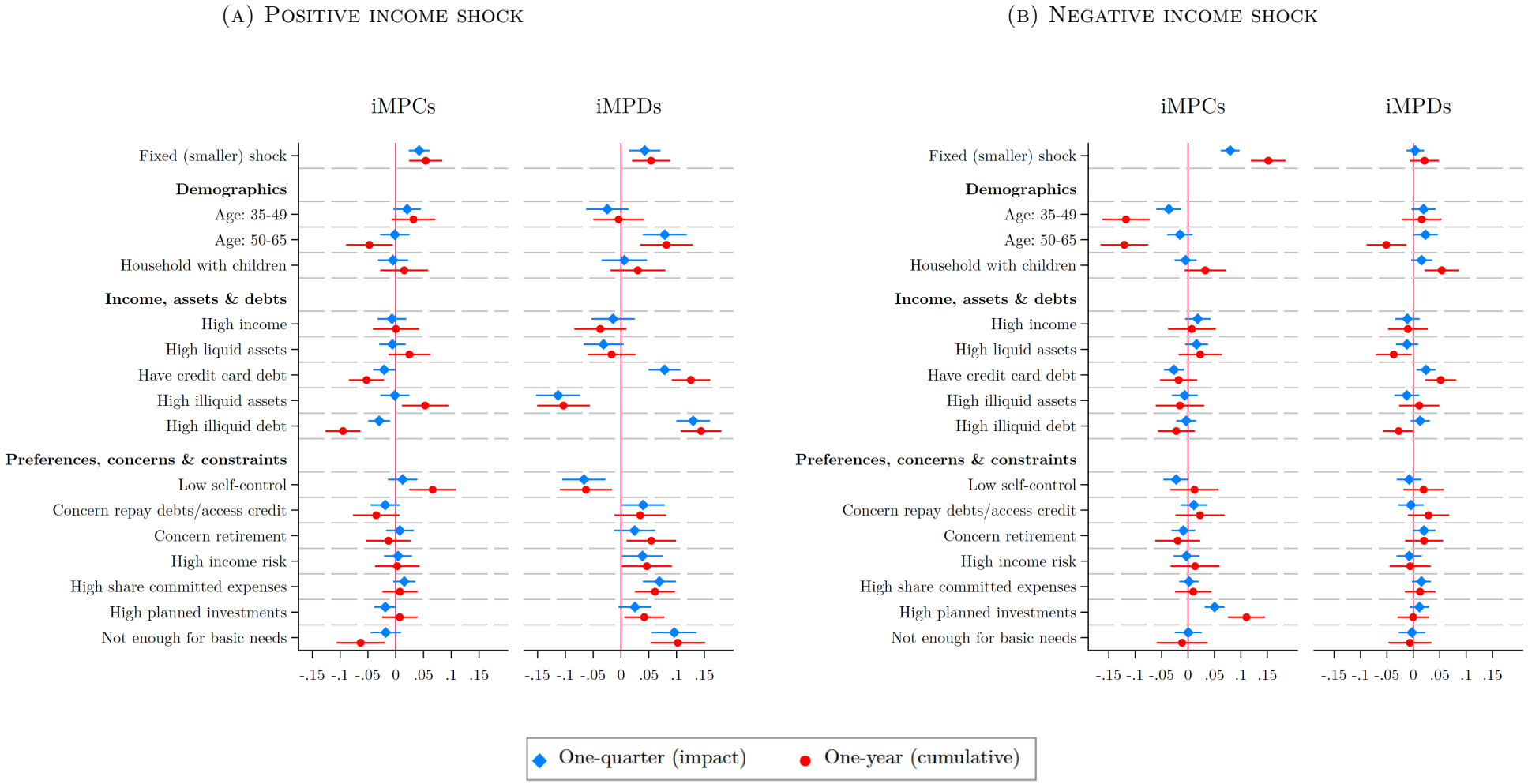
Notes. We consider the response to a positive income shock received as soon as announced. The dependent variables are impact *i*MPCs (columns 1 to 3), i.e., spending in the first quarter after the shock; cumulative *i*MPCs (columns 4 to 6), i.e., cumulative spending over the first four quarters after the shock; impact *i*MPDs (columns 7 to 9), i.e., debt repayments in the first quarter after the shock, cumulative *i*MPDs (columns 10 to 12), i.e., cumulative debt repayments over the first four quarters after the shock. These are regressed (columns 1, 4, 7 and 10) on the *fixed shock* indicator, on the indicator for *individual decision making* (not shown), demographic variables (number of household members, indicators for female, age classes 35-49 and 50-65, black and other races, high education, household with children); income, assets, and liabilities controls (indicators for high income, high liquid assets, high credit card debts, high illiquid assets, high illiquid debts). In columns 3, 6, 9 and 12, we control for control for preferences (indicators for low self-control, low risk-aversion, patient); concerns (indicators for concerns about income/unemployment, repaying debts/accessing to credit, health expenses, retirement), other plans and constraints variables (indicators for high spending commitments, high income risk, high planned investments, not having enough for basic spending needs). In addition, in columns 2, 5, 8 and 11 we run regressions with all controls mentioned above. Omitted categories are the indicator variables for age 25-34, white race. All variables are defined in more detail in Appendix A-2. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A-4: Prediction of *i*MPCs and *i*MPDs out of negative income shock

	One-quarter (impact) iMPCs			One-year (cumulative) iMPCs			One-quarter (impact) iMPDs			One-year (cumulative) iMPDs		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fixed (smaller) shock	0.080***	0.080***		0.152***	0.153***		0.004	0.004		0.021	0.023	
	(0.011)	(0.011)		(0.020)	(0.020)		(0.010)	(0.010)		(0.017)	(0.017)	
Number of household members	-0.003	-0.002		0.016	0.017		-0.000	0.000		0.011	0.011	
	(0.006)	(0.006)		(0.011)	(0.011)		(0.005)	(0.005)		(0.009)	(0.009)	
Woman	-0.001	-0.004		-0.005	-0.007		0.008	0.009		-0.014	-0.010	
	(0.012)	(0.012)		(0.022)	(0.022)		(0.011)	(0.011)		(0.018)	(0.018)	
Age: 35-49	-0.036**	-0.032**		-0.119***	-0.110***		0.019	0.020		0.015	0.017	
	(0.014)	(0.015)		(0.027)	(0.027)		(0.014)	(0.014)		(0.023)	(0.023)	
Age: 50-65	-0.016	-0.024		-0.114***	-0.120***		0.023	0.018		-0.047**	-0.040	
	(0.015)	(0.015)		(0.028)	(0.029)		(0.014)	(0.015)		(0.023)	(0.024)	
Black race	0.010	0.012		0.035	0.036		0.009	0.010		0.020	0.020	
	(0.017)	(0.017)		(0.032)	(0.032)		(0.016)	(0.017)		(0.027)	(0.027)	
Other races	0.036**	0.040**		0.099***	0.101***		0.007	0.007		-0.014	-0.019	
	(0.018)	(0.018)		(0.034)	(0.034)		(0.018)	(0.018)		(0.029)	(0.029)	
High education	0.029**	0.028**		0.045*	0.040*		0.012	0.011		0.023	0.017	
	(0.013)	(0.013)		(0.024)	(0.024)		(0.012)	(0.013)		(0.020)	(0.020)	
Have children	-0.000	-0.001		0.007	0.001		0.016	0.015		0.035	0.033	
	(0.016)	(0.016)		(0.029)	(0.029)		(0.015)	(0.015)		(0.024)	(0.025)	
High income	0.019	0.014		0.002	-0.009		-0.011	-0.011		-0.014	-0.014	
	(0.015)	(0.015)		(0.028)	(0.028)		(0.014)	(0.014)		(0.023)	(0.023)	
High liquid assets	0.016	0.006		0.021	0.001		-0.012	-0.013		-0.038*	-0.039*	
	(0.013)	(0.014)		(0.025)	(0.026)		(0.013)	(0.013)		(0.021)	(0.021)	
Have credit card debt	-0.027**	-0.018		-0.018	-0.008		0.024**	0.025**		0.051***	0.043**	
	(0.011)	(0.012)		(0.021)	(0.022)		(0.011)	(0.011)		(0.018)	(0.018)	
High illiquid assets	-0.006	-0.007		-0.018	-0.028		-0.012	-0.014		0.010	0.006	
	(0.015)	(0.015)		(0.028)	(0.028)		(0.014)	(0.015)		(0.023)	(0.024)	
High illiquid debt	-0.003	-0.003		-0.023	-0.021		0.013	0.010		-0.028	-0.033*	
	(0.011)	(0.011)		(0.021)	(0.021)		(0.011)	(0.011)		(0.018)	(0.018)	
Low self-control		-0.022	-0.025*		0.012	0.023		-0.008	0.000		0.019	0.042*
		(0.015)	(0.015)		(0.028)	(0.028)		(0.014)	(0.014)		(0.023)	(0.023)
Low risk aversion		-0.017	-0.016		-0.013	-0.004		0.001	-0.003		0.016	0.032*
		(0.012)	(0.012)		(0.023)	(0.022)		(0.012)	(0.011)		(0.019)	(0.018)
Patient		0.010	0.011		0.032	0.035		-0.009	-0.009		0.001	0.006
		(0.011)	(0.011)		(0.021)	(0.021)		(0.011)	(0.011)		(0.018)	(0.018)
Concern income/unemployment		-0.010	-0.011		-0.036	-0.043		0.001	0.001		-0.018	-0.009
		(0.015)	(0.015)		(0.027)	(0.028)		(0.014)	(0.014)		(0.023)	(0.023)
Concern repay debts/access credit		0.011	0.014		0.023	0.040		-0.005	-0.004		0.029	0.039*
		(0.015)	(0.015)		(0.028)	(0.029)		(0.015)	(0.014)		(0.024)	(0.024)
Concern health expenses		-0.006	-0.009		0.001	-0.006		0.004	0.004		0.007	0.005
		(0.016)	(0.016)		(0.030)	(0.030)		(0.015)	(0.015)		(0.025)	(0.025)
Concern retirement		-0.009	-0.012		-0.020	-0.030		0.020	0.023*		0.020	0.018
		(0.014)	(0.014)		(0.026)	(0.026)		(0.013)	(0.013)		(0.022)	(0.022)
High share committed expenses		0.002	0.003		0.010	0.006		0.015	0.020*		0.013	-0.001
		(0.011)	(0.011)		(0.021)	(0.021)		(0.011)	(0.010)		(0.018)	(0.017)
High income risk		-0.003	-0.000		0.013	0.015		-0.008	-0.007		-0.006	-0.013
		(0.015)	(0.015)		(0.028)	(0.028)		(0.015)	(0.014)		(0.024)	(0.023)
High planned investments		0.050***	0.051***		0.111***	0.100***		0.012	0.006		0.000	-0.007
		(0.011)	(0.011)		(0.021)	(0.021)		(0.011)	(0.011)		(0.018)	(0.017)
Not enough for basic needs		0.001	-0.014		-0.014	-0.030		-0.003	0.006		-0.009	-0.012
		(0.016)	(0.015)		(0.029)	(0.029)		(0.015)	(0.014)		(0.025)	(0.023)
Observations	1355	1354	1356	1335	1334	1336	1356	1355	1357	1341	1340	1342
Adjusted R^2	0.051	0.065	0.018	0.066	0.082	0.018	0.003	0.000	-0.000	0.029	0.026	0.008

Notes. We consider the response to a negative income shock received as soon as announced. The dependent variables are impact *i*MPCs (columns 1 to 3), i.e., spending in the first quarter after the shock; cumulative *i*MPCs (columns 4 to 6), i.e., cumulative spending over the first four quarters after the shock; impact *i*MPDs (columns 7 to 9), i.e., debt repayments in the first quarter after the shock, cumulative *i*MPDs (columns 10 to 12), i.e., cumulative debt repayments over the first four quarters after the shock. Regressors are described in A-3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Figure A-12: *i*MPCs and *i*MPDs - Predictions



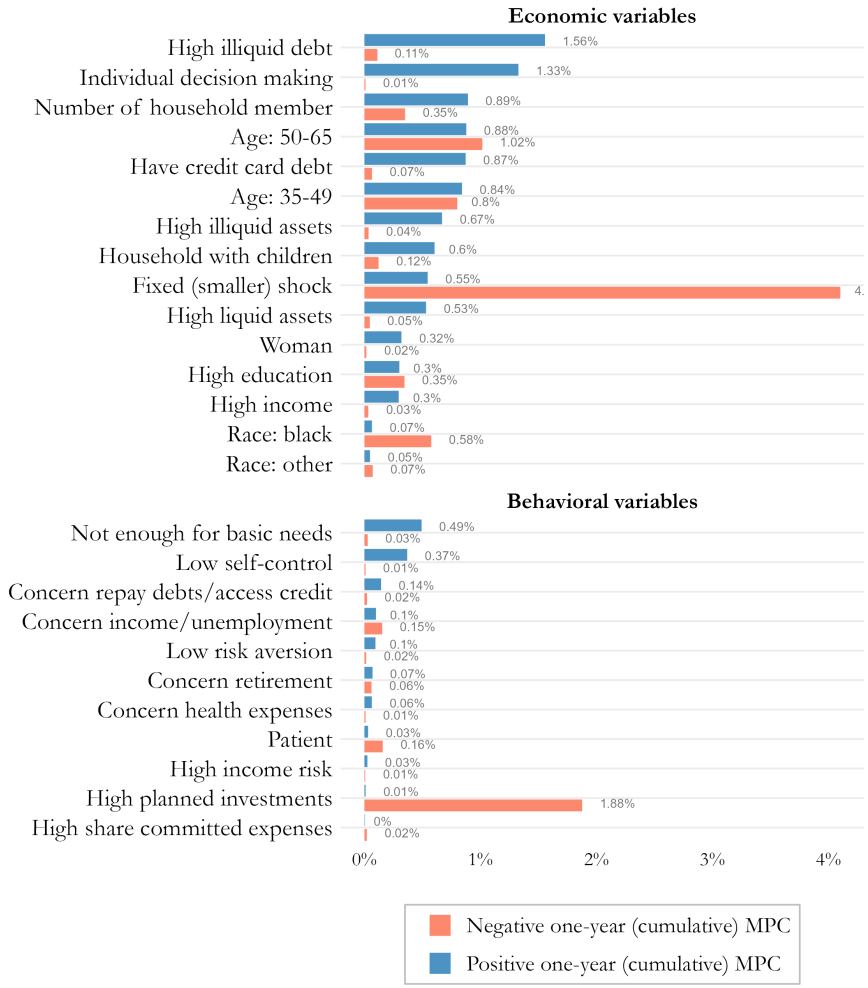
Notes. We consider the response to a positive (Panel A) and negative (Panel B) income shock received in the same quarter of the news. The dependent variables are impact *i*MPCs, i.e., spending (positive shock) or spending cuts in the first quarter after the shock; cumulative *i*MPCs, i.e., cumulative spending (positive shock) or spending cuts over the first four quarters after the shock; impact *i*MPDs, i.e., debt repayments (positive shock) or borrowing (negative shock) in the first quarter after the shock, cumulative *i*MPDs, i.e., cumulative debt repayments (positive shock) or borrowing (negative shock) over the first four quarters after the shock. Coefficients for demographics; income, assets & debts variables are taken from odd columns of Tables A-3 (positive shock) and A-4 (negative shock). Coefficients for preferences; concerns & constraints are taken from even columns of Tables A-3 (positive shock) and A-4 (negative shock). Variables are defined in detail in Appendix A-2. Confidence intervals are at the 90% level.

We perform a variance decomposition of cumulative MPCs out of a positive and negative income shock and we plot the results in Figure A-13. We adopt the LMG algorithm, described in detail by **?**. The procedure computes the incremental R2 of each variable included in a linear regression model, averaging across all the possible orderings of regressors. We exploit the procedure in two steps.

1. First, we regress cumulative MPCs on demographic and assets variables and compute the share of variance explained through the LMG procedure.

2. Second, we store the residuals of the regression in the first step and we regress them on the remaining behavioral variables (that have also been residualized through a linear regression on demographic and assets variables). We then apply the LMG procedure to these second-step residuals regressions.

FIGURE A-13: VARIANCE DECOMPOSITION USING LDA ALGORITHM



Notes. We use the LMG algorithm (see **?**). The figure plots the share of the overall variance of the cumulative MPCs explained by each regressor.

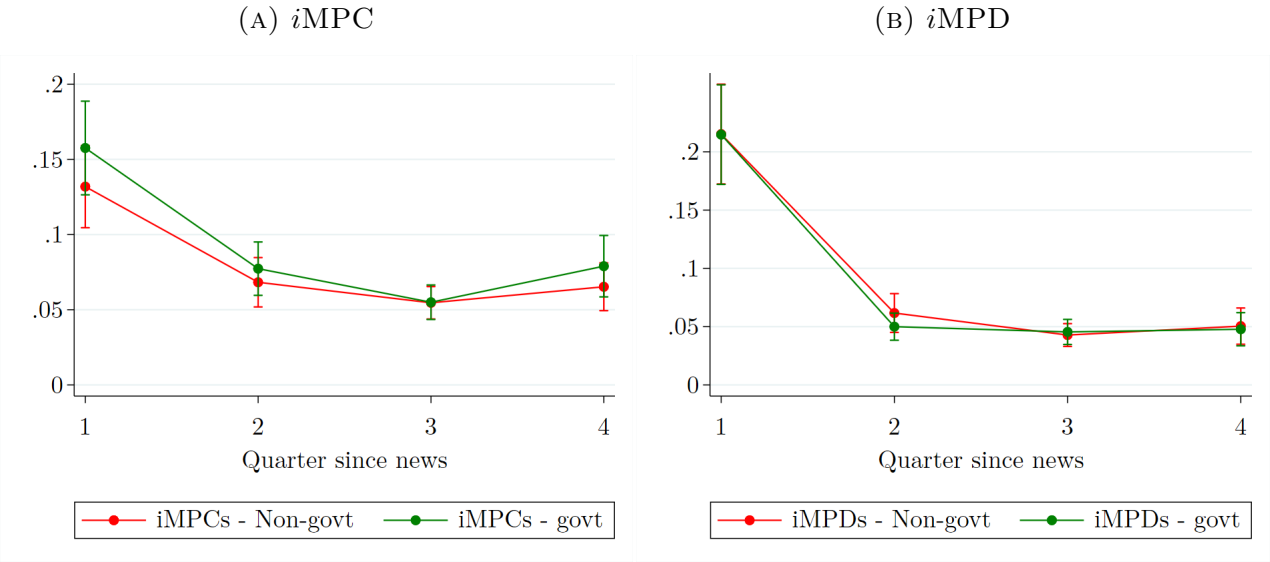
A-3.7 Source and horizon effects

In the first wave of our survey (May - October 2021) we additionally randomized across the source and the horizon of the income shock. In particular, the source of the shock can either be a direct Federal transfer such as a stimulus check, or a generic non-government transfer such as a bonus, gift or win. The horizon is instead set to be either four or eight quarters (income shock to be allocated over four or eight quarters). We do not find evidence of any significant role played by the source of the income shock and the horizon of the shock.

A-3.7.1 Government vs non-government shocks

Does the source of the $1000 transfer matter for spending and deleveraging patterns? Figure A-14 reports MPCs and MPDs comparing the response to a $1000 transfer immediately received by the household if the source is the government (green) or a bonus, gift or win (red). The planned allocation are not significantly influenced by the source (except for a slightly larger share of the transfer destined to spending when the source is the Federal government), thus rejecting any Ricardian effect.

FIGURE A-14: *i*MPC AND *i*MPD FOR FIXED SHOCK BY SOURCE



Notes. These figures report *i*MPCs (Panel A) and *i*MPDs (Panel B) out of a fixed $1000 income shock that occurs right away, depending on its source (government or non-government). Confidence intervals are at the 90% level.

A-3.7.2 Horizon and Framing Effects

We have so far presented only cases in which respondents are asked to allocate the income shock over the 4 quarters after learning about the shock. But what if we are interested in studying the planned response at longer horizons, for instance over 2 years? The survey design easily allows this extension but requires some methodological attention.

One option is to directly present respondents with the possibility of allocating the transfer to spending and deleveraging over the following 8 quarters. *Ex ante*, we expect that the allocation over the first 4 quarters is identical to the baseline case in which only 4 quarters are presented.

This is not the case in the data, as Figure A-15 shows for the proportional and fixed income shock. The green dots, corresponding to the 8 quarter horizon, are consistently below the blue ones, corresponding to the 4 quarter horizon. In particular, over the first 4 quarters the two should coincide.

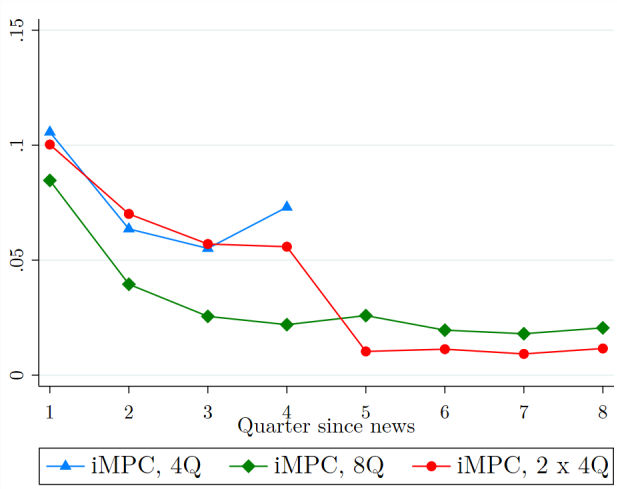
This issue can be overcome by presenting respondents sequentially the first 4 quarters, and then the subsequent 4 - thus recovering consistency with the baseline case with 4 quarters only, as the comparison between red dots and blue ones shows.[7]

[7] In the first survey wave, 30% of the sample is shown the allocation exercise over 8 quarters. Among them, half of respondents are given this sequential structure.

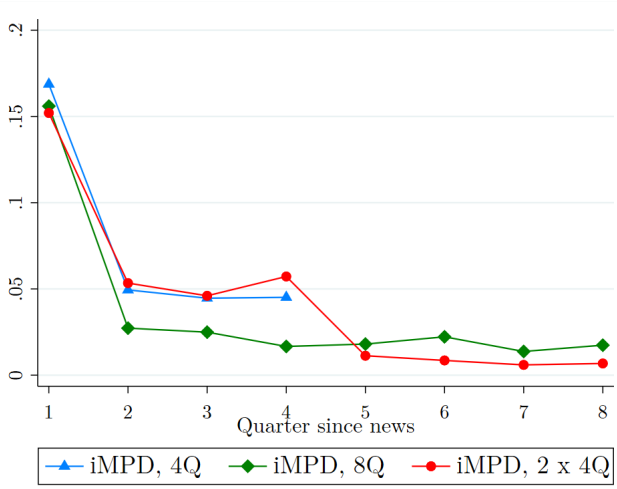
Figure A-15: *i*MPCs and *i*MPDs by horizon

Proportional income shock

(a) *i*MPCs

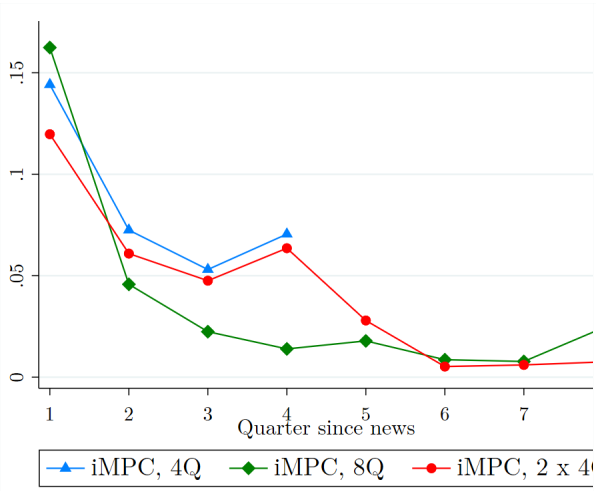


(b) *i*MPDs

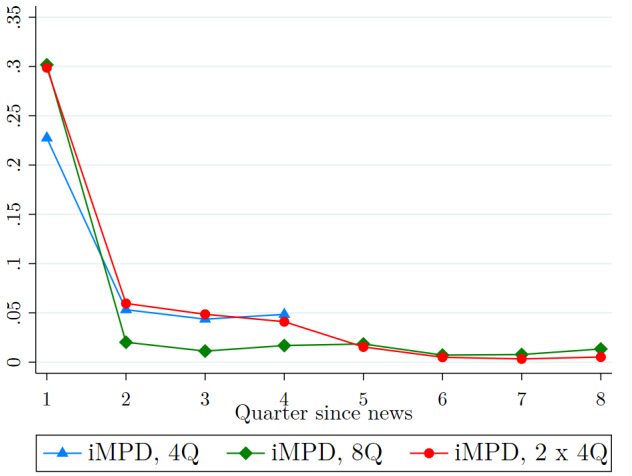


Fixed income shock

(c) *i*MPCs



(d) *i*MPDs



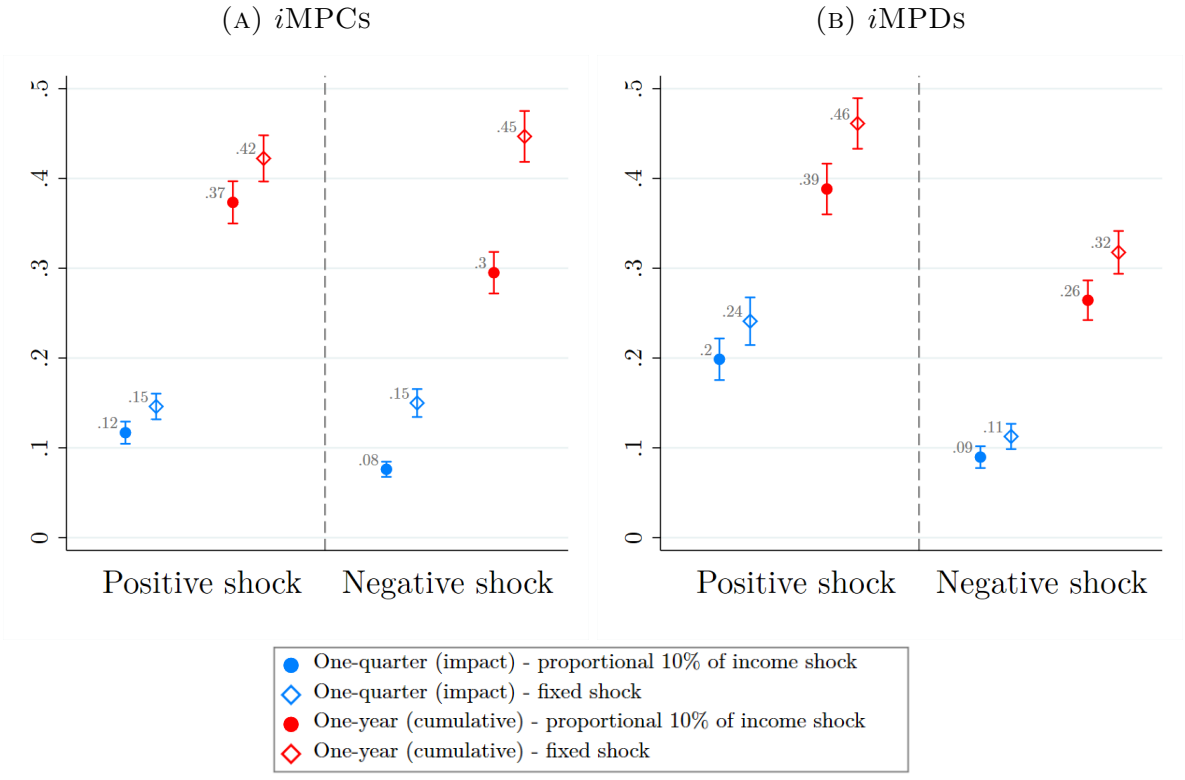
Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) out of a proportional 10% (Panel A and Panel B) and fixed $1000 income shock (Panel C and Panel D). We compare different estimates of *i*MPCs and *i*MPDs, depending on the horizon (4 or 8 quarters) and on the way the estimates over the 8 quarters are elicited (sequentially or at once). Confidence intervals are at the 90% level.

A-3.8 Robustness for MPCs and MPDs

In this subsection, we use a subsample of the original data where we exclude respondents who are classified as inaccurate since they either (1) have one-year (cumulative) $MPC > 0$, but say that they do not use the spending margin in the qualitative part or have one-year (cumulative) $MPC = 0$, but say that they use the spending margin in the qualitative part; or (2) have one-year (cumulative) $MPD > 0$, but say that they do not use the debt margin in the qualitative part or have one-year (cumulative) $MPD = 0$, but say that they use the debt margin in the qualitative part. See Section A-1.1.

We reproduce here Figures and Tables on *i*MPCs and *i*MPDs using the more accurate sample. In particular, we replicate Figures 2, 3, 3 and Tables A-3, A-4. Our results are robust to the exclusion of these inaccurate respondents.

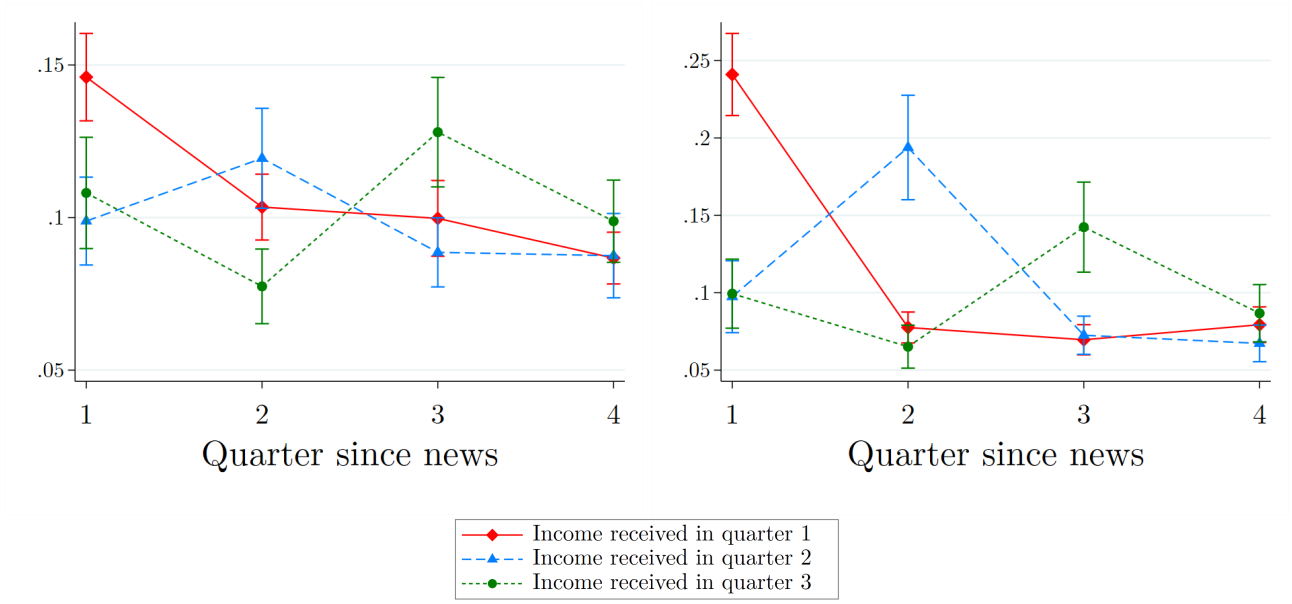
FIGURE A-16: *i*MPCs AND *i*MPDs



Notes. These figures report impact (blue) and cumulative (red) *i*MPCs (Panel A) and *i*MPDs (Panel B) out of proportional (dots) and fixed (diamonds) positive (left) and negative (right) income shock. We exclude inaccurate respondents. Confidence intervals are at the 90% level.

FIGURE A-17: *i*MPCs AND *i*MPDs OUT OF A POSITIVE FIXED INCOME SHOCK

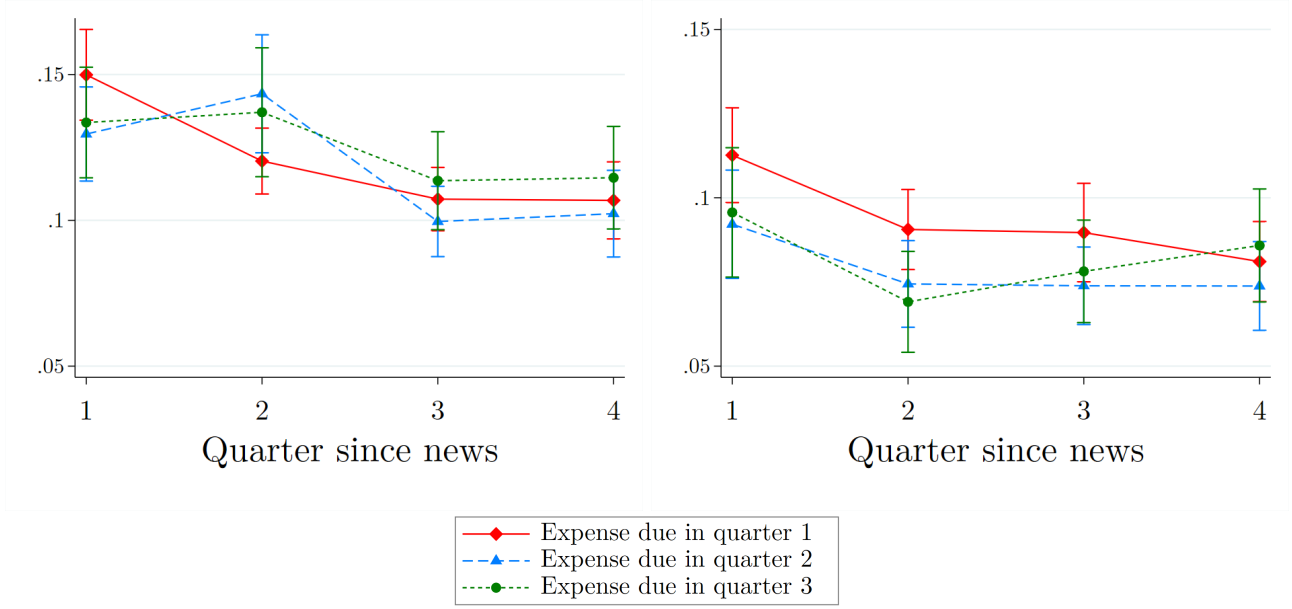
(A) *i*MPCs (B) *i*MPDs



Notes. These figures report *i*MPCs (Panel A) and *i*MPDs (Panel B) over the 4 quarters out of a positive fixed income shock worth $1000, received in the same quarter of the news, in the following one, and in two quarters from the news. We exclude inaccurate respondents. Confidence intervals are at the 90% level.

FIGURE A-18: *i*MPCs AND *i*MPDs OUT OF A NEGATIVE FIXED INCOME SHOCK

(A) *i*MPCs (B) *i*MPDs



Notes. These figures report *i*MPCs (Panel A) and *i*MPDs (Panel B) over the 4 quarters out of a negative fixed income shock worth $1000, received in the same quarter of the news, in the following one, and in two quarters from the news. We exclude inaccurate respondents. Confidence intervals are at the 90% level.

Table A-5: Prediction of *i*MPCs and *i*MPDs out of positive income shock

	One-quarter (impact) iMPCs			One-year (cumulative) iMPCs			One-quarter (impact) iMPDs			One-year (cumulative) iMPDs		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fixed (smaller) shock	0.028**	0.025**		0.051**	0.048**		0.038*	0.039*		0.072***	0.071***	
	(0.012)	(0.012)		(0.020)	(0.021)		(0.020)	(0.020)		(0.023)	(0.023)	
Number of household members	0.006	0.006		0.027***	0.026***		-0.024**	-0.025**		-0.010	-0.014	
	(0.006)	(0.006)		(0.010)	(0.010)		(0.010)	(0.010)		(0.012)	(0.012)	
Female	0.001	-0.000		-0.022	-0.020		0.057***	0.045**		0.022	0.009	
	(0.013)	(0.013)		(0.022)	(0.023)		(0.022)	(0.022)		(0.026)	(0.026)	
Age: 35-49	0.020	0.022		0.009	0.011		-0.016	-0.020		0.001	-0.006	
	(0.015)	(0.015)		(0.026)	(0.026)		(0.026)	(0.026)		(0.031)	(0.031)	
Age: 50-65	-0.002	-0.000		-0.071**	-0.063**		0.098***	0.085***		0.067**	0.058*	
	(0.017)	(0.017)		(0.029)	(0.031)		(0.028)	(0.029)		(0.033)	(0.034)	
Black race	0.008	0.012		0.021	0.020		-0.050	-0.037		-0.064*	-0.050	
	(0.018)	(0.018)		(0.032)	(0.033)		(0.032)	(0.032)		(0.037)	(0.037)	
Other races	0.019	0.019		0.038	0.036		-0.021	-0.020		-0.040	-0.042	
	(0.019)	(0.019)		(0.034)	(0.034)		(0.032)	(0.032)		(0.039)	(0.038)	
High education	0.003	0.006		0.017	0.017		0.006	0.004		-0.009	-0.012	
	(0.015)	(0.015)		(0.026)	(0.027)		(0.025)	(0.026)		(0.030)	(0.030)	
Have children	-0.008	-0.007		0.007	0.011		0.011	0.016		0.021	0.031	
	(0.017)	(0.017)		(0.030)	(0.031)		(0.029)	(0.029)		(0.035)	(0.035)	
High income	-0.008	-0.007		0.010	0.004		-0.047*	-0.038		-0.054*	-0.045	
	(0.016)	(0.016)		(0.028)	(0.029)		(0.027)	(0.028)		(0.032)	(0.032)	
High liquid assets	0.028*	0.032**		0.041	0.038		-0.014	0.002		-0.022	-0.011	
	(0.015)	(0.015)		(0.026)	(0.027)		(0.025)	(0.026)		(0.030)	(0.031)	
Have credit card debt	-0.019	-0.026**		-0.068***	-0.075***		0.056***	0.061***		0.089***	0.088***	
	(0.012)	(0.013)		(0.021)	(0.022)		(0.020)	(0.021)		(0.024)	(0.024)	
High illiquid assets	-0.012	-0.014		-0.002	-0.009		-0.088***	-0.068**		-0.088***	-0.064*	
	(0.016)	(0.017)		(0.029)	(0.030)		(0.028)	(0.029)		(0.033)	(0.034)	
High illiquid debt	-0.026**	-0.030**		-0.084***	-0.088***		0.115***	0.118***		0.125***	0.123***	
	(0.012)	(0.013)		(0.022)	(0.022)		(0.022)	(0.022)		(0.026)	(0.026)	
Low self-control		0.009	0.003		0.050*	0.057**		-0.047*	-0.057**		-0.024	-0.012
		(0.016)	(0.015)		(0.028)	(0.028)		(0.027)	(0.027)		(0.032)	(0.031)
Low risk aversion		-0.002	0.007		-0.002	0.051**		0.021	-0.044*		0.049*	0.010
		(0.014)	(0.013)		(0.025)	(0.024)		(0.024)	(0.024)		(0.029)	(0.027)
Patient		-0.002	-0.003		0.013	0.005		0.003	0.005		-0.007	-0.008
		(0.013)	(0.013)		(0.023)	(0.023)		(0.022)	(0.023)		(0.026)	(0.026)
Concern income/unemployment		-0.006	-0.003		-0.006	-0.002		-0.014	-0.014		-0.001	0.001
		(0.015)	(0.015)		(0.027)	(0.028)		(0.025)	(0.026)		(0.030)	(0.030)
Concern repay debts/access credit		-0.001	-0.001		-0.005	-0.001		0.005	-0.004		-0.012	-0.008
		(0.016)	(0.016)		(0.029)	(0.029)		(0.027)	(0.028)		(0.032)	(0.033)
Concern health expenses		0.007	0.006		0.016	0.014		-0.002	-0.004		-0.015	-0.016
		(0.016)	(0.016)		(0.029)	(0.030)		(0.027)	(0.028)		(0.032)	(0.032)
Concern retirement		0.021	0.013		-0.014	-0.035		0.033	0.051*		0.064**	0.081***
		(0.015)	(0.015)		(0.027)	(0.028)		(0.026)	(0.027)		(0.030)	(0.031)
High share committed expenses		0.020	0.015		0.005	-0.019		0.056***	0.086***		0.056**	0.075***
		(0.012)	(0.012)		(0.022)	(0.022)		(0.021)	(0.022)		(0.025)	(0.025)
High income risk		0.001	-0.001		-0.010	-0.024		0.061**	0.083***		0.063**	0.068**
		(0.016)	(0.016)		(0.028)	(0.029)		(0.027)	(0.028)		(0.032)	(0.032)
High planned investments		-0.012	-0.007		0.004	0.018		0.011	0.008		0.037	0.036
		(0.012)	(0.012)		(0.022)	(0.022)		(0.021)	(0.021)		(0.024)	(0.025)
Not enough for basic needs		-0.002	-0.006		-0.002	-0.015		0.044	0.080***		0.074**	0.110***
		(0.018)	(0.017)		(0.031)	(0.030)		(0.030)	(0.030)		(0.036)	(0.035)
Observations	959	953	955	953	947	949	792	787	789	767	762	764
Adjusted R^2	0.010	0.007	-0.008	0.090	0.084	0.012	0.161	0.180	0.089	0.092	0.118	0.058

Notes. We consider the response to a positive income shock received as soon as announced. The dependent variables are impact *i*MPCs (columns 1 to 3), i.e., spending in the first quarter after the shock; cumulative *i*MPCs (columns 4 to 6), i.e., cumulative spending over the first four quarters after the shock; impact *i*MPDs (columns 7 to 9), i.e., debt repayments in the first quarter after the shock, cumulative *i*MPDs (columns 10 to 12), i.e., cumulative debt repayments over the first four quarters after the shock. Regressors are described in A-3. We exclude inaccurate respondents. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A-6: Prediction of *i*MPCs and *i*MPDs out of negative income shock

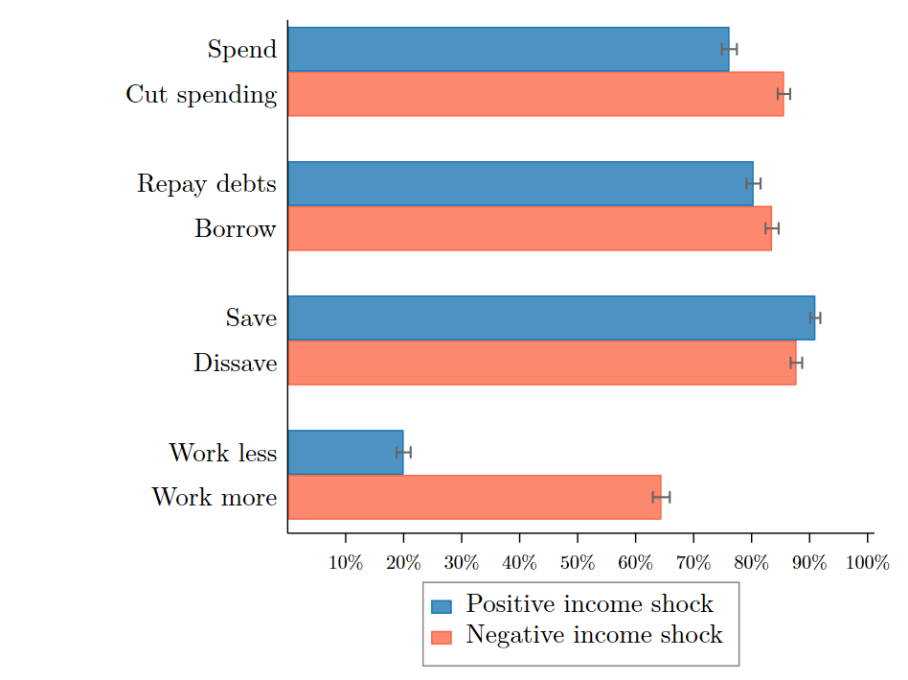
	One-quarter (impact) iMPCs			One-year (cumulative) iMPCs			One-quarter (impact) iMPDs			One-year (cumulative) iMPDs		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fixed (smaller) shock	0.072***	0.073***		0.145***	0.147***		0.021*	0.022*		0.047**	0.046**	
	(0.010)	(0.011)		(0.022)	(0.022)		(0.011)	(0.011)		(0.020)	(0.020)	
Number of household members	0.002	0.002		0.019	0.018		-0.005	-0.005		0.009	0.009	
	(0.006)	(0.006)		(0.012)	(0.012)		(0.006)	(0.006)		(0.010)	(0.010)	
Female	0.006	0.005		0.003	-0.001		0.009	0.007		-0.009	-0.009	
	(0.011)	(0.012)		(0.024)	(0.024)		(0.012)	(0.013)		(0.021)	(0.022)	
Age: 35-49	-0.020	-0.017		-0.077***	-0.073**		0.013	0.014		0.012	0.016	
	(0.014)	(0.014)		(0.029)	(0.029)		(0.015)	(0.015)		(0.025)	(0.026)	
Age: 50-65	-0.024	-0.025		-0.099***	-0.105***		0.006	-0.004		-0.067**	-0.069**	
	(0.015)	(0.016)		(0.031)	(0.033)		(0.016)	(0.017)		(0.028)	(0.029)	
Black race	0.018	0.019		-0.003	-0.006		0.022	0.027		0.052*	0.051	
	(0.017)	(0.017)		(0.035)	(0.035)		(0.018)	(0.018)		(0.031)	(0.031)	
Other races	0.026	0.025		0.059	0.057		0.041**	0.041*		0.070*	0.067*	
	(0.019)	(0.019)		(0.041)	(0.041)		(0.021)	(0.021)		(0.036)	(0.036)	
High education	0.020	0.020		0.027	0.030		0.022	0.023		0.049**	0.048*	
	(0.013)	(0.013)		(0.027)	(0.027)		(0.014)	(0.014)		(0.024)	(0.024)	
Have children	0.001	0.001		0.006	-0.000		0.019	0.016		0.024	0.021	
	(0.016)	(0.016)		(0.033)	(0.033)		(0.017)	(0.017)		(0.029)	(0.029)	
High income	0.026*	0.021		0.028	0.020		-0.018	-0.018		-0.049*	-0.049*	
	(0.014)	(0.014)		(0.030)	(0.030)		(0.015)	(0.015)		(0.026)	(0.027)	
High liquid assets	0.014	0.006		0.021	0.007		-0.021	-0.024		-0.060**	-0.064***	
	(0.013)	(0.013)		(0.027)	(0.028)		(0.014)	(0.014)		(0.024)	(0.025)	
Have credit card debt	-0.016	-0.009		0.023	0.028		0.026**	0.028**		0.062***	0.056***	
	(0.011)	(0.011)		(0.023)	(0.024)		(0.012)	(0.012)		(0.021)	(0.021)	
High illiquid assets	-0.013	-0.012		-0.041	-0.046		0.004	0.002		0.050*	0.047*	
	(0.014)	(0.015)		(0.030)	(0.031)		(0.015)	(0.016)		(0.027)	(0.027)	
High illiquid debt	-0.004	-0.003		-0.042*	-0.040*		0.010	0.009		-0.045**	-0.048**	
	(0.011)	(0.011)		(0.023)	(0.023)		(0.012)	(0.012)		(0.021)	(0.021)	
Low self-control		-0.018	-0.018		0.025	0.036		-0.003	0.009		0.033	0.060**
		(0.014)	(0.014)		(0.029)	(0.029)		(0.015)	(0.015)		(0.026)	(0.026)
Low risk aversion		0.003	0.008		0.002	0.014		-0.012	-0.014		0.002	0.018
		(0.012)	(0.012)		(0.026)	(0.025)		(0.013)	(0.012)		(0.023)	(0.022)
Patient		0.006	0.009		0.026	0.034		-0.003	-0.002		0.018	0.025
		(0.011)	(0.011)		(0.023)	(0.024)		(0.012)	(0.012)		(0.021)	(0.021)
Concern income/unemployment		-0.021	-0.018		-0.056*	-0.063**		-0.010	-0.012		-0.029	-0.025
		(0.014)	(0.014)		(0.029)	(0.029)		(0.015)	(0.015)		(0.026)	(0.026)
Concern repay debts/access credit		0.017	0.022		0.020	0.036		-0.002	-0.000		0.026	0.036
		(0.014)	(0.015)		(0.030)	(0.031)		(0.016)	(0.015)		(0.027)	(0.027)
Concern health expenses		0.001	-0.000		0.006	0.004		0.001	0.002		0.005	0.004
		(0.015)	(0.015)		(0.031)	(0.032)		(0.016)	(0.016)		(0.028)	(0.028)
Concern retirement		-0.010	-0.016		-0.008	-0.016		0.022	0.023		-0.009	-0.008
		(0.014)	(0.014)		(0.028)	(0.029)		(0.015)	(0.014)		(0.025)	(0.025)
High share committed expenses		0.001	-0.001		0.008	0.004		0.020*	0.024**		0.041**	0.028
		(0.011)	(0.011)		(0.023)	(0.023)		(0.012)	(0.012)		(0.021)	(0.020)
High income risk		0.004	0.001		0.037	0.030		-0.011	-0.010		-0.024	-0.032
		(0.015)	(0.015)		(0.032)	(0.032)		(0.016)	(0.016)		(0.029)	(0.028)
High planned investments		0.026**	0.026**		0.089***	0.079***		0.027**	0.018		0.030	0.018
		(0.011)	(0.011)		(0.023)	(0.023)		(0.012)	(0.012)		(0.021)	(0.020)
Not enough for basic needs		-0.008	-0.018		-0.009	-0.023		-0.002	0.005		0.013	0.010
		(0.015)	(0.015)		(0.032)	(0.032)		(0.017)	(0.016)		(0.029)	(0.028)
Observations	927	927	929	916	916	918	928	928	930	914	914	916
Adjusted R^2	0.058	0.061	0.008	0.068	0.079	0.014	0.010	0.012	0.002	0.044	0.044	0.008

Notes. We consider the response to a negative income shock received as soon as announced. The dependent variables are impact *i*MPCs (columns 1 to 3), i.e., spending in the first quarter after the shock; cumulative *i*MPCs (columns 4 to 6), i.e., cumulative spending over the first four quarters after the shock; impact *i*MPDs (columns 7 to 9), i.e., debt repayments in the first quarter after the shock, cumulative *i*MPDs (columns 10 to 12), i.e., cumulative debt repayments over the first four quarters after the shock. Regressors are described in A-3. We exclude inaccurate respondents. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

A-4 Mental models and clusters

A-4.1 Additional results for the full sample

FIGURE A-19: AGGREGATE MARGINS OF ADJUSTMENTS

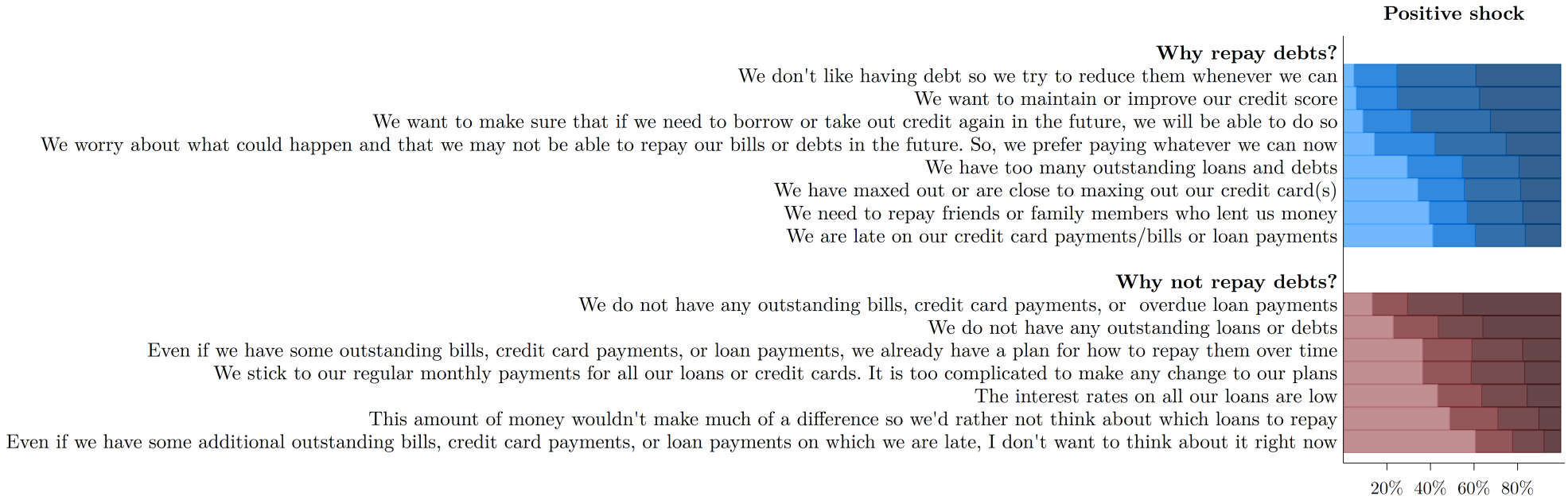


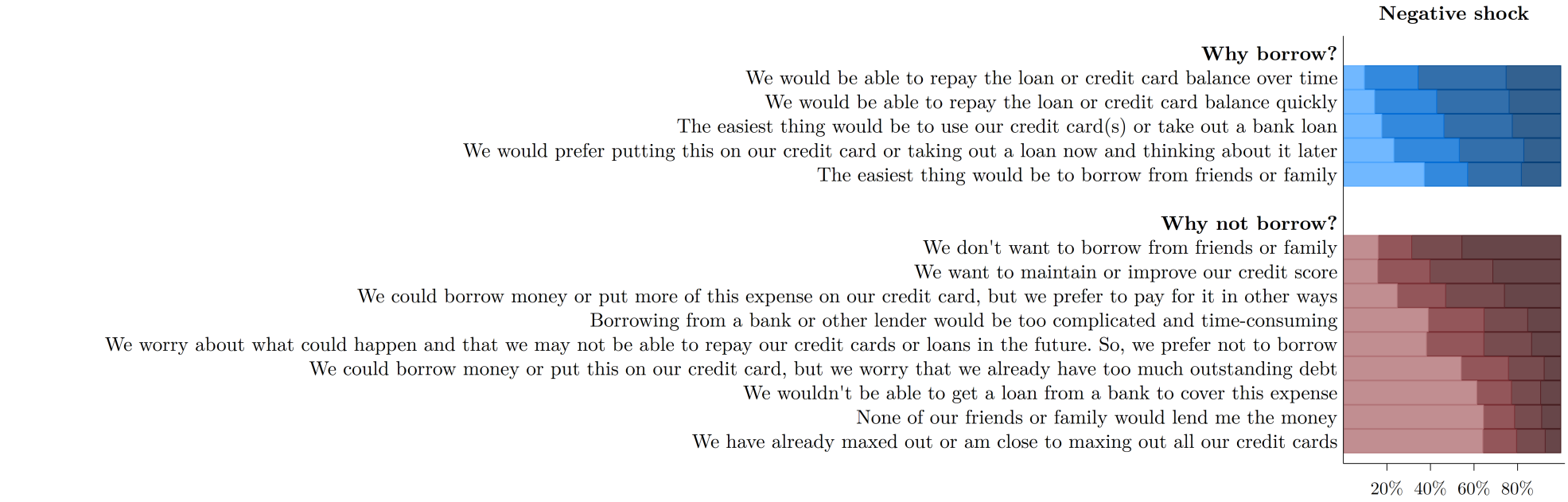
Notes. We show the share of households who adjust along the margins listed for a positive and negative income shock.

Figure A-20: Tabulation of reasons

(a) Spending margin

(b) Debt margin





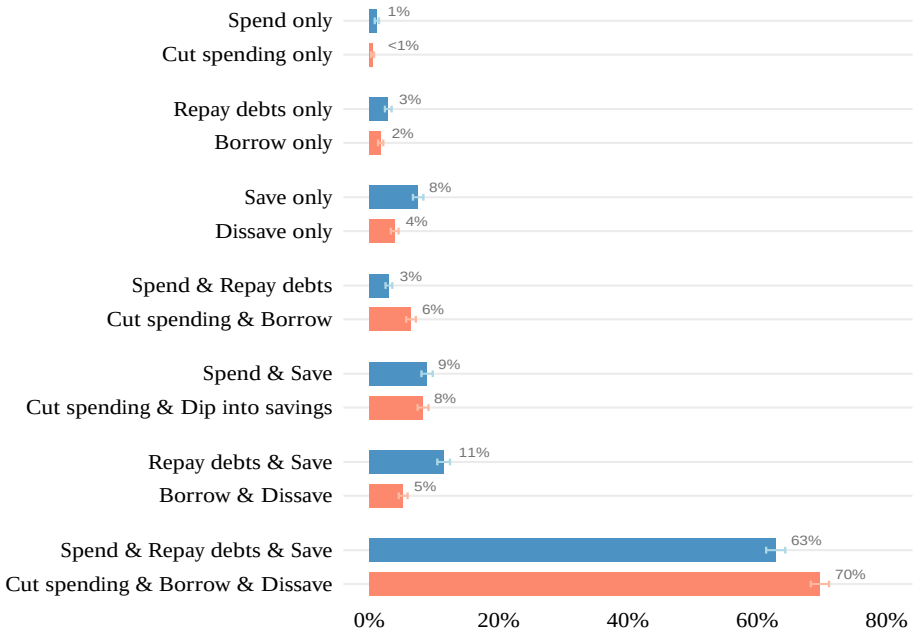
(c) Saving margin

(D) Working margin

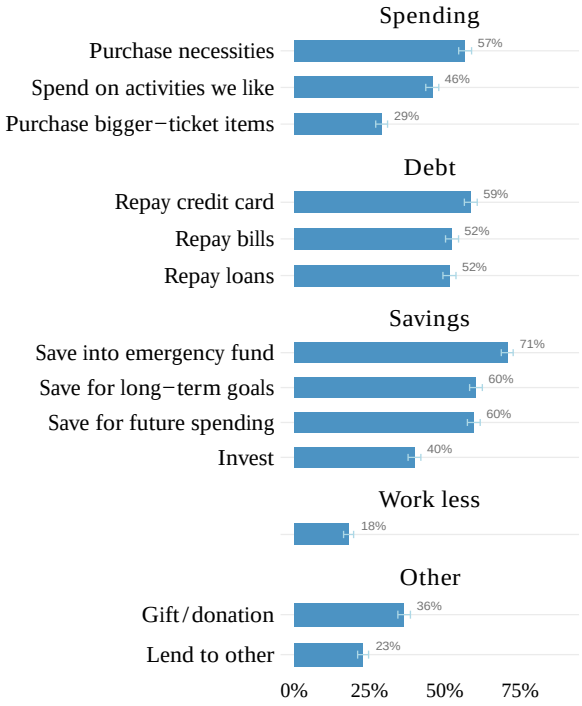
Notes. We tabulate the distribution of reasons for using (blue) or not using (red) the spending (A), debt (B), savings (C), and working (D) margins in response to a positive and negative income shock. Distributions are conditional on using or not using that given margin. We tabulate the relevance scale for each reason, from "not at all relevant" (lightest color) to "extremely relevant" (darkest color).

Figure A-21: How do Households Adjust in Response to Income shocks

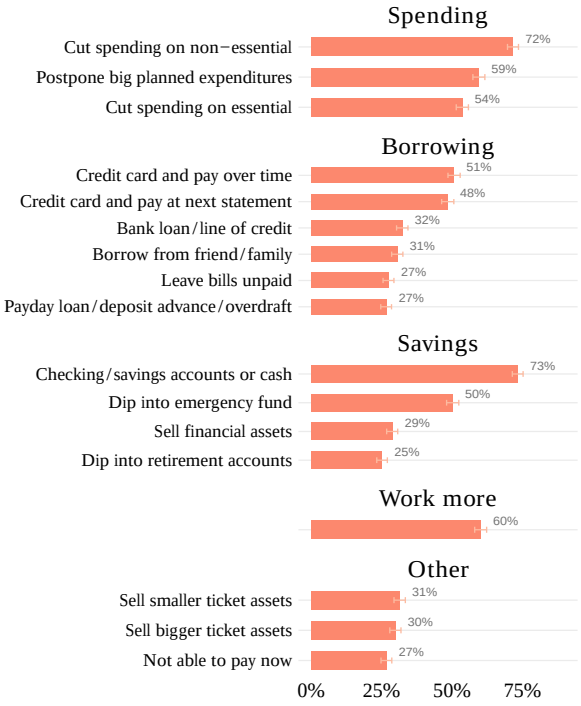
(a) Combinations of adjustment margins



(b) Margins along which adjust after a positive income shock



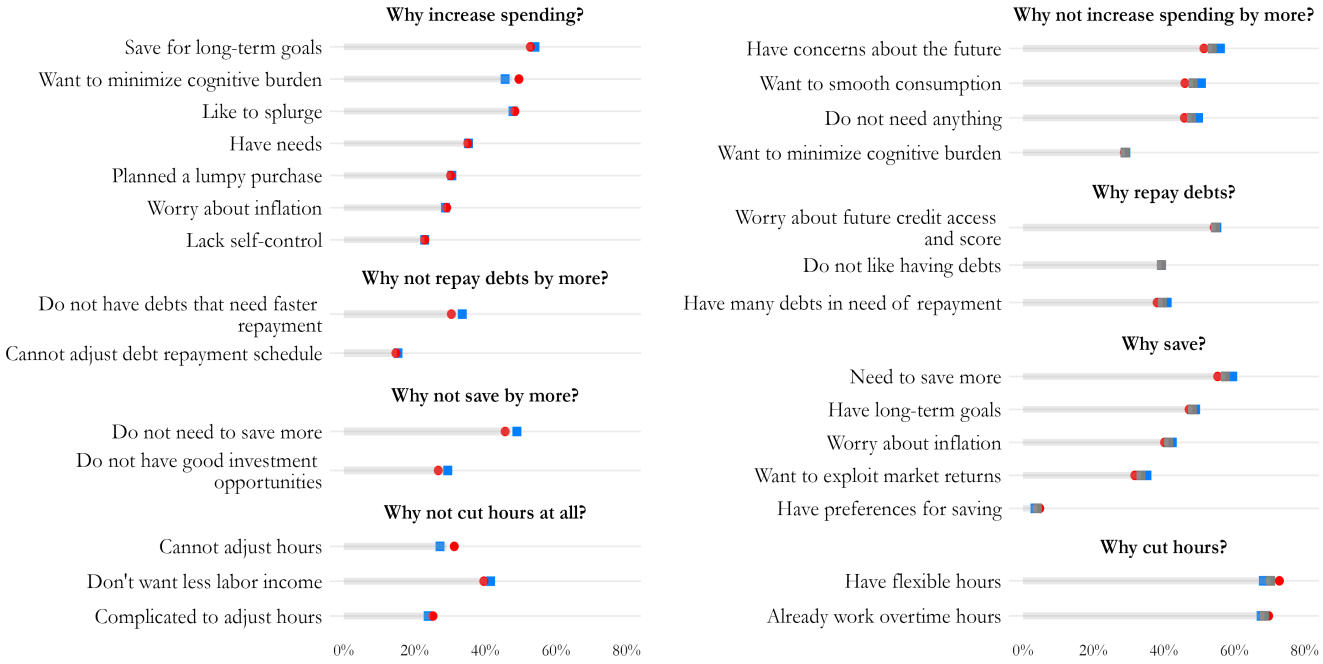
(c) Margins along which adjust after a negative income shock



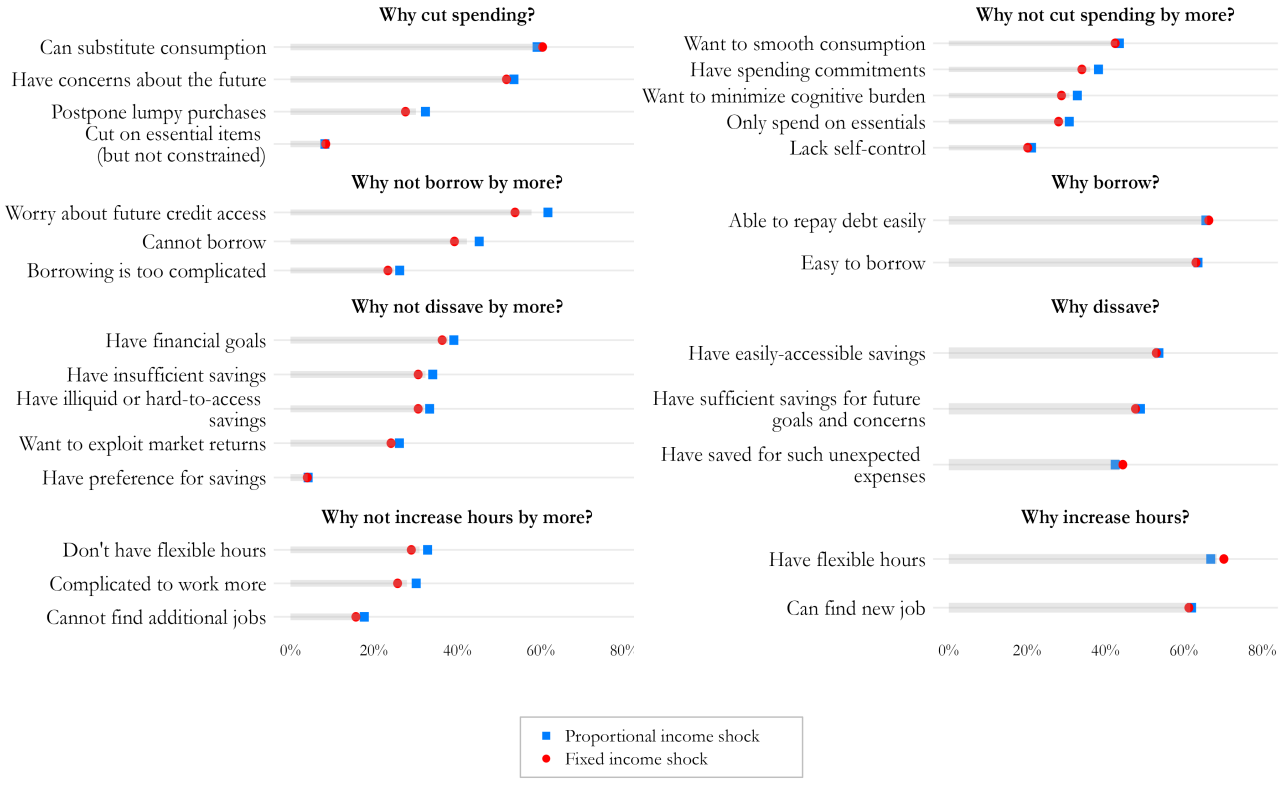
Notes. Panel A shows the share of households who adjust following different combinations of adjustment margins in response to a positive (blue) and negative (red) income shock. Panel B and Panel C show the share of households who use the listed detailed adjustment margins in response to a positive (Panel B) and negative (Panel C) income shock.

Figure A-22: Distribution of (combined) reasons by shock size

(A) Positive income shock



(B) Negative income shock



Notes. We tabulate the share of respondents that select a reason for using or not using a given margin by more (or at all). We compare fixed and proportional income shocks. Gray bars represent the benchmark of overall sample average. See Appendix A-2.2 for the definitions of all combined reasons.

A-4.2 Clustering algorithm

To classify households into groups defined by combinations of margins and reasons we proceed in two steps.

First, we prepare the dataset that we then use for clustering. We group together reasons that are equivalent (see Appendix A-2.2 for the definitions of all groups) and we assign to each respondents (for each margin) the reasons corresponding to the maximum value in the relevance scale selected by that respondent for that given margin.[8] Finally, we consider reasons for not using a given margin by more and reasons for not using a given margin as equivalent reasons for not using a margin. The output of this first step is a set of indicator variables describing which reasons each respondent has reported. Finally, we exclude respondents who report too many reasons (the top 10th percentile based on the number of reasons reported, across all margins) and are hence hard to classify.

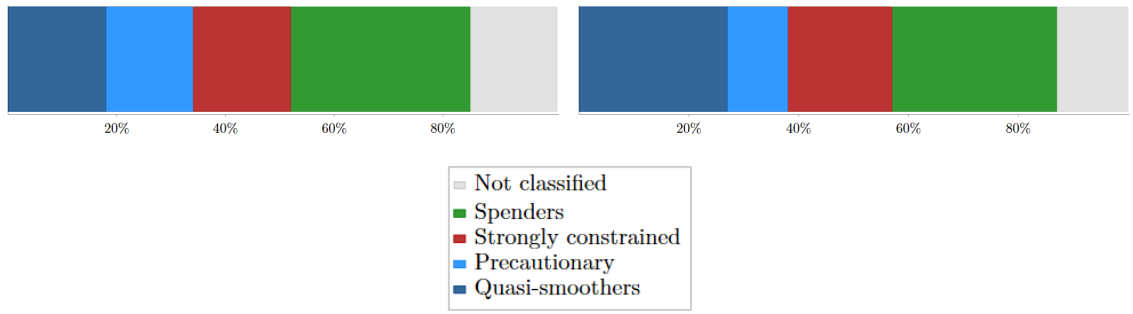
Second, we apply the Latent Class Analysis (LCA) algorithm separately to the subsamples who were in the fixed (subsample of 1326 observations) or proportional (subsample of 1309 observations) income shock randomizations. The LCA is a statistical procedure used to identify different classes within the population (see Weller et al. (2020) for a review). It is based on the assumption that latent classes exist and that they explain different outcomes of variables. Moreover, LCA is applied for variables that are categorical (indicators in our case). Finally, LCA treats class belonging as probabilistic and generates, as an output, posterior probabilities of class membership for each individual.

We adopt the fixed income shock as the baseline and describe it in Section 5.4. We report additional results in Appendix Figures A-25 and A-26.

Results for the proportional income shock worth 10% of household total net annual income are in Appendix A-4.4. Finally, in Section A-4.5 we apply the clustering for the fixed shock on a subsample of our data where we exclude some inaccurate observations.

FIGURE A-23: TABULATION OF CLUSTERS

(A) FIXED INCOME SHOCK (B) PROPORTIONAL INCOME SHOCK



Notes. We plot the shares of our sample in each cluster for an income shock worth $1000 (Panel A) and 10% of household net total income (Panel B). "Not classified" includes respondents who have cluster assignment probability less than 80%.

[8] For the two values "very relevant" or "extremely relevant." For instance, if a respondent has not selected any reason as being "extremely relevant" for why not borrowing out of a negative shock, but has selected "cannot put on credit card" as "very relevant," she is assigned the macro-reason "credit constrained."

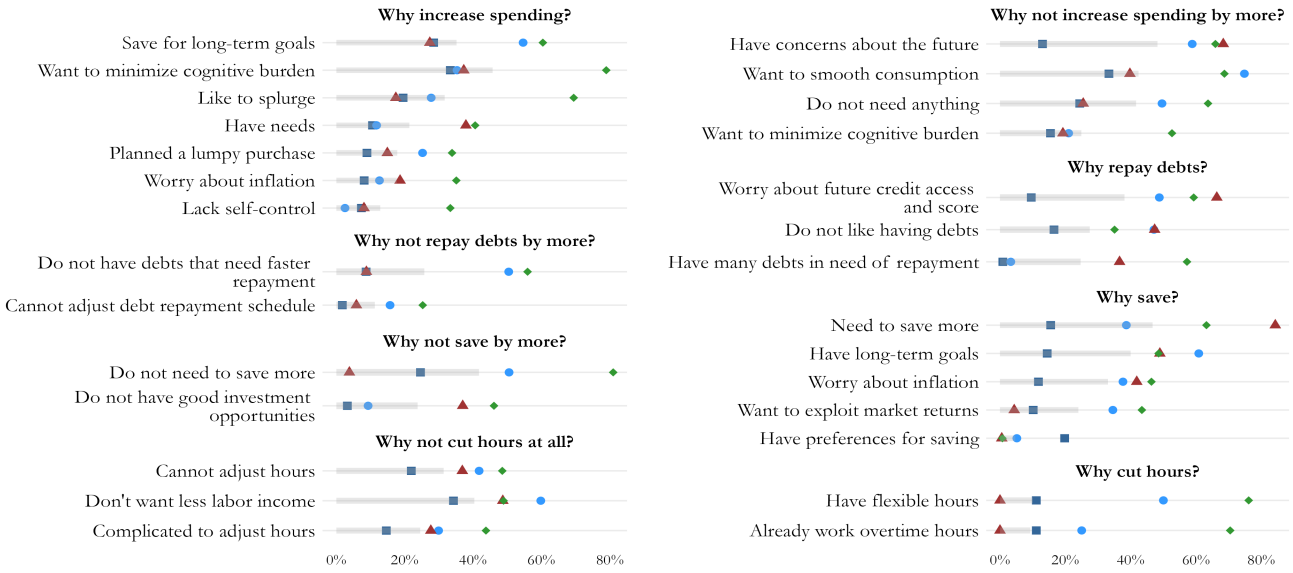
A-4.3 Additional results for the fixed (benchmark) income shock

Figure A-24: Adjustment margins

Notes. Panel A and Panel B show – for each cluster – the share of households who adjust along the margins listed for a positive (Panel A) and negative (Panel B) fixed $1000 income shock. Panel C and Panel D show – for each cluster – the distribution of detailed adjustment margins in response to a positive (Panel C) and negative (Panel D) fixed $1000 income shock. The gray bars represent the sample mean.

FIGURE A-25: DISTRIBUTION OF REASONS ACROSS CLUSTERS (CONDITIONAL ON EACH MARGIN)

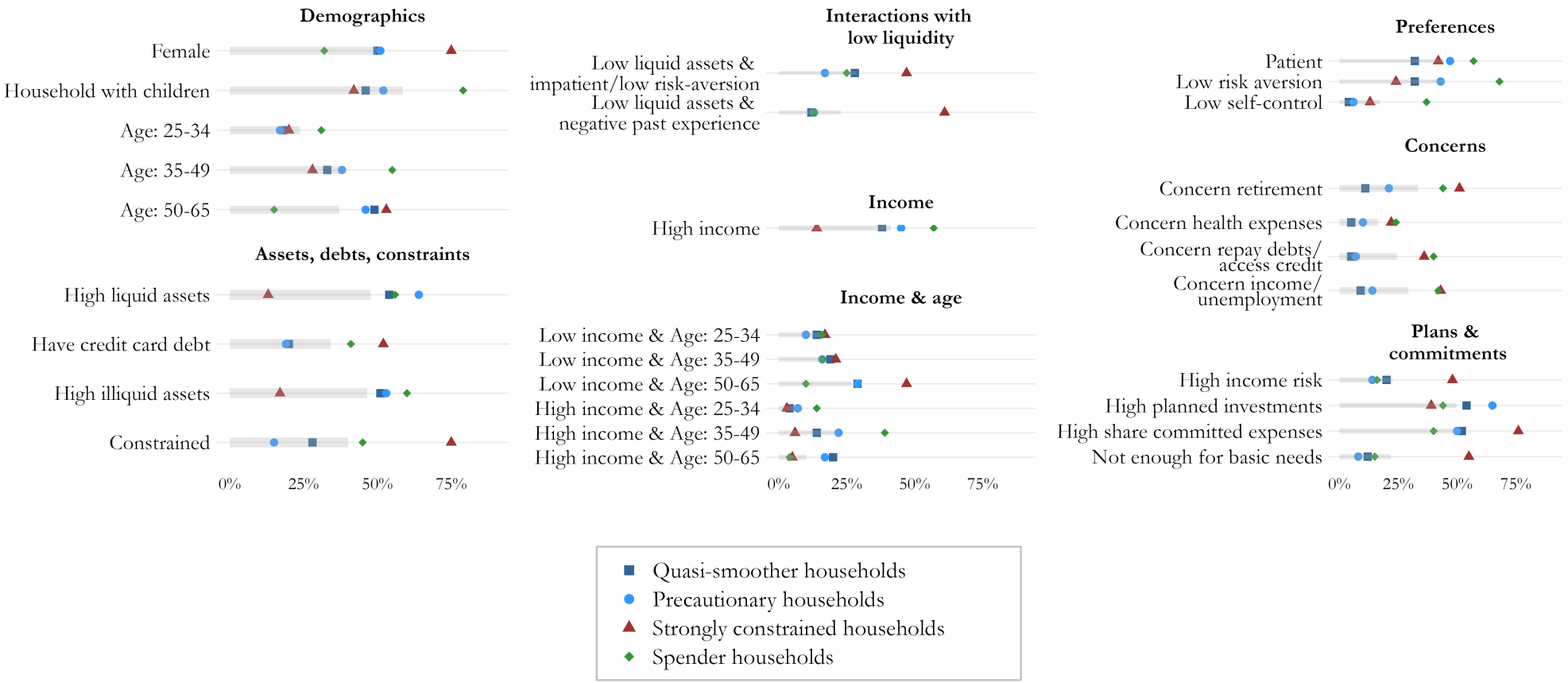
(A) POSITIVE INCOME SHOCK



(B) NEGATIVE INCOME SHOCK

Notes. We tabulate the share of respondents in each cluster that select a reason for using or not using a given margin by more (or at all), conditional on using that margin. We consider a fixed $1000 income shock. Gray bars represent the benchmark of overall sample average.

Figure A-26: Distribution of characteristics for each cluster

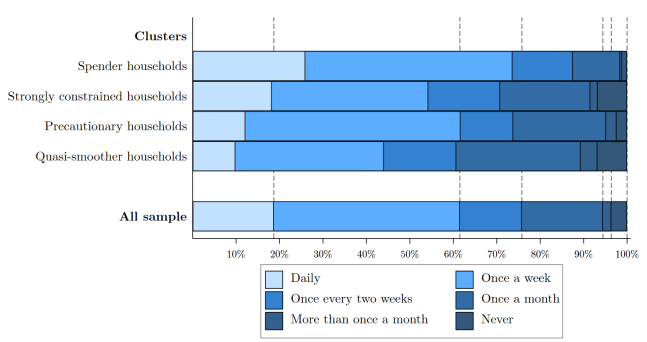


Notes. We plot the share of respondents with a given characteristic in each cluster for a fixed $1000 income shock. Gray bars represent the benchmark of overall sample average.

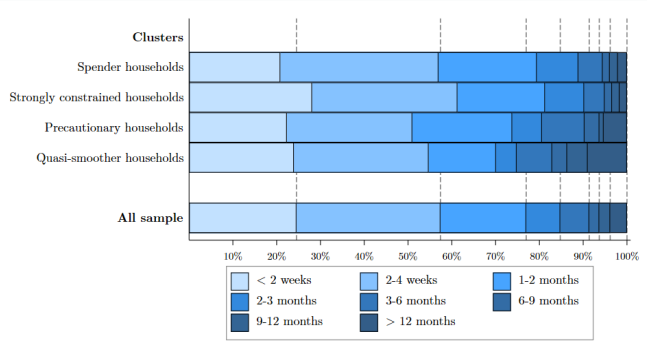
We plot the distributions of responses to questions related to household's decision making, uncertainty and concerns, long- and medium-term plans comparing clusters of respondents (for the baseline fixed shock case). Clusters are described in Section 5.4.

Figure A-27: Household's decision making by cluster

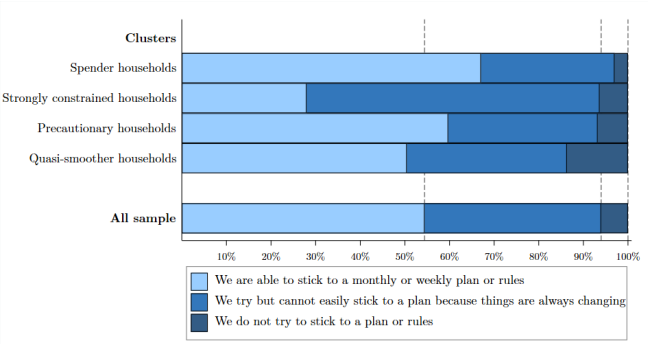
(a) How often do you review and plan for your household's regular spending and savings?



(b) When you review or plan for your household's regular spending and savings, how far in advance do you usually try to plan for?



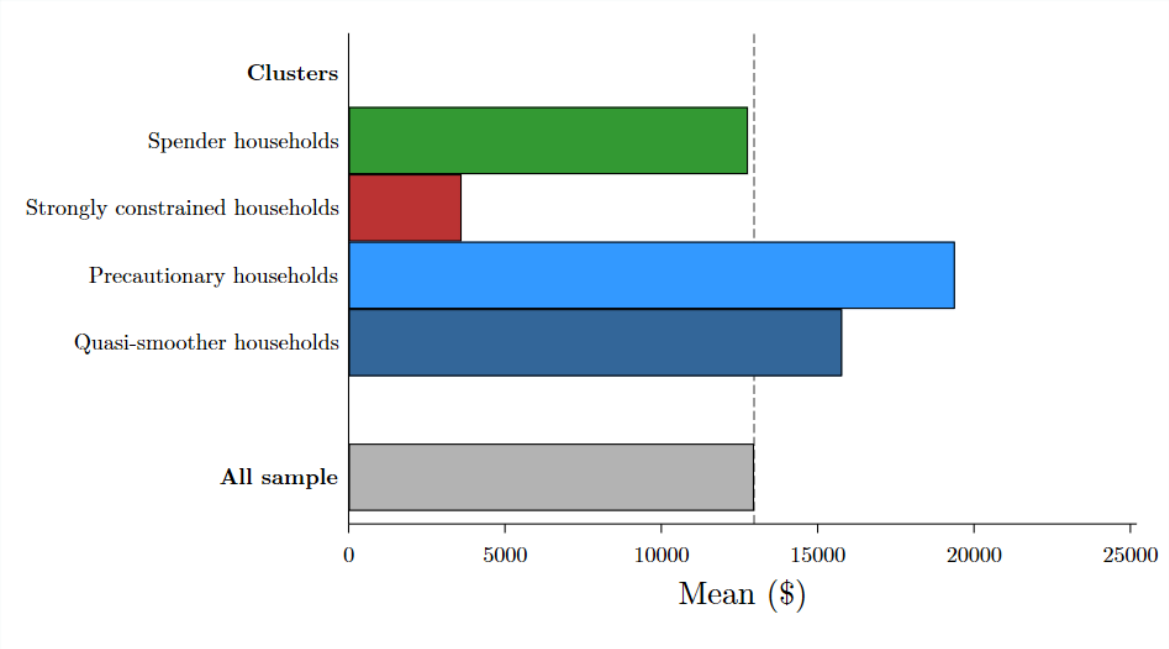
(c) Do you try to stick to a monthly or weekly plan or rules when making decisions about your household's spending or savings, or do your plans frequently change depending on circumstances?



Notes. Panel A, Panel B, and Panel C plot the responses to the questions shown in the captions for the overall sample and for each cluster for the fixed $1000 income shock.

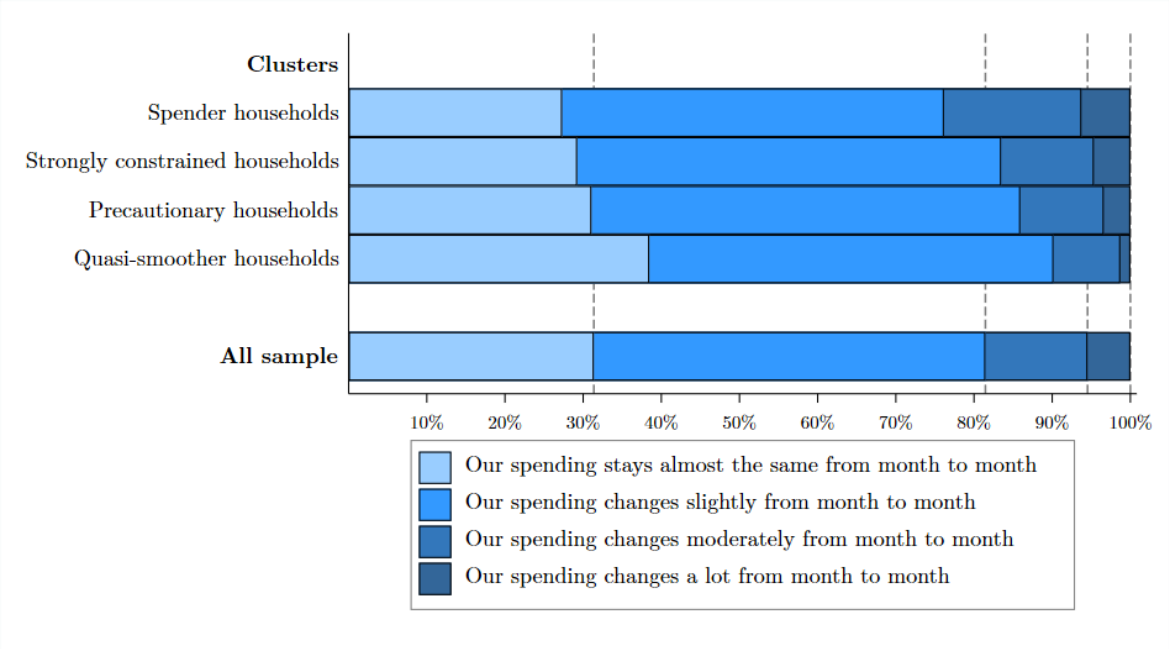
Figure A-28: Household's uncertainty by cluster

(a) What is the maximum unexpected and large emergency expense that your household would be able to cover without running into trouble if it arose today (using all the ways in which you would typically cope, e.g., your credit cards or by borrowing money)?

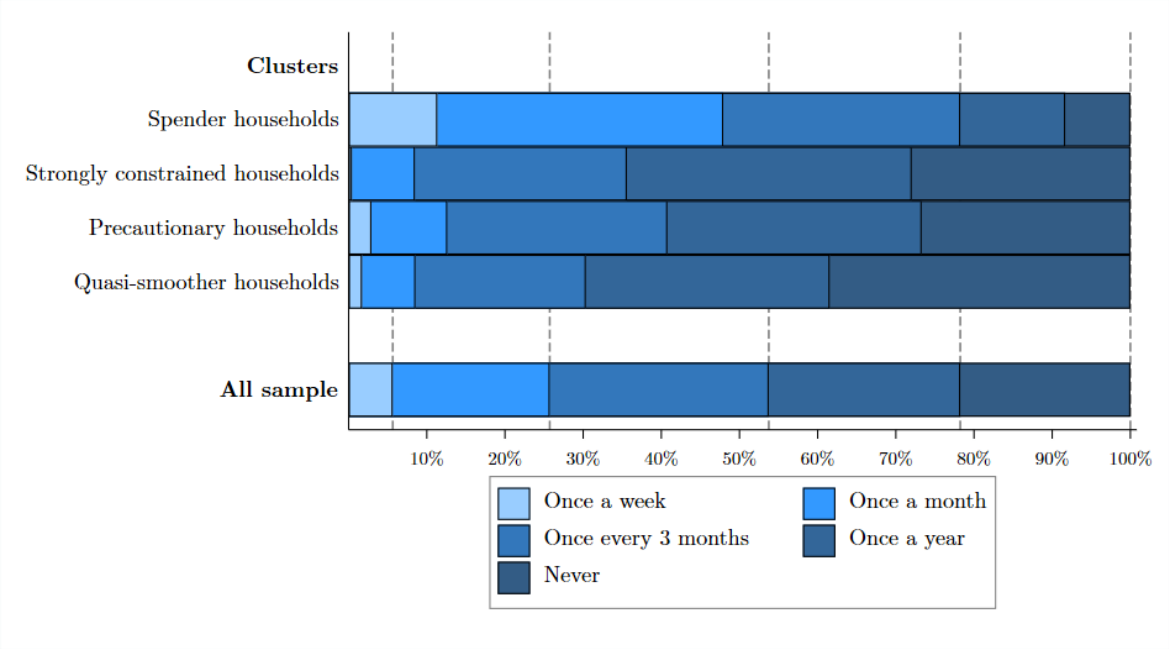


Notes. Panel A shows the mean (for the overall sample and for each cluster for the fixed $1000 income shock) of the maximum unexpected emergency expense that the household would be able to cover.

(b) In practice, how much does your household's monthly spending vary from month to month?



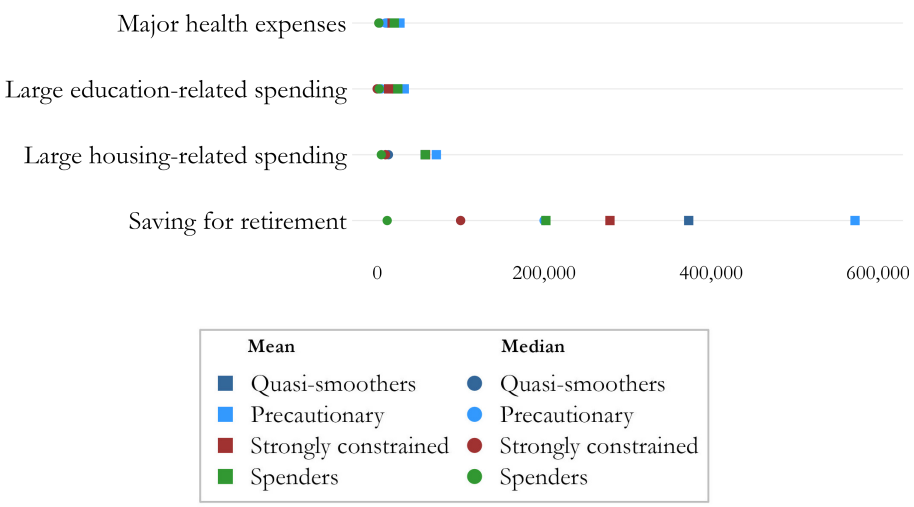
(c) How often does your household face unexpected or unplanned expenses larger than $1000?



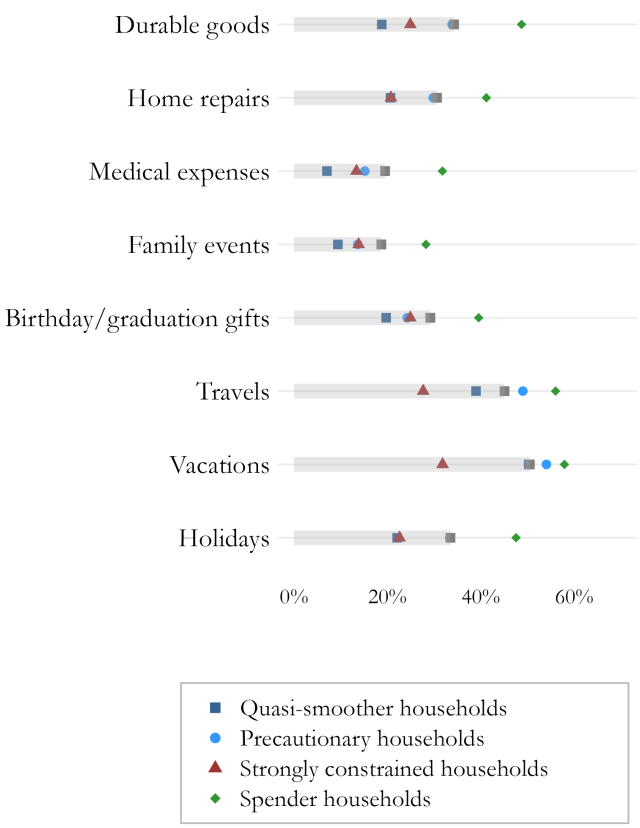
Notes. Panel C and Panel D plot the responses to the questions shown in the captions for the overall sample and for each cluster for the fixed $1000 income shock.

FIGURE A-29: HOUSEHOLDS' PLANNED MEDIUM AND LONG-TERM EXPENSES BY CLUSTER

(A) LONG-TERM PLANS



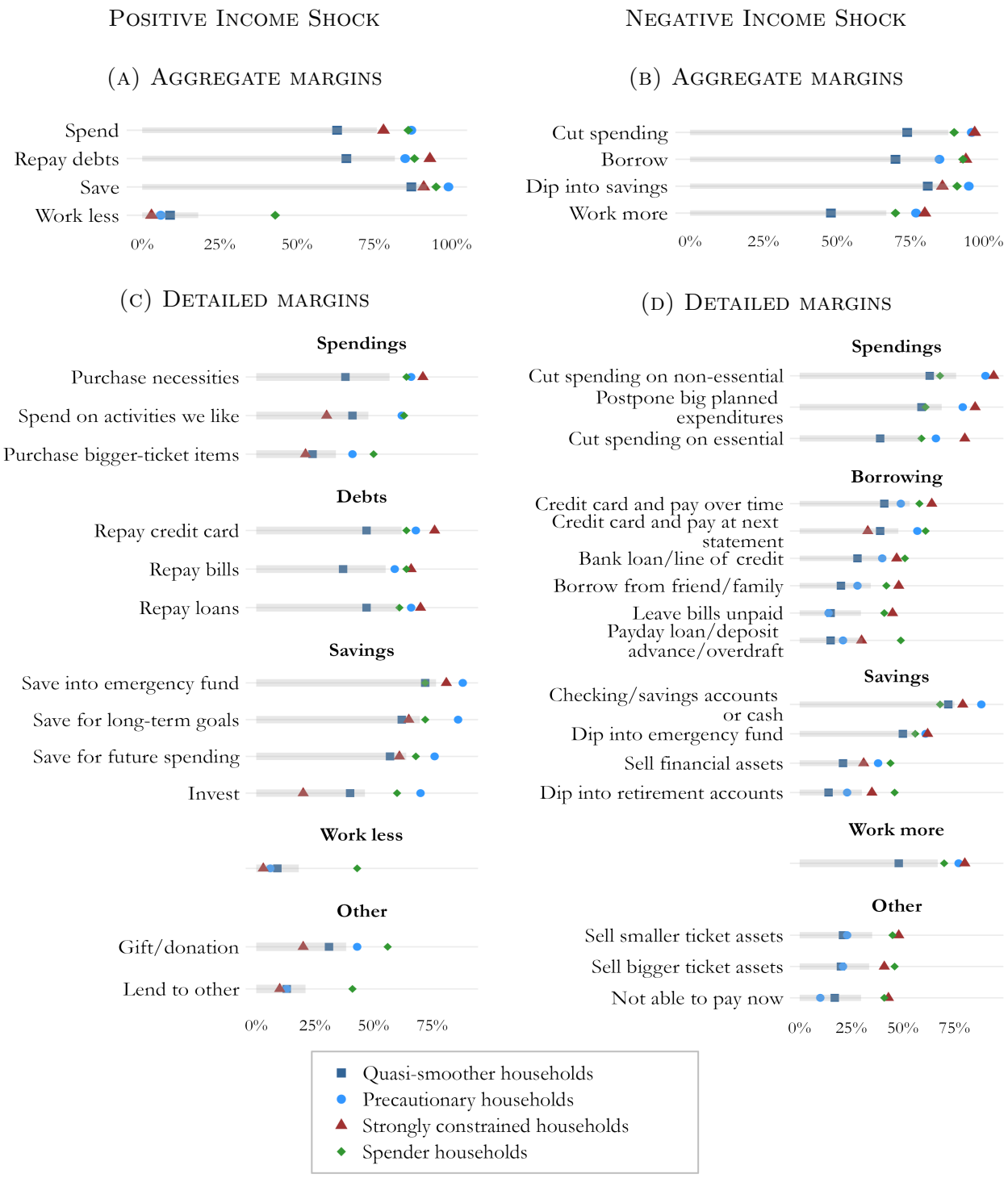
(B) MEDIUM-TERM PLANS



Notes. Panel A shows the median (circles) and the mean (squares) of reported long-term expenditure plans in different categories for each cluster for the fixed $1000 income shock. For each category, we exclude the top 5% of the distribution of that category (in the overall sample). Panel B shows the share of individuals who report having a medium-term plan of a given type for for each cluster for the fixed $1000 income shock. Gray bars represent the benchmark of overall sample average.

A-4.4 Results for the proportional income shock

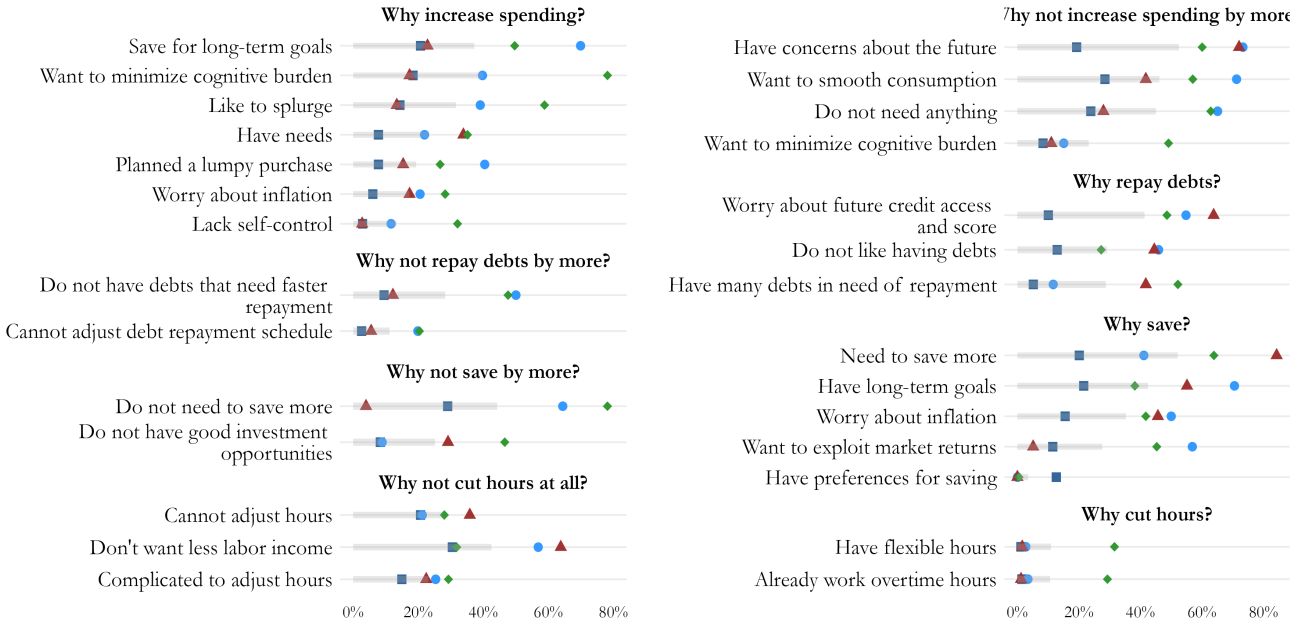
Figure A-30: Adjustment margins



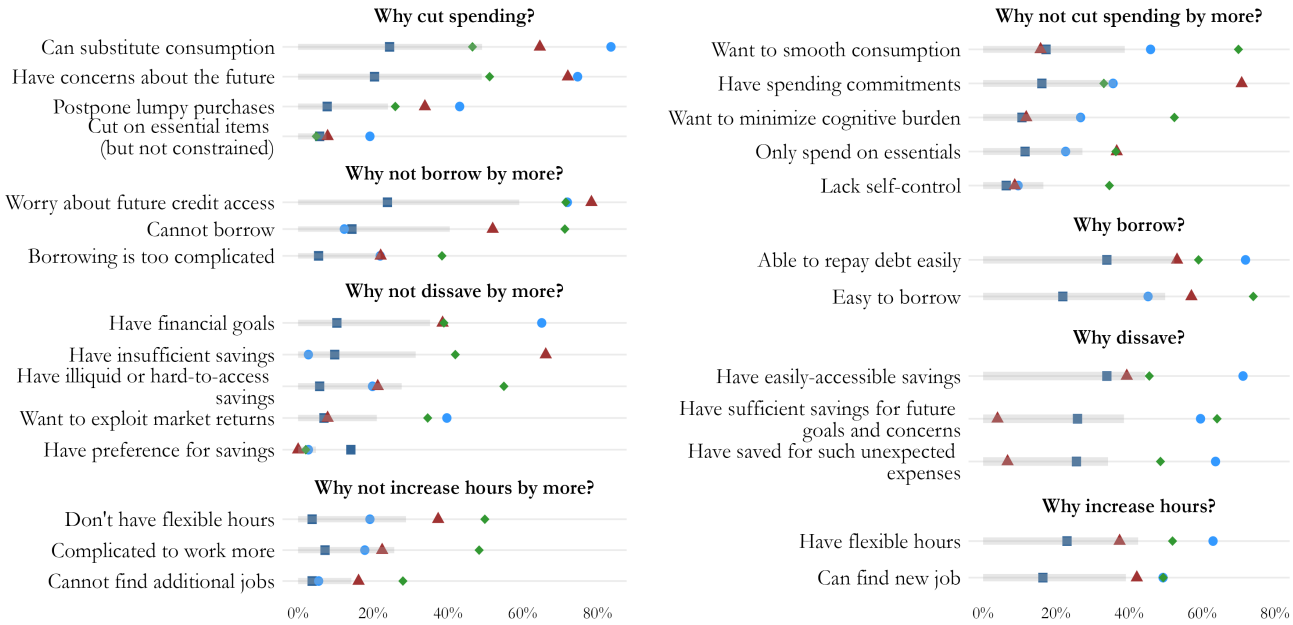
Notes. Panel A and Panel B show – for each cluster – the share of households who adjust along the margins listed for a positive (Panel A) and negative (Panel B) income shock worth 10% of household total net annual income. Panel C and Panel D show – for each cluster – the distribution of detailed adjustment margins in response to a positive (Panel C) and negative (Panel D) income shock worth 10% of household total net annual income. Gray bars represent the benchmark of overall sample average.

Figure A-31: Distribution of reasons across clusters

(A) Positive income shock



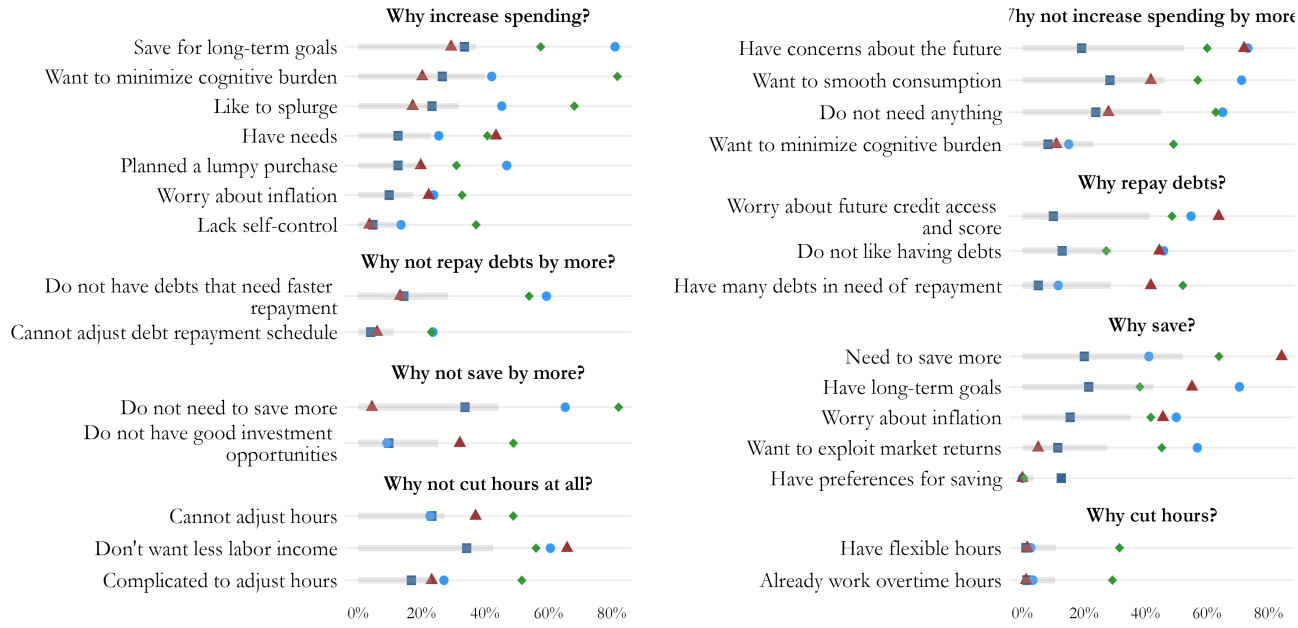
(B) Negative income shock



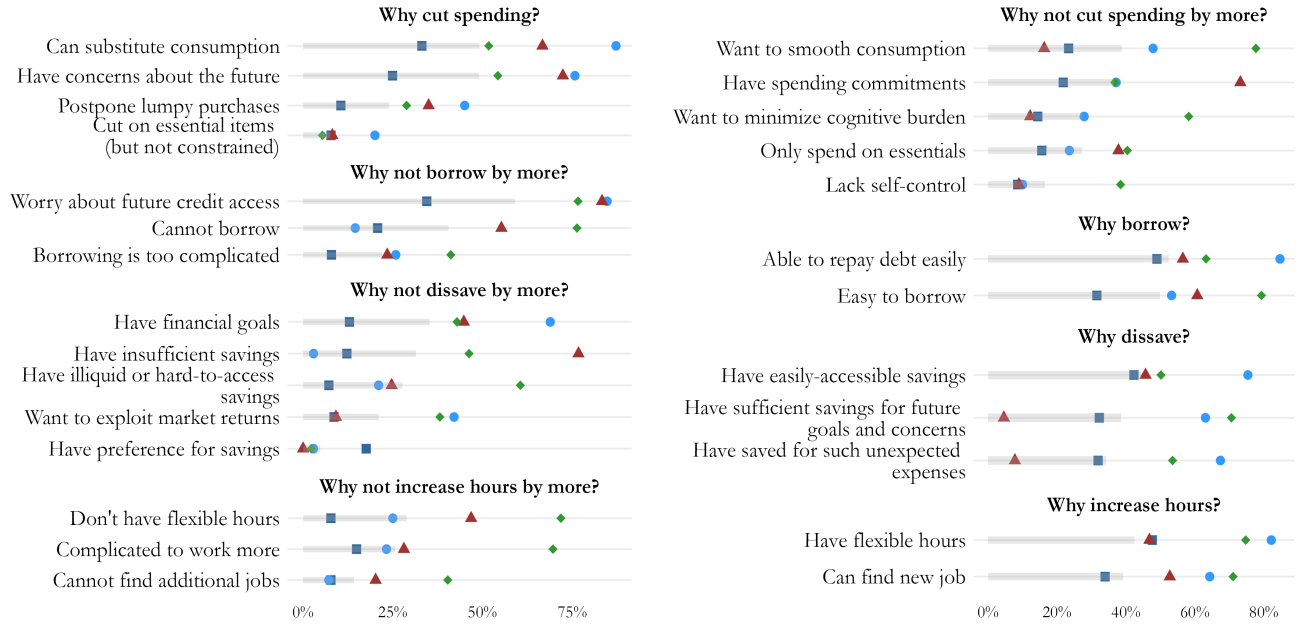
Notes. We tabulate the share of respondents in each cluster that select a reason for using or not using a given margin by more (or at all) in response to a proportional income shock worth 10% of household total net annual income. Gray bars represent the benchmark of overall sample average.

FIGURE A-32: DISTRIBUTION OF REASONS ACROSS CLUSTERS (CONDITIONAL ON EACH MARGIN)

(A) POSITIVE INCOME SHOCK

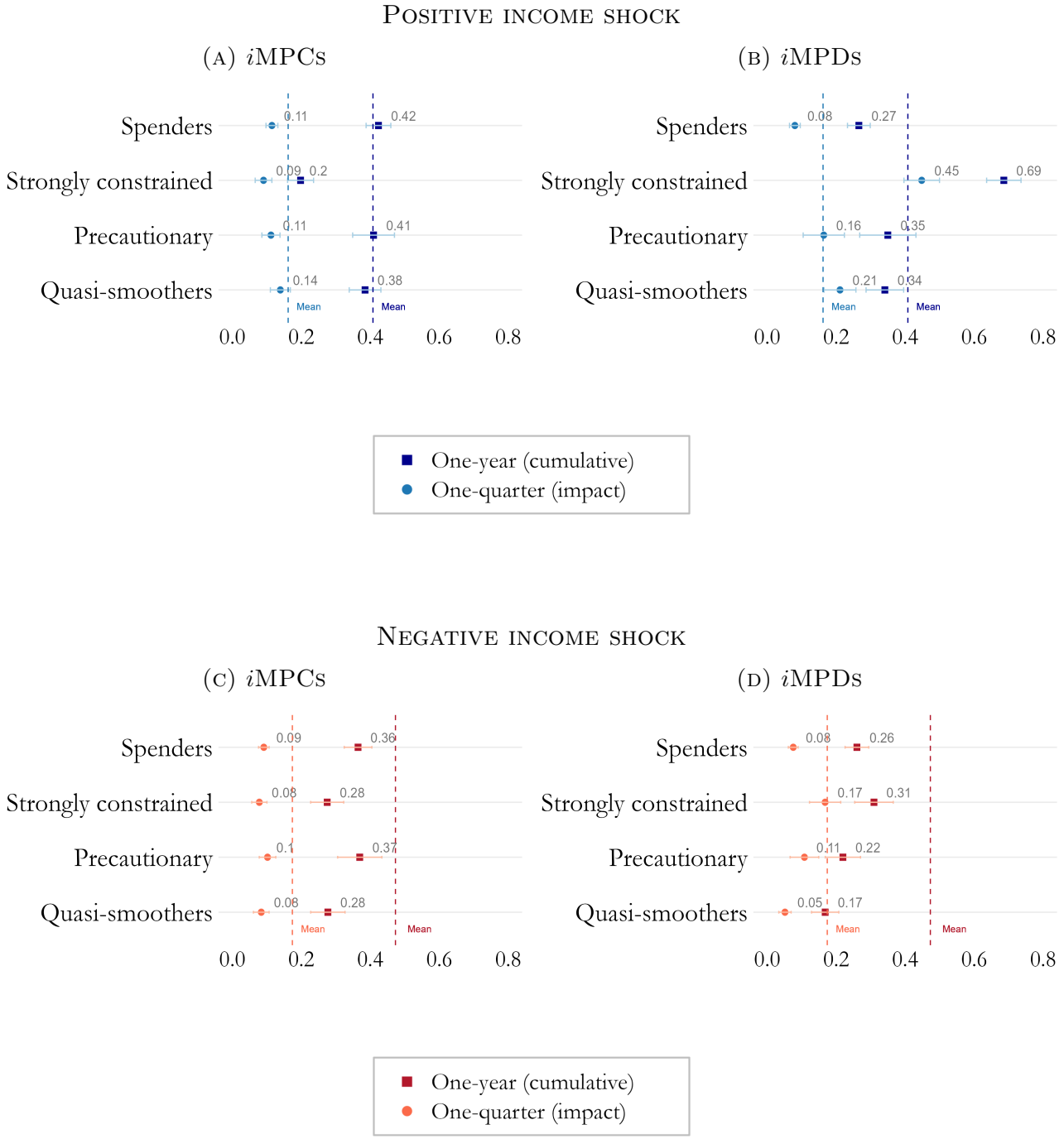


(B) NEGATIVE INCOME SHOCK



Notes. We tabulate the share of respondents in each cluster that select a reason for using or not using a given margin by more (or at all), conditional on using that margin. We consider a proportional income shock. Gray bars represent the benchmark of overall sample average.

Figure A-33: *i*MPCs and *i*MPDs



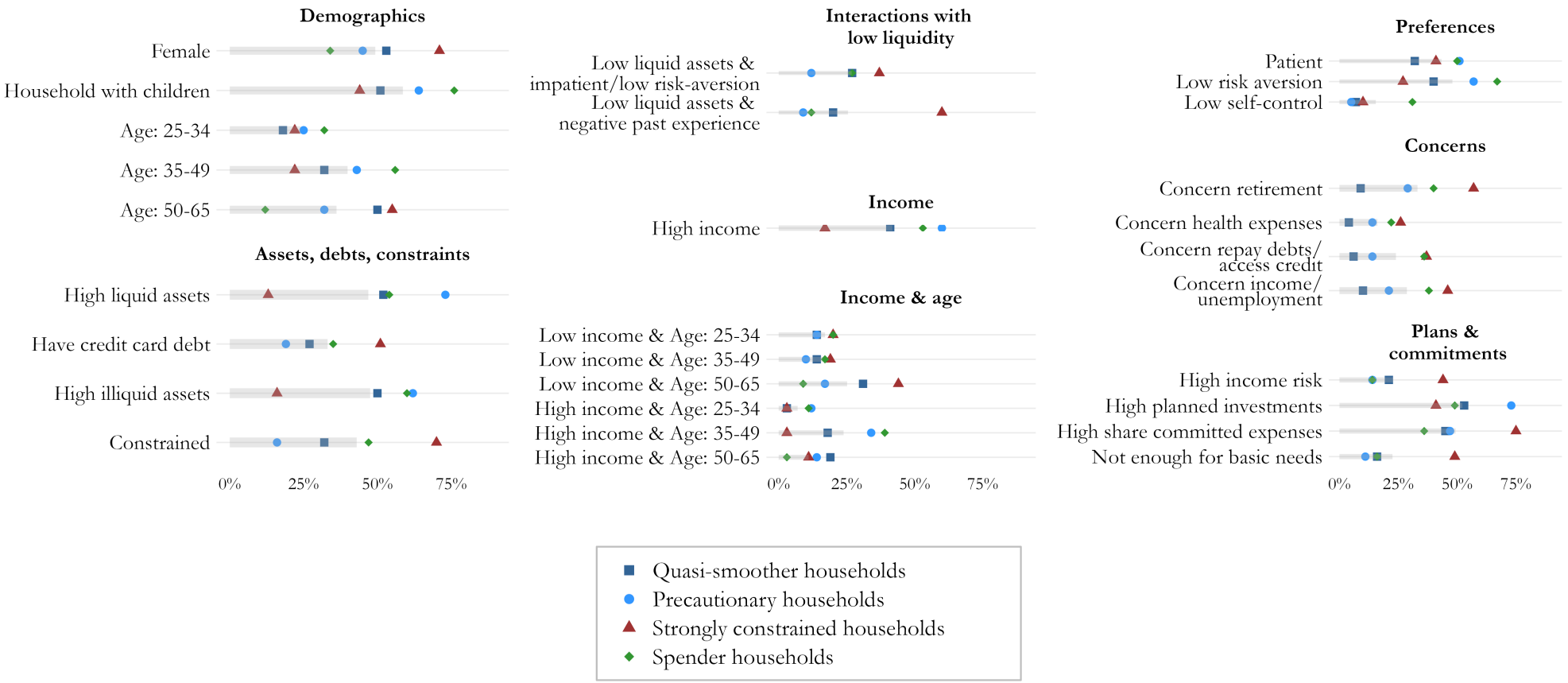
Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) impact and cumulative for income shocks worth 10% of household total net annual income across each cluster. Panel A and Panel B refer to a positive income shock, while Panel C and Panel D to a negative income shock. Dotted vertical lines show average *i*MPCs and *i*MPDs.

Table A-7: Prediction of clusters

	Fully unconstrained		**Unconstrained precautionary**		**Strongly constrained**		**Spenders**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of household members	-0.031**	-0.026**	0.007	0.008	0.018*	0.016	0.005	0.003
	(0.013)	(0.013)	(0.010)	(0.010)	(0.011)	(0.010)	(0.013)	(0.012)
Female	0.043	0.038	0.017	0.023	0.080***	0.060***	-0.140***	-0.121***
	(0.028)	(0.027)	(0.021)	(0.021)	(0.023)	(0.022)	(0.027)	(0.026)
Age: 35-49	0.046	0.061*	-0.028	-0.029	0.014	-0.013	-0.031	-0.018
	(0.036)	(0.033)	(0.026)	(0.026)	(0.029)	(0.028)	(0.034)	(0.033)
Age: 50-65	0.175***	0.170***	-0.014	-0.035	0.130***	0.074**	-0.292***	-0.209***
	(0.036)	(0.035)	(0.027)	(0.027)	(0.030)	(0.029)	(0.035)	(0.034)
Black race	-0.046	-0.045	0.009	0.012	-0.148***	-0.128***	0.184***	0.161***
	(0.042)	(0.039)	(0.031)	(0.031)	(0.034)	(0.032)	(0.040)	(0.039)
Other races	0.057	0.069*	0.013	0.011	-0.048	-0.051	-0.021	-0.028
	(0.043)	(0.040)	(0.031)	(0.031)	(0.035)	(0.033)	(0.041)	(0.039)
High education	-0.007	-0.011	0.050**	0.045*	-0.054**	-0.040	0.011	0.006
	(0.032)	(0.030)	(0.023)	(0.023)	(0.026)	(0.025)	(0.031)	(0.029)
Household with children	-0.005	-0.015	-0.017	-0.016	-0.060*	-0.045	0.082**	0.076**
	(0.037)	(0.035)	(0.027)	(0.027)	(0.031)	(0.029)	(0.036)	(0.034)
High income	-0.018	-0.024	0.033	0.034	-0.035	0.006	0.020	-0.015
	(0.036)	(0.034)	(0.026)	(0.027)	(0.029)	(0.028)	(0.034)	(0.033)
High liquid assets	0.088***	0.046	0.118***	0.100***	-0.174***	-0.126***	-0.032	-0.019
	(0.033)	(0.032)	(0.024)	(0.025)	(0.027)	(0.027)	(0.032)	(0.032)
Have credit card debt	-0.082***	-0.041	-0.071***	-0.058***	0.120***	0.097***	0.033	0.002
	(0.029)	(0.027)	(0.021)	(0.021)	(0.023)	(0.022)	(0.027)	(0.027)
High illiquid assets	0.060*	0.069**	-0.015	-0.020	-0.144***	-0.120***	0.098***	0.072**
	(0.037)	(0.035)	(0.027)	(0.027)	(0.030)	(0.029)	(0.035)	(0.034)
High illiquid debt	-0.092***	-0.057**	-0.025	-0.023	0.070***	0.059***	0.047*	0.020
	(0.028)	(0.026)	(0.021)	(0.021)	(0.023)	(0.022)	(0.027)	(0.026)
Low self-control		-0.025		-0.084***		-0.097***		0.207***
		(0.037)		(0.029)		(0.030)		(0.036)
Low risk aversion		-0.022		0.010		-0.072***		0.084***
		(0.028)		(0.022)		(0.023)		(0.028)
Patient		-0.081***		0.034*		0.036*		0.011
		(0.026)		(0.020)		(0.021)		(0.026)
Concern income/unemployment		-0.066**		-0.031		0.072***		0.026
		(0.034)		(0.026)		(0.028)		(0.033)
Concern repay debts/access credit		-0.086**		-0.037		0.020		0.103***
		(0.035)		(0.028)		(0.029)		(0.035)
Concern health expenses		-0.070*		0.020		0.013		0.038
		(0.037)		(0.029)		(0.031)		(0.037)
Concern retirement		-0.212***		0.030		0.141***		0.040
		(0.032)		(0.025)		(0.027)		(0.032)
High share committed expenses		-0.051**		0.018		0.108***		-0.075***
		(0.026)		(0.020)		(0.021)		(0.026)
High income risk		-0.007		0.005		0.073***		-0.071**
		(0.033)		(0.026)		(0.027)		(0.033)
High planned investments		-0.008		0.055***		0.014		-0.060**
		(0.027)		(0.021)		(0.022)		(0.026)
Not enough for basic needs		-0.018		-0.010		0.077***		-0.049
		(0.035)		(0.028)		(0.029)		(0.035)
Observations	1140	1139	1140	1139	1140	1139	1140	1139
Adjusted R^2	0.078	0.201	0.049	0.065	0.238	0.336	0.195	0.268

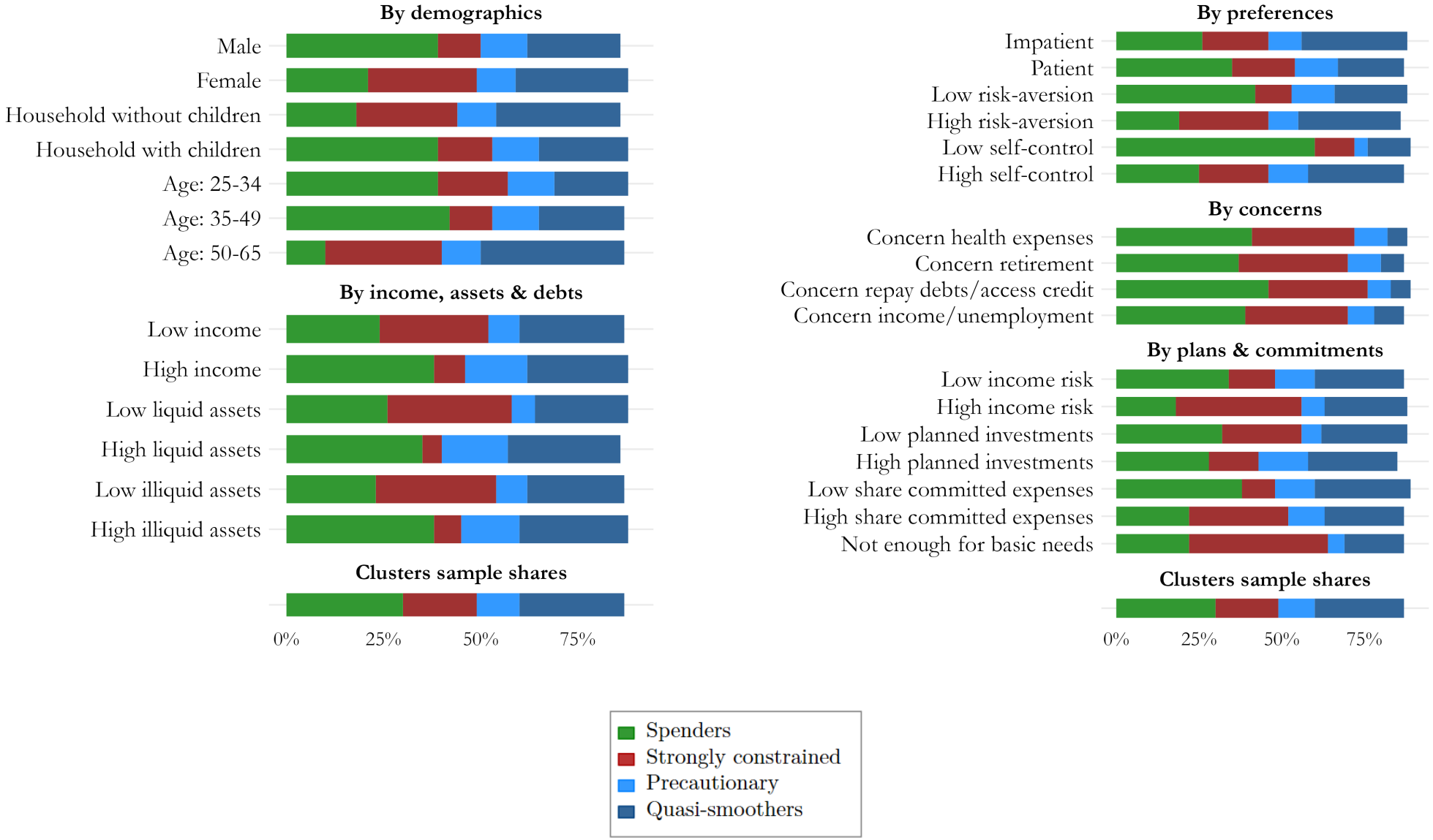
Notes. The dependent variables are indicator variables for the clusters for an income shock worth 10% of household total net annual income: quasi-smoothers (columns 1 to 2), precautionary (columns 3 to 4), strongly constrained (columns 5 to 6), spenders (columns 7 to 8). Regressors are defined in A-3. We also regress the dependent variables on the indicator for the *order* randomization (not shown). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Figure A-34: Distribution of characteristics for each cluster



Notes. We plot the share of respondents with a given characteristic in each cluster for an income shock worth 10% of household total net annual income. Gray bars represent the benchmark of overall sample average.

FIGURE A-35: DISTRIBUTION OF CLUSTERS FOR EACH CHARACTERISTIC

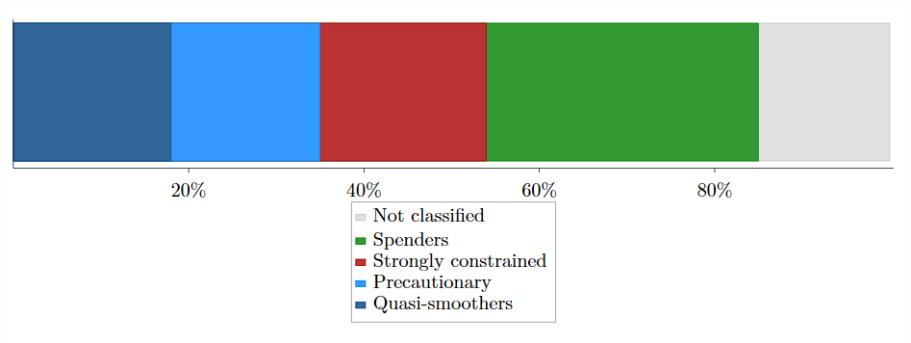


Notes. We plot the distribution of a given characteristic across cluster for an income shock worth 10% of household total net annual income.

A-4.5 Robustness for the fixed shock with more accurate sample

We apply the LCA algorithm to the subsample of respondents who received the fixed income shock. We impose four clusters and we drop individuals who have cluster assignment probabilities less than 80%. Our results are robust to the exclusion of these inaccurate respondents[9].

FIGURE A-36: TABULATION OF CLUSTERS



Notes. We plot the shares of our sample in each cluster for an income shock worth $1000. "Not classified" includes respondents who have cluster assignment probability less than 80%. We exclude inaccurate respondents.

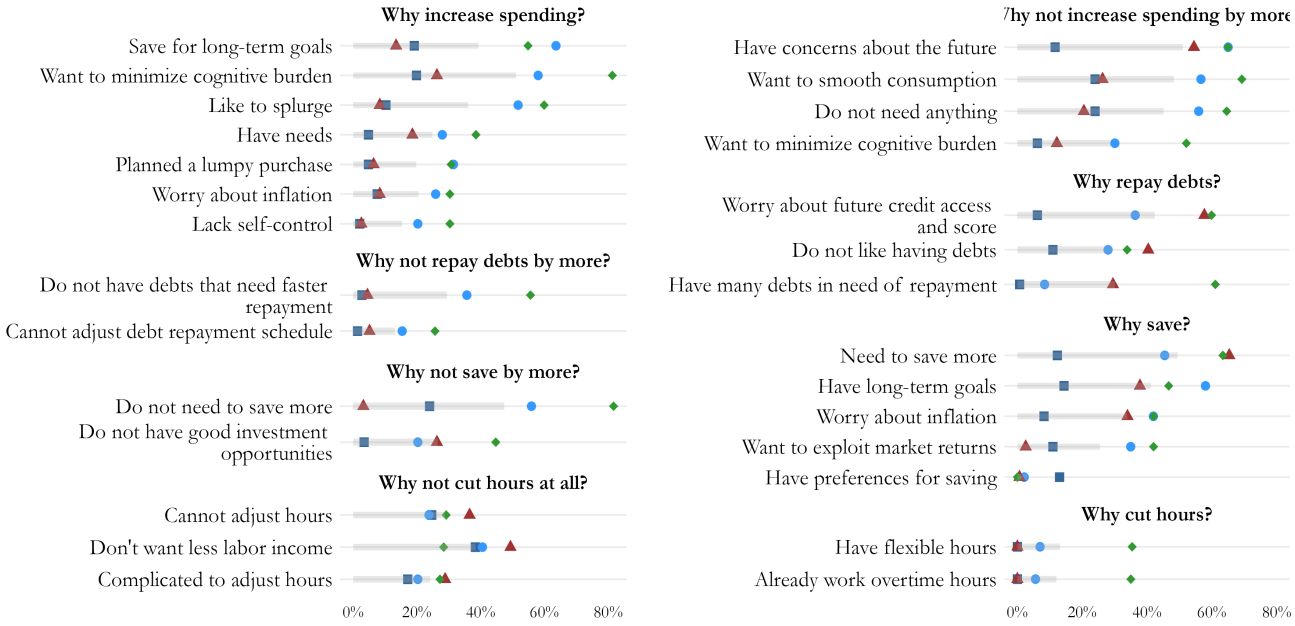
[9]See Section A-3.8 for the definition of inaccurate

Figure A-37: Adjustment margins

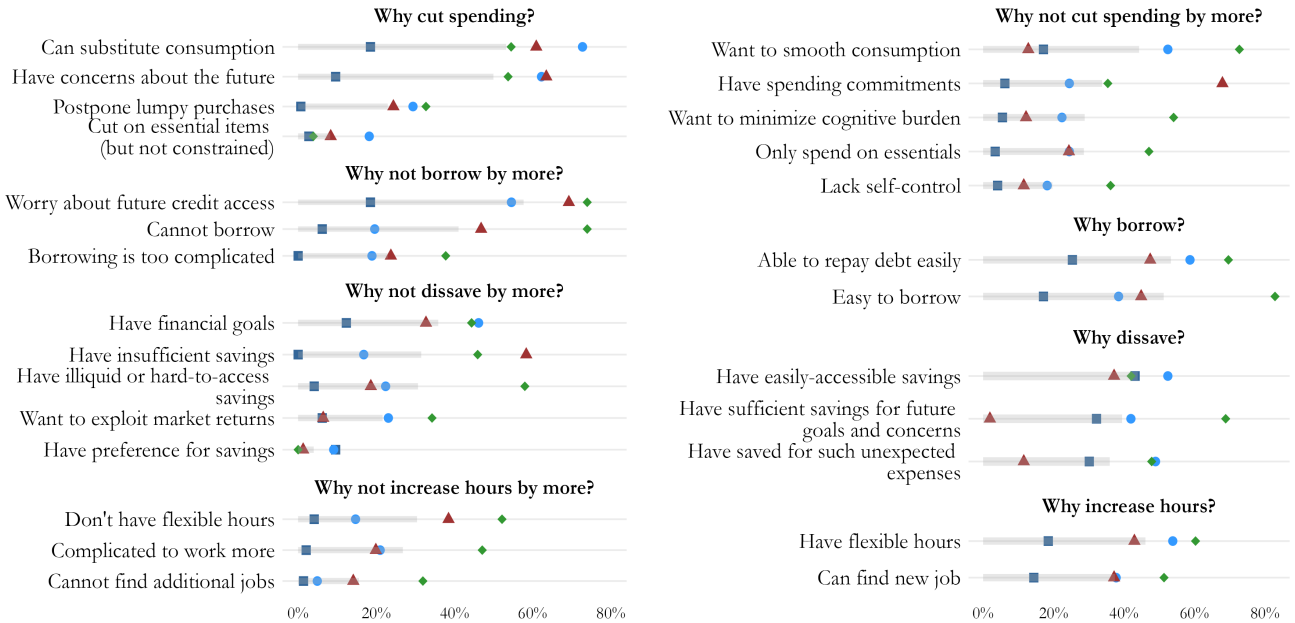
Notes. Panel A and Panel B show – for each cluster – the share of households who adjust along the margins listed for a positive (Panel A) and negative (Panel B) income shock worth $1000. Panel C and Panel D show – for each cluster – the distribution of detailed adjustment margins in response to a positive (Panel C) and negative (Panel D) income shock worth $1000. Gray bars represent the benchmark of overall sample average. We exclude inaccurate respondents.

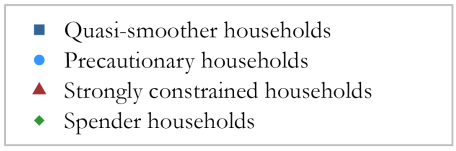
Figure A-38: Distribution of reasons across clusters

(A) Positive income shock



(B) Negative income shock

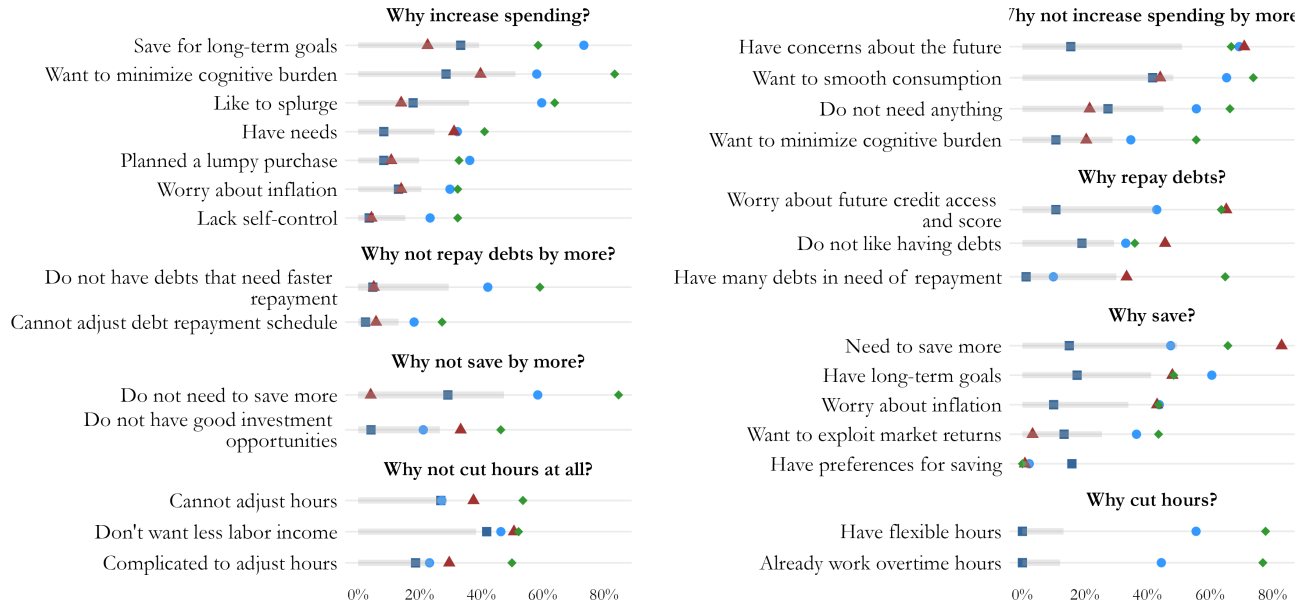




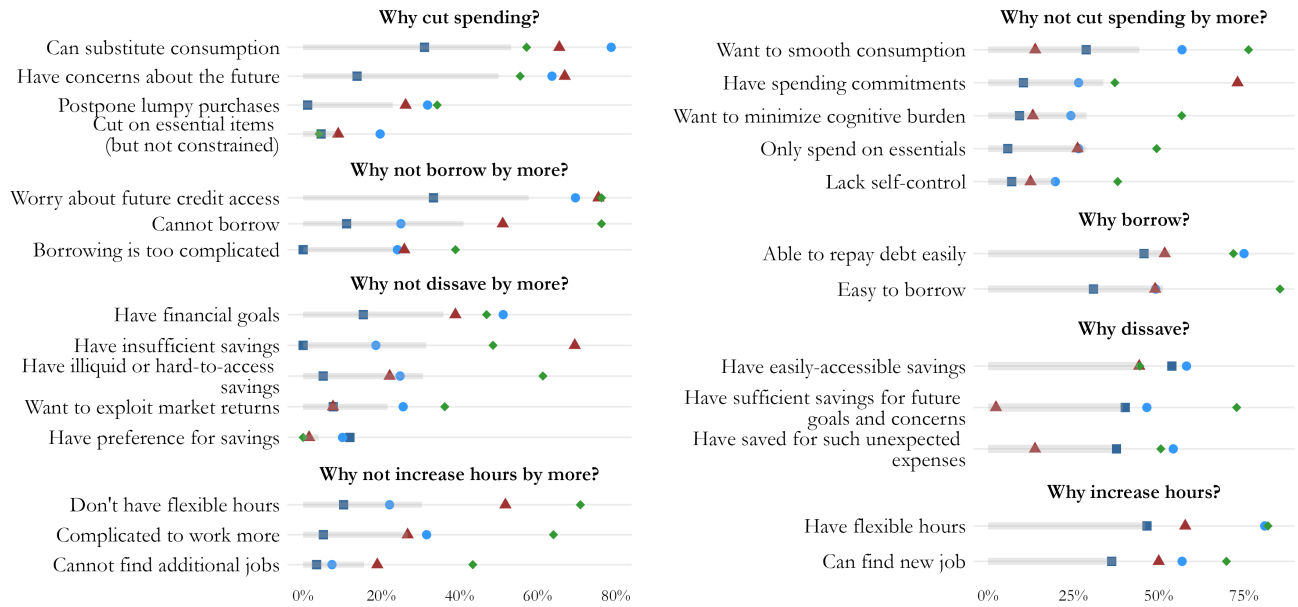
Notes. We tabulate the share of respondents in each cluster that select a reason for using or not using a given margin by more (or at all), conditional on using that margin. We consider a fixed income shock worth $1000. We exclude inaccurate respondents. Gray bars represent the benchmark of overall sample average.

FIGURE A-39: DISTRIBUTION OF REASONS ACROSS CLUSTERS (CONDITIONAL ON EACH MARGIN)

(A) POSITIVE INCOME SHOCK

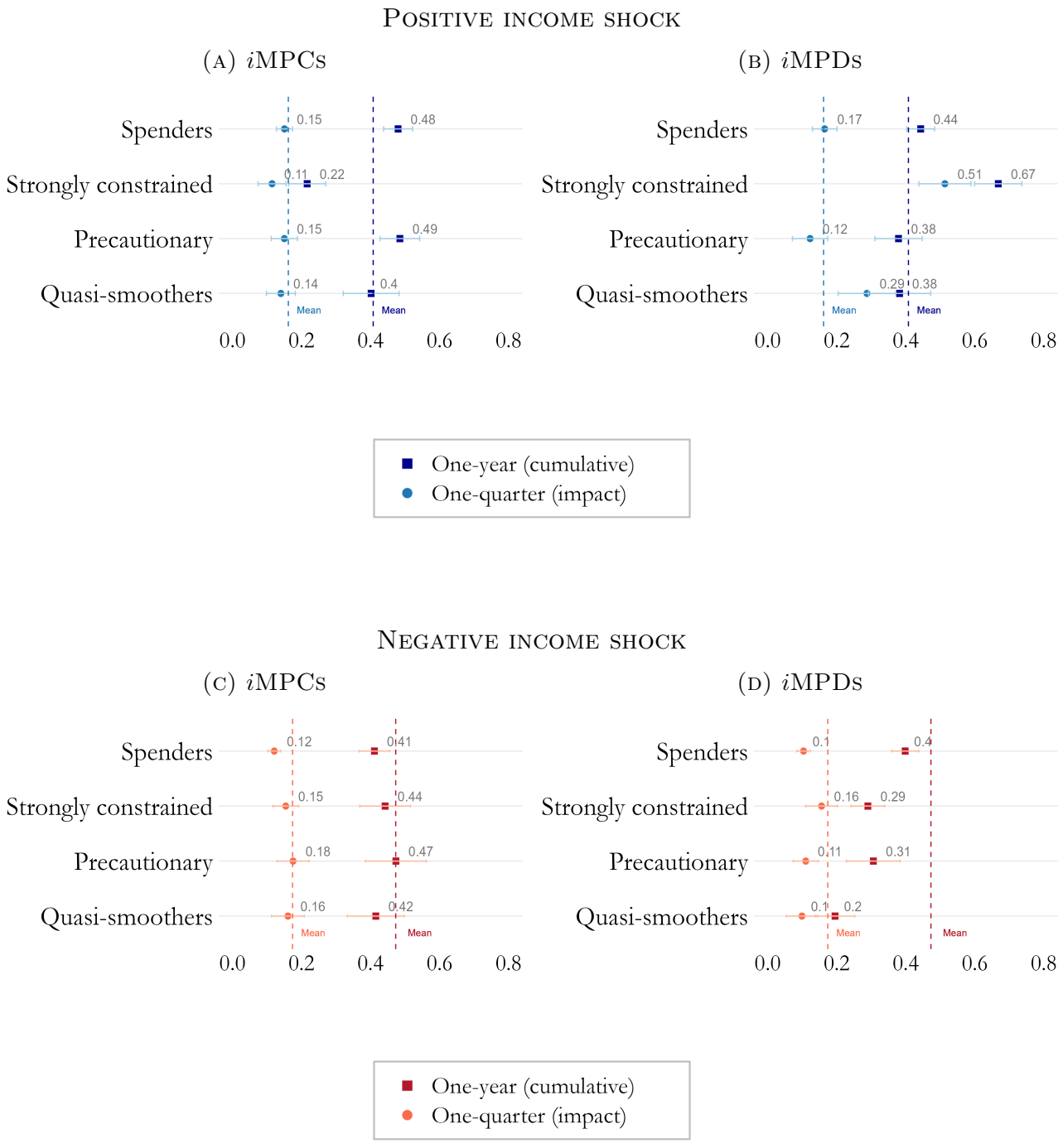


(B) NEGATIVE INCOME SHOCK



Notes. We tabulate the share of respondents in each cluster that select a reason for using or not using a given margin by more (or at all), conditional on using that margin. We consider a fixed $1000 income shock. Gray bars represent the benchmark of overall sample average. We exclude inaccurate respondents.

Figure A-40: *i*MPCs and *i*MPDs



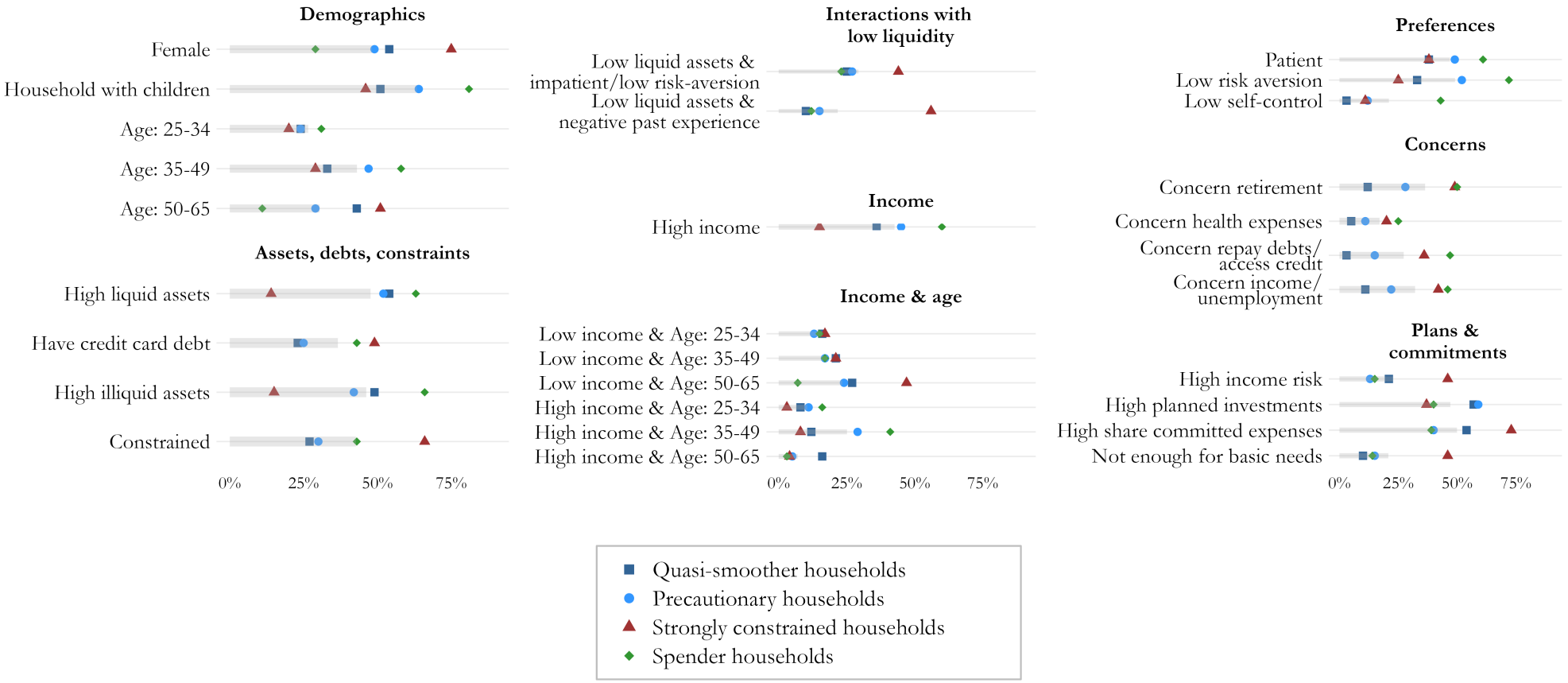
Notes. These figures report *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) impact and cumulative for income shocks worth $1000 across each cluster. Panel A and Panel B refer to a positive income shock, while Panel C and Panel D to a negative income shock. Dotted vertical lines show average *i*MPCs and *i*MPDs. We exclude inaccurate respondents.

Table A-8: Prediction of clusters

	Fully unconstrained		**Unconstrained precautionary**		**Strongly constrained**		**Spenders**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of household members	-0.007	-0.007	0.019	0.017	-0.037***	-0.037***	0.024	0.027*
	(0.015)	(0.014)	(0.015)	(0.015)	(0.014)	(0.013)	(0.016)	(0.014)
Female	0.038	0.010	0.032	0.049	0.109***	0.077**	-0.178***	-0.136***
	(0.033)	(0.032)	(0.033)	(0.034)	(0.031)	(0.031)	(0.035)	(0.033)
Age: 35-49	-0.011	-0.002	0.042	0.048	0.031	0.021	-0.062	-0.068*
	(0.039)	(0.036)	(0.039)	(0.039)	(0.035)	(0.035)	(0.041)	(0.037)
Age: 50-65	0.083**	0.038	0.036	0.041	0.131***	0.083**	-0.250***	-0.162***
	(0.042)	(0.041)	(0.042)	(0.044)	(0.038)	(0.039)	(0.045)	(0.042)
Black race	0.016	-0.002	-0.062	-0.065	-0.056	-0.031	0.102**	0.098**
	(0.047)	(0.044)	(0.047)	(0.047)	(0.043)	(0.042)	(0.050)	(0.046)
Other races	0.014	0.006	0.010	0.005	0.018	0.027	-0.042	-0.037
	(0.052)	(0.050)	(0.053)	(0.053)	(0.048)	(0.047)	(0.056)	(0.051)
High education	-0.000	0.005	0.044	0.033	-0.106***	-0.087***	0.062	0.049
	(0.037)	(0.035)	(0.037)	(0.037)	(0.034)	(0.033)	(0.039)	(0.036)
Household with children	-0.063	-0.045	-0.036	-0.048	0.027	0.047	0.072	0.046
	(0.043)	(0.041)	(0.044)	(0.043)	(0.040)	(0.039)	(0.046)	(0.042)
High income	-0.049	-0.076*	0.031	0.022	0.005	0.007	0.013	0.047
	(0.041)	(0.039)	(0.042)	(0.041)	(0.038)	(0.037)	(0.044)	(0.040)
High liquid assets	0.090**	0.082**	0.048	0.017	-0.134***	-0.099***	-0.005	0.001
	(0.038)	(0.037)	(0.039)	(0.039)	(0.035)	(0.035)	(0.041)	(0.038)
Have credit card debt	-0.110***	-0.034	-0.095***	-0.073**	0.085***	0.094***	0.120***	0.012
	(0.032)	(0.031)	(0.032)	(0.033)	(0.029)	(0.030)	(0.034)	(0.032)
High illiquid assets	0.075*	0.088**	-0.092**	-0.114***	-0.136***	-0.087**	0.153***	0.113***
	(0.041)	(0.040)	(0.041)	(0.042)	(0.038)	(0.038)	(0.044)	(0.041)
High illiquid debt	-0.056*	-0.048	-0.049	-0.043	0.091***	0.087***	0.014	0.004
	(0.032)	(0.030)	(0.032)	(0.032)	(0.030)	(0.029)	(0.034)	(0.031)
Low self-control		-0.117***		-0.047		-0.115***		0.280***
		(0.038)		(0.041)		(0.036)		(0.039)
Low risk aversion		-0.089***		0.036		-0.045		0.098***
		(0.034)		(0.036)		(0.032)		(0.035)
Patient		-0.023		0.013		0.002		0.007
		(0.030)		(0.032)		(0.029)		(0.031)
Concern income/unemployment		-0.060		-0.033		0.029		0.064*
		(0.036)		(0.039)		(0.035)		(0.037)
Concern repay debts/access credit		-0.101**		-0.087**		0.081**		0.106***
		(0.040)		(0.042)		(0.038)		(0.041)
Concern health expenses		-0.009		0.005		-0.048		0.053
		(0.044)		(0.047)		(0.042)		(0.045)
Concern retirement		-0.098***		0.002		0.023		0.073*
		(0.036)		(0.038)		(0.034)		(0.037)
High share committed expenses		0.032		-0.068**		0.081***		-0.045
		(0.030)		(0.031)		(0.028)		(0.030)
High income risk		0.043		-0.093**		0.108***		-0.058
		(0.038)		(0.040)		(0.036)		(0.039)
High planned investments		0.051*		0.078**		0.006		-0.134***
		(0.030)		(0.032)		(0.029)		(0.031)
Not enough for basic needs		-0.127***		-0.004		0.103***		0.028
		(0.041)		(0.043)		(0.039)		(0.042)
Observations	700	697	700	697	700	697	700	697
Adjusted R^2	0.060	0.175	0.016	0.054	0.240	0.294	0.235	0.384

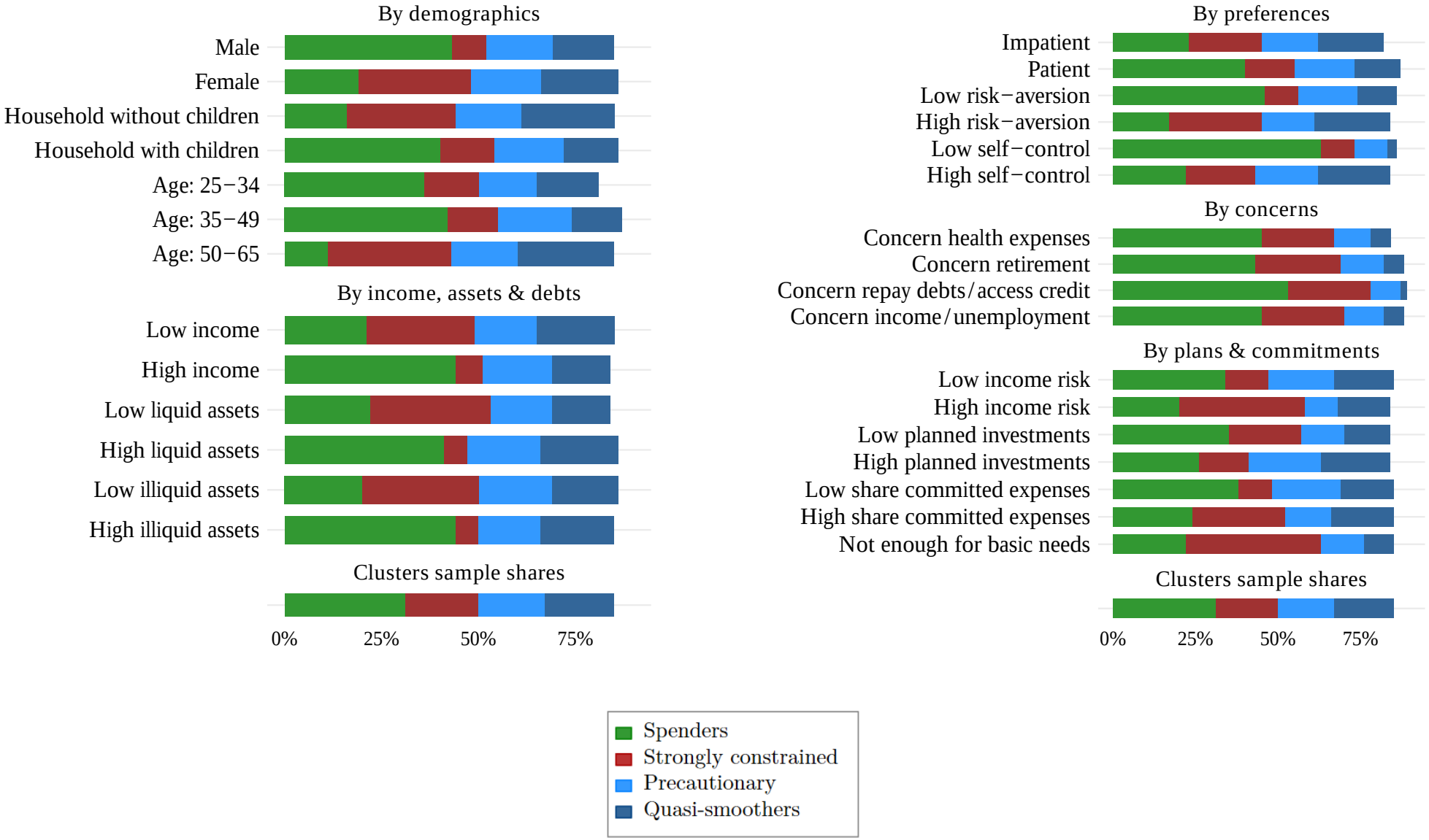
Notes. The dependent variables are indicator variables for the clusters for an income shock worth \$1000: quasi-smoothers (columns 1 to 2), precautionary (columns 3 to 4), strongly constrained (columns 5 to 6), spenders (columns 7 to 8). Regressors are defined in A-3. Moreover, we also regress the dependent variables on the indicator for the *order* randomization (not shown). We exclude inaccurate respondents. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Figure A-41: Distribution of characteristics for each cluster



Notes. We plot the share of respondents with a given characteristic in each cluster for an income shock worth $1000. Gray bars represent the benchmark of overall sample average. We exclude inaccurate respondents.

FIGURE A-42: DISTRIBUTION OF CLUSTERS FOR EACH CHARACTERISTIC



Notes. We plot the distribution of a given characteristic across cluster for an income shock worth $1000. We exclude inaccurate respondents.

A-5 Two-assets heterogeneous agents model

A-5.1 Description of the model

We adopt a standard heterogeneous agents model with two assets in the spirit of Kaplan and Violante (2014). Households face idiosyncratic income risk and can invest in liquid and illiquid assets subject to borrowing constraints. We consider the case of an endowment economy. Time is discrete.

Household problem. Households maximize lifetime utility with discount factor $\beta \in (0,1)$. Each period utility is CRRA, $u(c) = \frac{c^{1-\sigma}-1}{1-\sigma}$. In every period households choose how much to save in a liquid (b_t) or illiquid asset (a_t). The liquid asset pays a risk-free return of r_t^b, while the illiquid asset gives a higher risk-free return $r_t^a > r_t^b$. However, households need to pay a convex cost to adjust their holdings of the illiquid asset. We assume that the adjustment cost $\Psi_t(a_{t+1}, a_t)$ is:

$$\Psi_t(a_{t+1}, a_t) = \frac{\chi_1}{\chi_2} \left| \frac{a_{t+1} - (1 + r_t^a)a_t}{(1 + r_t^a)a_t + \chi_0} \right|^{\chi_2} [(1 + r_t^a)a_t + \chi_0]$$

as standard in the literature, where $\chi_0, \chi_1 > 0, \chi_2 > 1$. Households are subject to a negative borrowing limit for the liquid asset $b_t \geq \underline{b}$ with $\underline{b} \leq 0$ and to a zero borrowing limit for the illiquid asset $a_t \geq 0$. Finally, households face idiosyncratic income risk. We assume that their log-earnings $\log y_t$ follow an AR(1) process: $\log y_t = \rho \log y_{t-1} + u_t$, $\mathbb{E}(u_t) = 0, Var(u_t) = \sigma_u^2$. The household optimization problem is described by the following Bellman equation:

$$\begin{aligned} V_t(y, b, a) = \max_{\{c, b', a'\}} & \left\{ u(c) + \beta \mathbb{E}[V_{t+1}(y', b', a')|y] \right\} \\ \text{s.t.} \quad & c + a' + b' = y + (1 + r_t^a)a + (1 + r_t^b)b - \Psi_t(a', a) \\ & a' \geq 0, \quad b' \geq \underline{b}, \end{aligned}$$

Ex-ante heterogeneity. We assume that a fraction λ of agents have lower coefficient of relative risk aversion σ_L while the remaining agents have $\sigma_H > \sigma_L$. This dimension of heterogeneity will then map into our distinction between quasi-smoothers and precautionary agents, who behave in a similar way, but display different levels of risk aversion.

Ex-post classification of the four types. Solving for the steady state of the economy, we obtain: (i) a joint distribution of income, liquid and illiquid assets $M(dy, db, da)$; (ii) steady-state consumption and assets policy functions $c(y, b, a); b'(y, b, a); a'(y, b, a)$; (iii) value function $V(y, b, a)$. We define the four types based on the joint distribution of liquid and illiquid assets and on their ex-ante heterogeneity in σ. We define thresholds for liquid and illiquid assets to classify levels of assets holding as: (i) low liquid assets (i.e., debtors) if agents hold negative liquid assets $b < 0$; (ii) low illiquid assets if agents hold illiquid assets valued less than half of annual average income.[10]

Overall, the four types are classified in the following way:

- Strongly Constrained: they hold low liquid and illiquid assets.
- Spenders: they hold low liquid, but high illiquid assets.

[10] We normalize annual average income in the economy to 1, so low illiquid assets means $a < 0.5$.

- Quasi-smoothers: they hold high liquid assets and have low coefficient of risk aversion ($\sigma = \sigma_L$).
- Precautionary: they hold high liquid assets and have high coefficient of risk aversion ($\sigma = \sigma_H$).

This classification is motivated by the average characteristics of each type as shown in Tables 4 and 5. In particular, constrained agents appear to have an overall low level of assets, while spender agents tend to hold higher illiquid assets and motivate their higher spending response as a consequence of splurging behavior, adjustment costs (captured by Ψ_t in our model) and behavioral costs. Quasi-smoothers and precautionary agents tend to have higher liquidity and to smooth consumption more. However, they differ for their concerns about the future. Finally, notice that the distinction between constrained and spender agents is closely related to the distinction between poor and wealthy hand-to-mouth (HtM) agents in Kaplan and Violante (2014).

Calibration. We calibrate the model at quarterly frequency. We set some parameters externally (the CRRA coefficients for the two types, parameters χ_0, χ_2 of the adjustment cost, the borrowing limit for the liquid asset, the income process parameters) as described in Table A-9, using standard values in the literature. For the income process, we discretize it as a 7 points Markov chain. We set the persistence and the variance of log-income to the annual values in Auclert et al. (2024).[11]

The remaining parameters – the discount factor β, the return on illiquid assets r_a, the size parameter of the adjustment cost χ_1, the fraction of low CRRA agents λ – are calibrated internally to match as closely as possible: (i) shares of the four types in our data; (ii) average total wealth in the US (of 4.2, following Kaplan and Violante, 2022).[12] We denote this calibration as "calibration with wealth." As an alternative calibration exercise we target: (i) shares of the four types in our data; (ii) impact (quarter 1) MPCs out of a positive shock for constrained and spender agents. We denote this calibration as "calibration with MPCs." Figure A-44 compares targeted moments in the model and in the data across the two calibrations.

Finally, starting from the steady state, we simulate dynamic consumption responses of agents across the income and assets distribution for a positive income shock worth 1% of average annual income. The shock is hence fixed (does not vary across the income distribution) and similar in size to the 1000$ shock of our empirical estimation of Section 5.4.

A-5.2 Discussion of results

Figure A-43 compares impact and cumulative MPCs out of positive income shocks for the two calibrations. Overall, the model is able to broadly match the consumption response of spenders, especially when calibrating it to directly match impact MPCs (bottom panel).

However, there are two issues that appear in both calibrations.

[11] We convert these values to quarterly frequency following **?**. In particular, they assume that quarterly persistence is consistent with annual one, hence $\rho_{quarterly} = \rho_y^{1/4}$; and that the cross-sectional quarterly and annual dispersion in log-income coincide, $\text{Var}(\log y_t^{quarterly})=\text{Var}(\log y_t)$.

[12] We minimize a quadratic loss function $\mathcal{L}$ constructed as the sum of the percentage deviations of each model simulated moment (m_i^{model}) from its empirical counterpart (m_i^{data}):

$$\mathcal{L} = \sum_{i=1}^{K} \left(\frac{m_i^{model} - m_i^{data}}{m_i^{data}} \right)^2 .$$

- MPCs of smoothers and precautionary agents are very low both on impact and cumulatively. This is consistent with the fact that in the model these agents behave as standard permanent income consumers and their MPC is thus very small. Instead, in our data smoothers and precautionary agents have high MPCs.
- The cumulative MPC out of a positive income shock of constrained agents in our model is around 0.5, while it is about 0.25 in our data. Therefore, we cannot reproduce the fact that constrained agents consume a relatively small fraction of the income shock over the first year (while they use the additional income mostly to deleverage). In fact, in the model constrained agents remain close to their borrowing constrain also in the quarters following the shock, hence they keep having high MPCs over time.

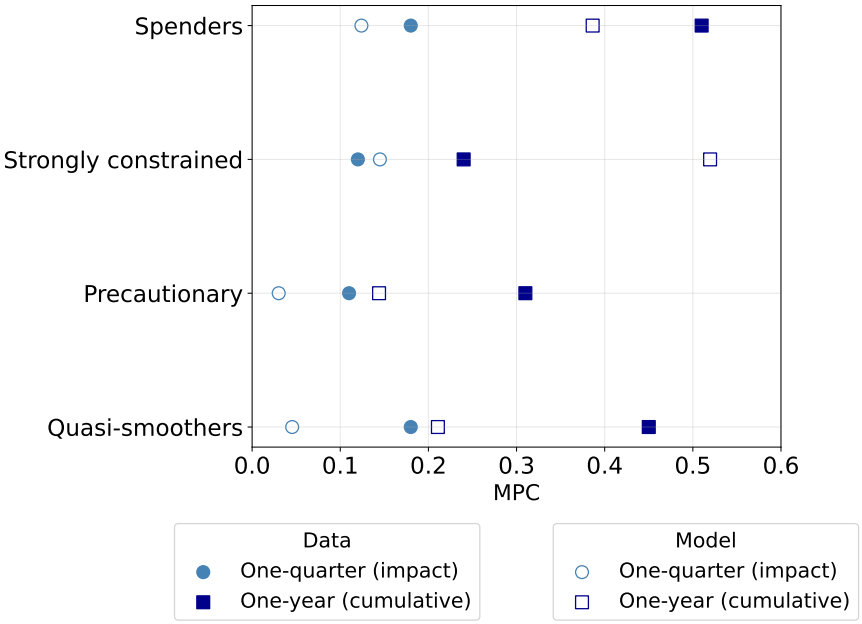
Table A-9: Model Calibration Parameters

Parameter	**Value**	**Description**
Preference Parameters		
β	0.973, 0.976	Discount factor*
σ_L	1	Low CRRA agents
σ_H	2	High CRRA agents
Ex-ante heterogeneity Parameter		
λ	0.415, 0.518	Share of low CRRA agents*
Return Parameters		
r_b	0.01	Liquid asset return (quarterly)
r_a	0.014, 0.015	Illiquid asset return (quarterly)*
Adjustment Cost Parameters		
χ_0	0.25	Shrinking parameter
χ_1	20, 20	Size parameter*
χ_2	2	Quadratic cost parameter
Grid and Income Process		
$\underline{b}$	-0.45	Liquid asset borrowing limit
ρ_y	0.91	Log-income persistence (annual)
$\text{Var}(\log y_t)$	0.92	Log-income standard deviation (annual)

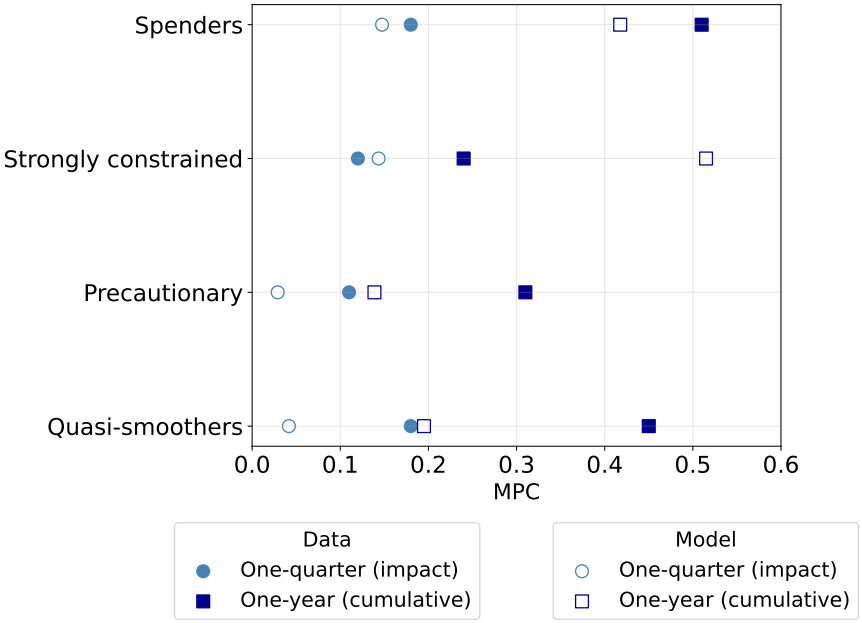
Notes: Parameters marked with * are internally calibrated. For internally calibrated parameters the first values comes from the calibration with wealth, while the second values comes from the calibration with MPCs. See Section A-5.1, Calibration.

FIGURE A-43: *i*MPCs, MODEL VS DATA

(A) CALIBRATION WITH WEALTH



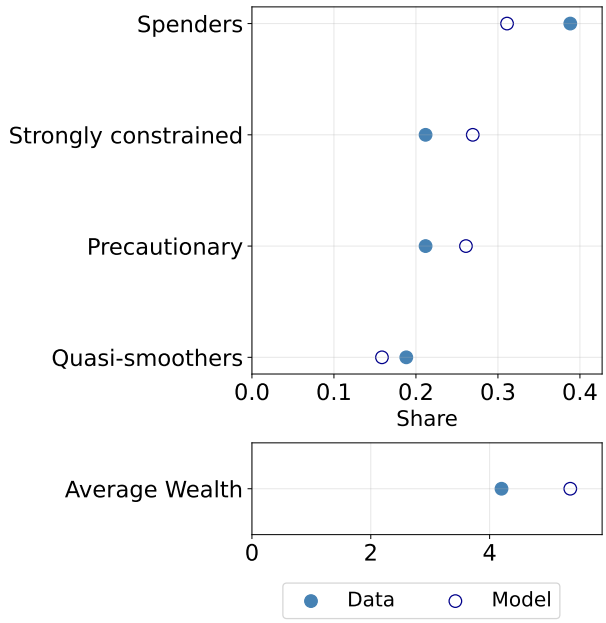
(B) CALIBRATION WITH MPCs



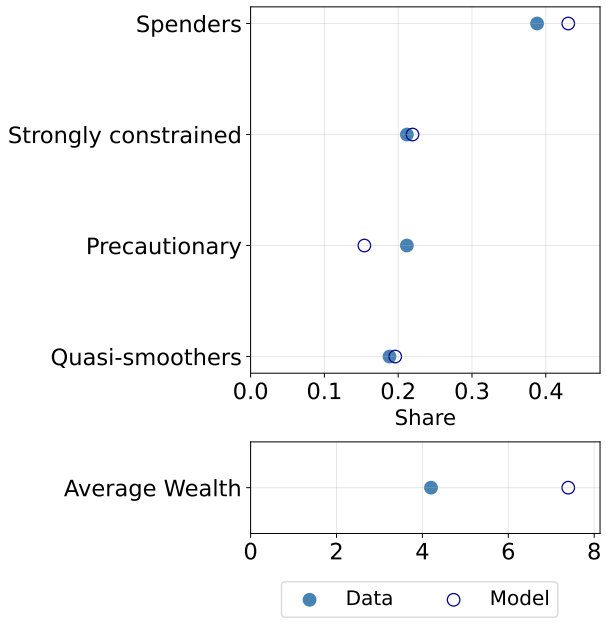
Notes. We compare our empirical estimates and model generated impact MPCs (quarter 1) and cumulative MPCs (quarter 2) out of a positive income shock. Results in panel A are for the calibration with wealth and those in panel B are for the calibration with MPCs.

FIGURE A-44: CALIBRATION, TARGETED MOMENTS

(A) CALIBRATION WITH WEALTH



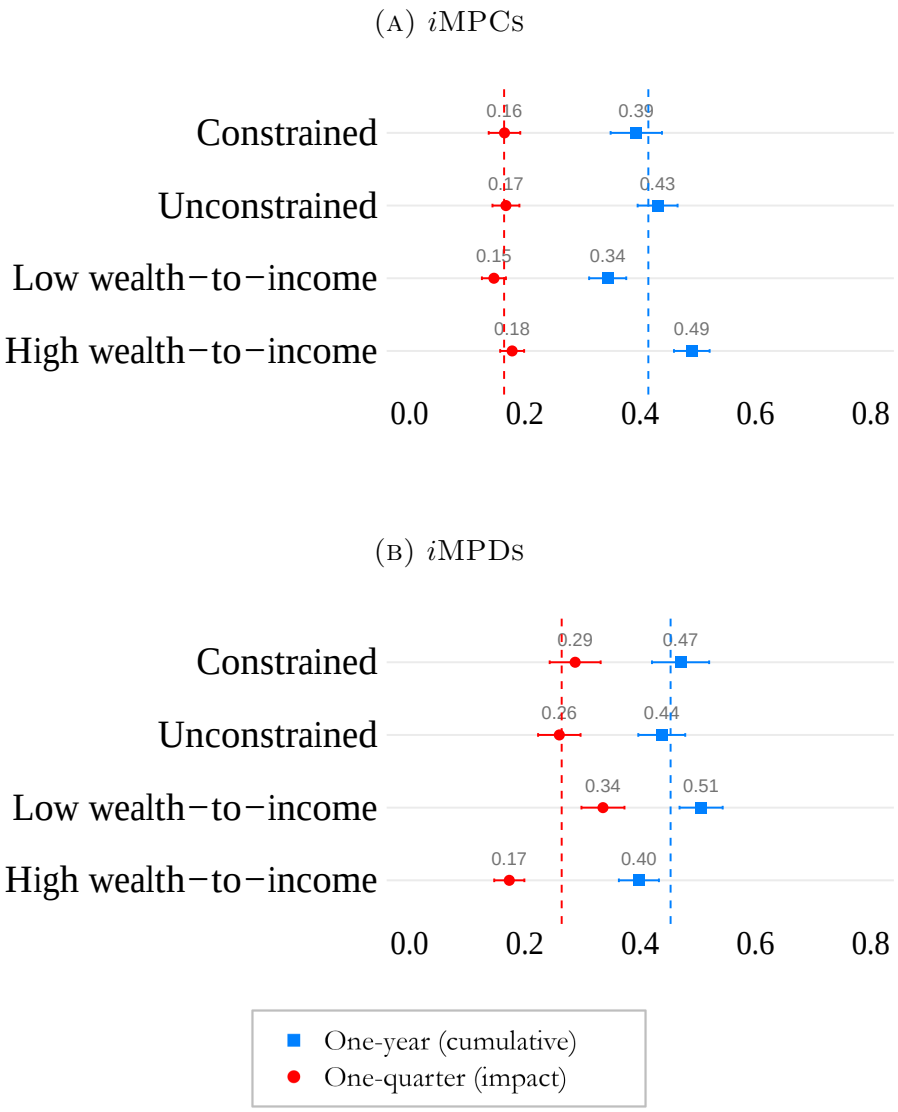
(B) CALIBRATION WITH MPCS



Notes. We compare shares of types and average aggregate wealth across the two calibration. In panel A we target (i) types shares; (ii) U.S. average wealth-to-income. In panel B we target (i) types shares; (ii) impact MPCs out of a positive income shock of constrained and spender agents.

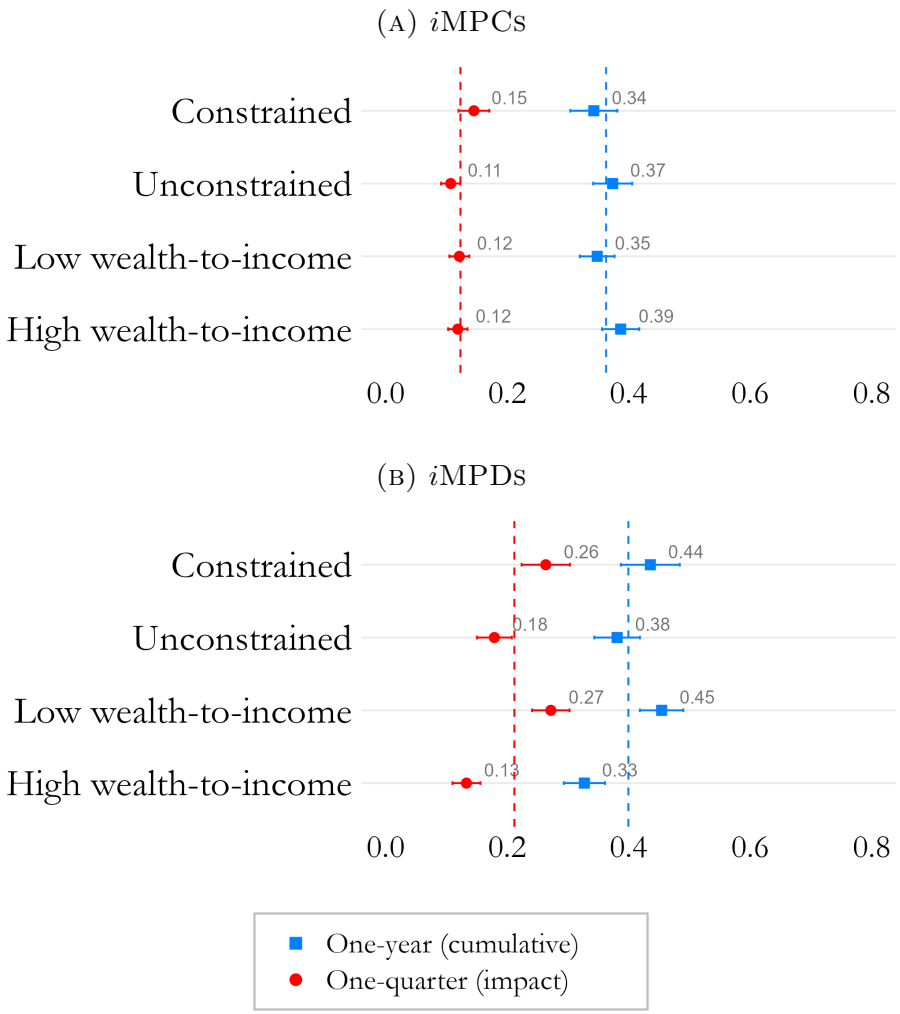
A-6 Puzzles

FIGURE A-45: *i*MPCs AND *i*MPDs BY CONSTRAINTS AND WEALTH-TO-INCOME (FIXED SHOCK)



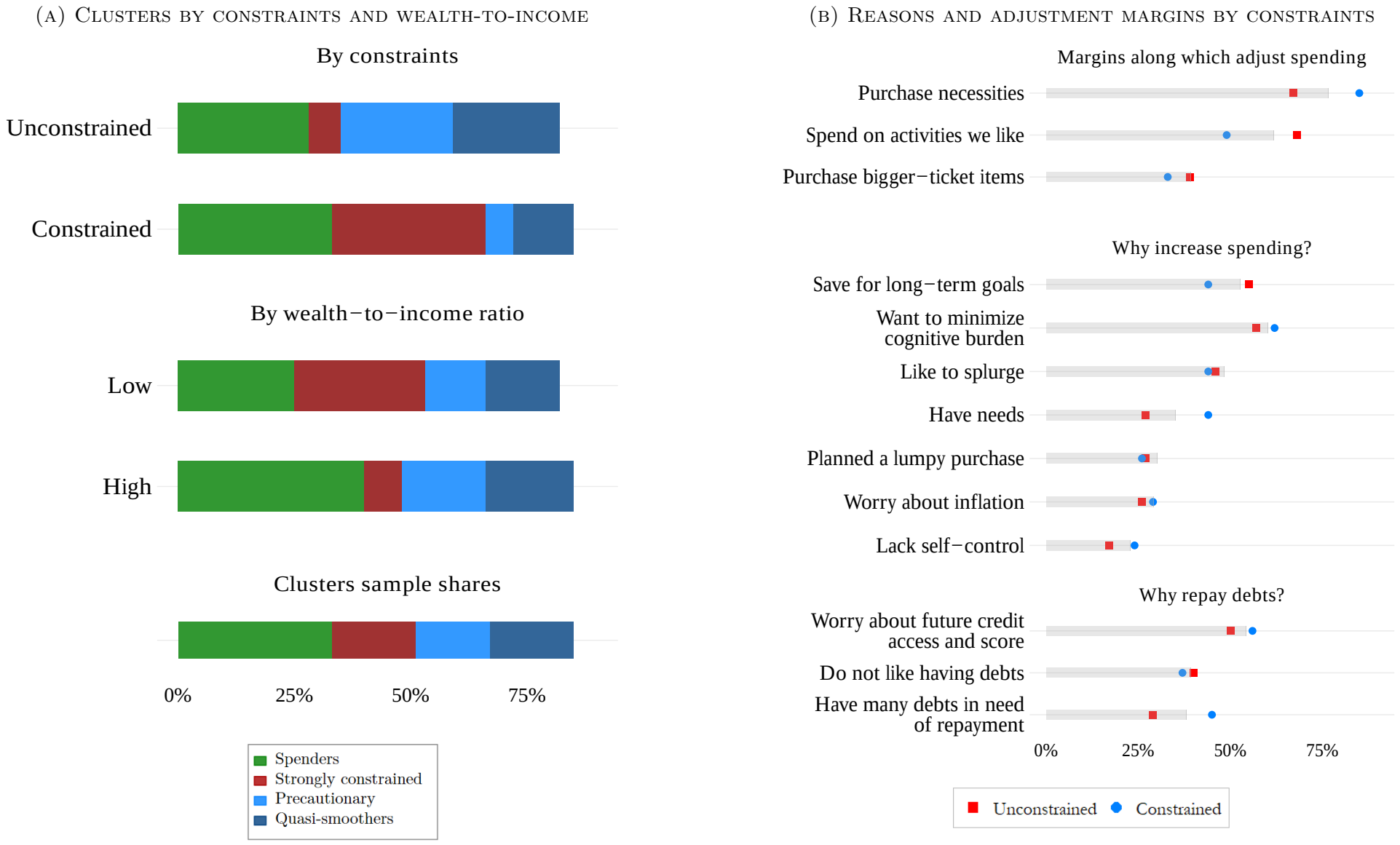
Notes. These figures report impact and cumulative *i*MPCs (Panel A) and *i*MPDs (Panel B) for a positive fixed income shock worth $1000, received in the same quarter of the news. We compare unconstrained to constrained households (according to the objective constrained index) and high to low wealth-to-income (computed as ratio of total net worth to total income) households. The dashed lines represent the sample mean. Confidence intervals are at the 90% level. See Figure A-46 for the proportional income shock and Figure A-48 for a bin scatter version (of net wealth to income).

FIGURE A-46: *i*MPCs AND *i*MPDs BY CONSTRAINTS AND WEALTH-TO-INCOME (PROPORTIONAL SHOCK)



Notes. These figures report impact and cumulative *i*MPCs (Panel A) and *i*MPDs (Panel B) for a positive income shock worth 10% of household total net annual income, received in the same quarter of the news. We compare unconstrained to constrained households (according to the objective constrained index) and high to low wealth-to-income (computed as ratio of total net worth to total income) households. Confidence intervals are at the 90% level.

Figure A-47: Constraints and reasons for different shock responses

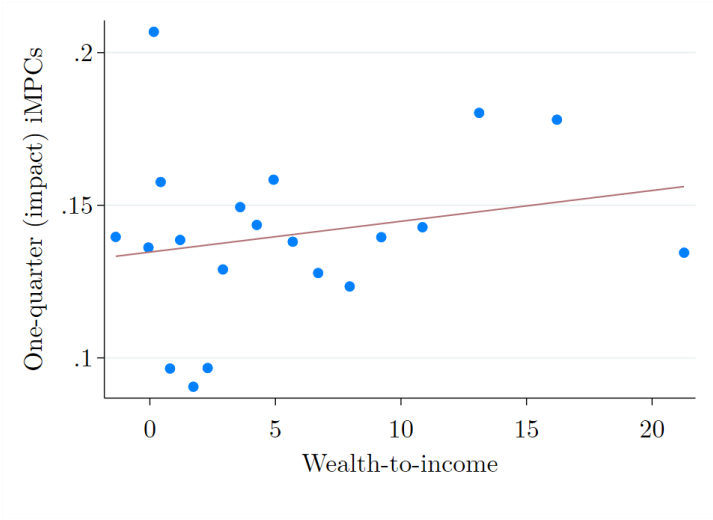


Notes. In Panel A, we plot the distribution of a given characteristic across cluster for a fixed $1000 income shock. Note that shares do not sum up to 100 because a minor share of respondents is not classified in any of the four clusters. In Panel B, we plot the detailed margins of spending adjustment and reasons to increase spending and debt repayments out of a positive fixed income shock worth $1000. Reasons are conditional on using respectively the spending and debt margins. We compare constrained and unconstrained respondents (defined according to the objective constrained index). The gray bars represent the sample mean.

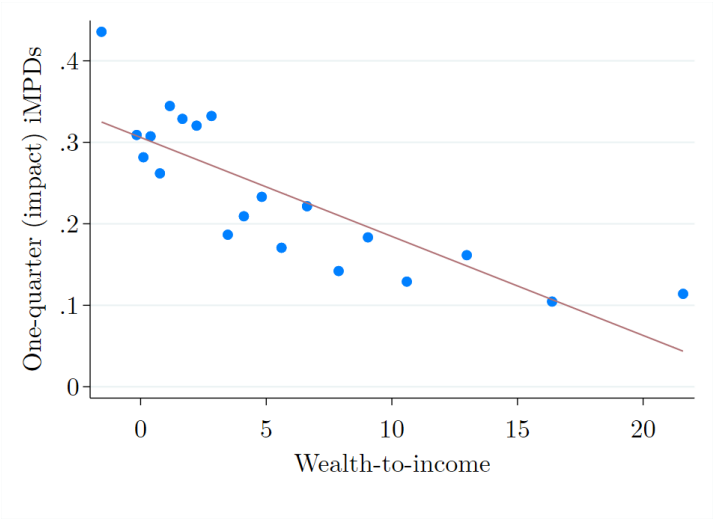
Figure A-48: *i*MPCs and *i*MPDs out of positive income by net worth-to-income

One-quarter (impact)

(a) *i*MPCs

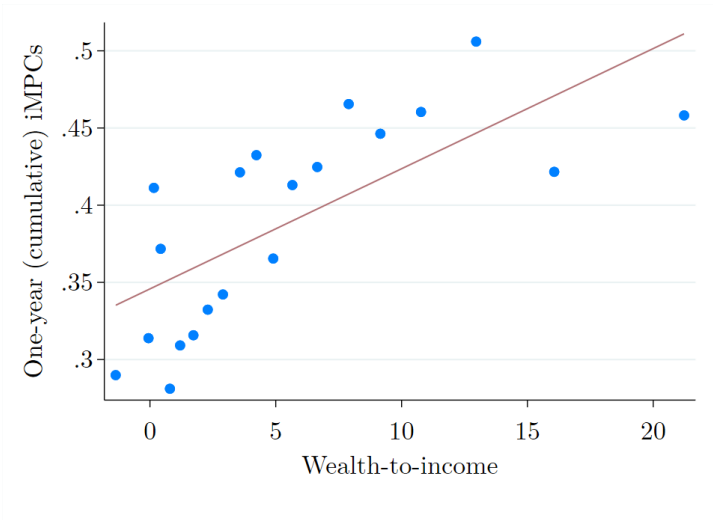


(b) *i*MPDs

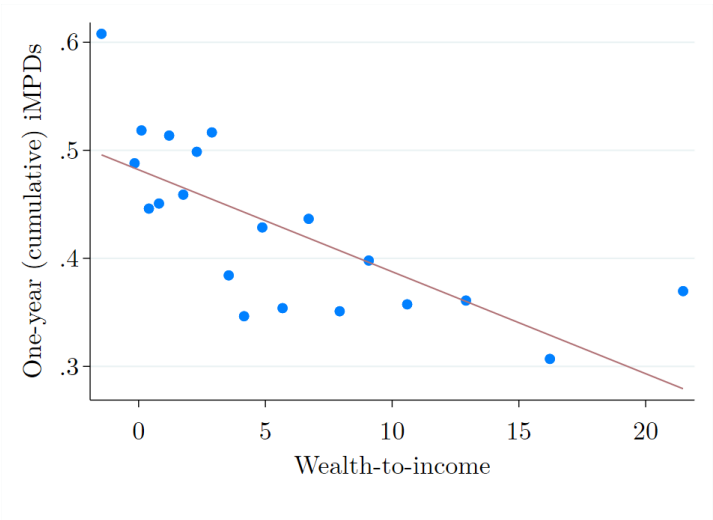


One-year (cumulative)

(c) *i*MPCs

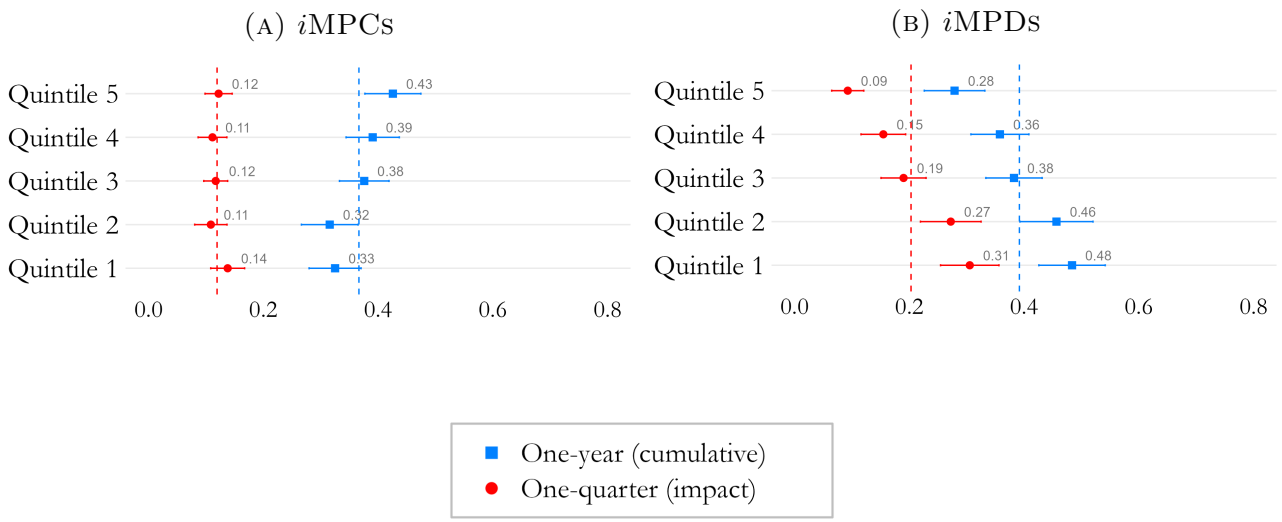


(d) *i*MPDs



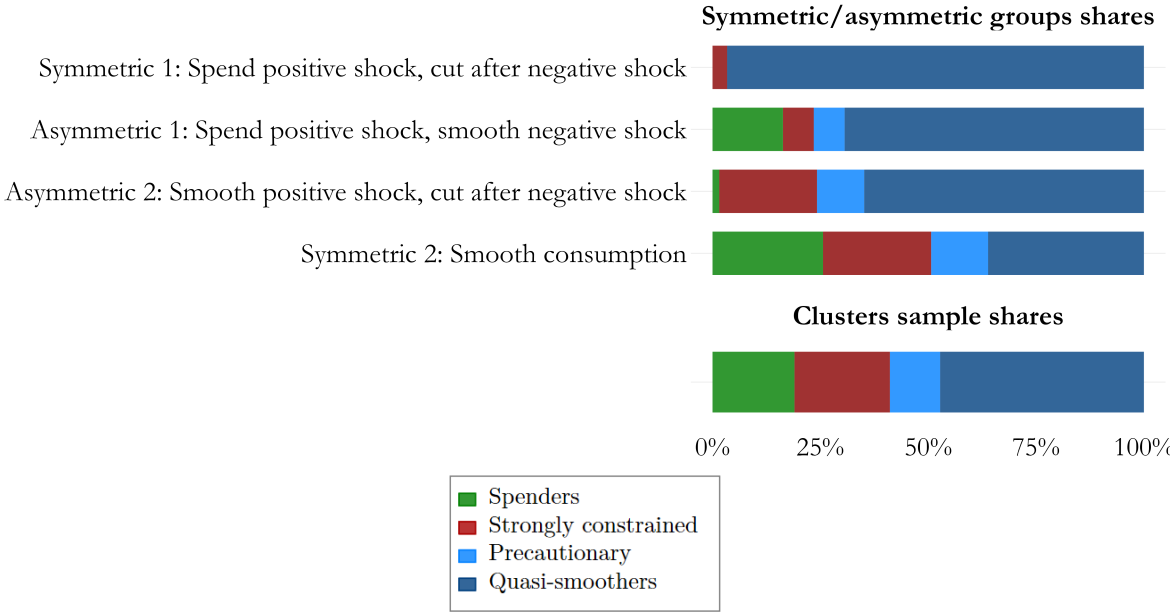
Notes. We show a bin scatter of the impact (Panel A and Panel B) and cumulative (Panel C and Panel D) *i*MPCs (Panel A and Panel C) and *i*MPDs (Panel B and Panel D) against the net worth to income ratio.

Figure A-49: *i*MPCs and *i*MPDs by liquid wealth



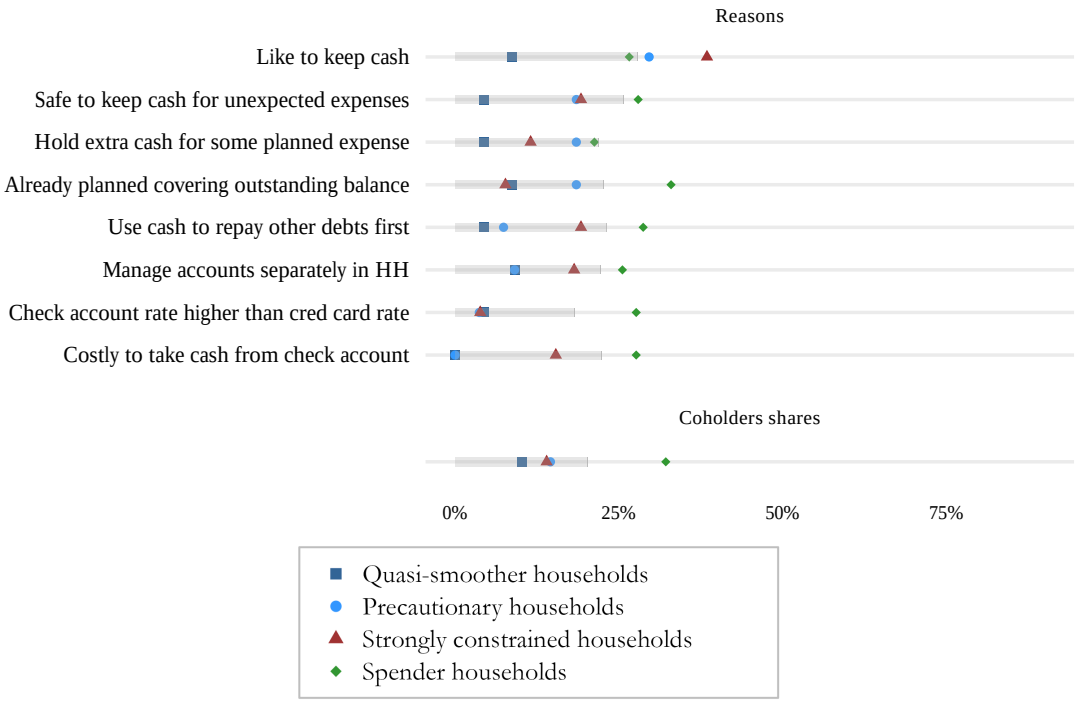
Notes. These figures report impact and cumulative *i*MPCs and *i*MPDs for a positive income shock worth 10% of household total net annual income, received in the same quarter of the news. We compare households by quintiles of liquid assets (defined as the sum of checking and short-term accounts). Confidence intervals are at the 90% level.

Figure A-50: Shares of symmetric/asymmetric groups in each cluster



Notes. We show the share of each symmetric/asymmetric group that falls into each cluster for the proportional income shock worth 10% of household total net annual income.

Figure A-51: Coholding puzzle



Notes. We tabulate the share of co-holding reasons for each cluster (conditional on being a co-holder). Co-holder shares are the shares of co-holders in each clusters (computed as the fraction of co-holders among respondents who revolve credit card debt). We exclude those respondents who report realizing of making a mistake as an extremely relevant reason.

A-7 Full questionnaire

Legend.
Blue: for comments and descriptions (not shown to respondents).
Red: for pop-up messages in the survey.

A-7.1 Background socio-economic questions

1. Do you live in the United States?

   Yes; No

2. What is your gender?

   Man; Woman; Other

3. What is your age?

   17 or younger; 18; ...; 69; 70 or older

4. What was your total household income, before taxes and transfers, in 2021?
   Note that social insurance benefits (e.g., Social Security, Medicare, unemployment insurance) are included in this definition of income.

   $0-$9,999; $10,000-$14,999; $15,000-$19,999; $20,000-$29,999; $30,000-39,999; $40,000-$49,999; $50,000-$69,999; $70,000-$79,999; $80,000-$99,999; $100,000-$109,999; $110,000-$124,999; $125,000-$199,999; $200,000 or more

5. What is your current employment status?

   Full-time employee; Part-time employee; Self-employed or small business owner; Unemployed and looking for work; Temporarily laid off; Student; Not currently working and not looking for work; Retiree

6. How would you describe your ethnicity/race?

   White; African American/Black; Hispanic/Latino; Asian/Asian American; Mixed race; Other (please specify)

7. **Attention question 1.** This is a question to check whether you are paying attention and reading the questions carefully. Please select both "strongly disagree" and "strongly agree" to continue.

   Strongly disagree; Disagree; Neither agree nor disagree; Agree; Strongly agree

8. **Attention question 2.** This is a question to check whether you are paying attention and reading the questions carefully. Please select both "slightly concerned" and "extremely concerned" to continue.

   Not at all concerned; Slightly concerned; Moderately concerned; Very concerned; Extremely concerned

9. Were you born in the US?

   Yes; No

10. What is your current ZIP code?

11. Please indicate your marital status

    Single; Married; Legally separated or divorced; Widowed

12. How many children do you have?

    I do not have children; 1; 2; 3; 4; 5 or more

13. Our study focuses on the behavior of U.S. households. Most questions in this survey will refer to your household. According to the U.S. Census Bureau, a household consists of all the people who occupy a housing unit.

    Note that flatmates or roomates are not part of your household.

    Based on this definition, how many people currently belong to your household (including yourself)?

    1; 2;...; 9; 10 or more

14. Who is currently part of your household other than yourself)? Select all that apply.

    Note that flatmates or roomates are not part of your household.

    No one else; My spouse/partner; My child/children; My parents; My spouse/partner's parents; Other

15. (If "No one else" is not selected in 14) Are you the reference person in your household?

    By reference person, we mean the primary person who manages the economic and financial affairs of the household.

    Yes; No

16. What is your highest level of education?

    Eight Grade or lower; Some High School; High School degree/GED; Some College; 2-year College Degree; 4-year College Degree; Master's Degree; Doctoral Degree; Professional Degree (e.g., JD or MD)

17. (If highest level of education greater than "High School degree/GED" to 16) What is/was your field of study in college? If multiple degrees apply, please select the field corresponding to your last degree.

    Accounting/bookkeeping; Administrative science/public administration; Advertising; Agriculture/ horticulture; Allied health; Anthropology; Architecture; Art; Aviation/aeronatics; Biology; Business administration; Chemistry; Child/human/family development; Comm. disorders; Communications/speech; Computer science; Counseling; Criminology/criminal justice; Dance; Dentistry; Economics; Education; Educational administration; Electronics; Engineering; English; Environmental science/ecology; Ethnic studies; Fashion; Finance; Fine arts; Food science/nutrition/culinary arts; Foreign language; Forestry; General sciences; General studies; Geography; Geology; Gerontology; Health; History; Home economics; Human services/human resources; Humanities; Industrial relations; Industry and technology; Information technology; Journalism; Law; Law enforcement; Liberal arts; Library science; Marketing; Mathematics; Mechanics/machine trade; Medicine; Music; Nursing; Other vocational; Parks and recreation; Pharmacy; Philosophy; Physical education; Physics; Political science/international relations; Psychology; Public relations; Social sciences; Social work:

Sociology; Special education; Statistics/biostatistics; Television/film; Textiles/cloth; Theater arts; Theology; Urban and regional planning; Veterinary medicine; Visual arts/graphic design/design and drafting; Other

18. (If "Other" to 17) You selected 'other' for field of study. Please specify below:

    (Insert text)

19. (If "Full-time employee", "Part-time employee", or "Self-employed or small business owner" to 5) Which category best describes your main occupation?

    Management, business and financial ;
    Professional (computer and mathematical; architecture and engineering; life, physical, and social sciences; community and social services; legal; education instruction and library; arts, design, entertainment, sports, and media; healthcare practitioners and technical service);
    Service (healthcare support; protective service; food preparation and serving related; building and grounds cleaning and maintenance; personal care service);
    Sales and related occupations;
    Office and administrative support;
    Farming, fishing and forestry;
    Construction and natural resource extraction;
    Installation, maintenance and repair;
    Production;
    Transportation and material moving;
    Armed Forces

20. (If "Unemployed and looking for work" to 5) Even if you are not currently working, which category best describes your most recent main occupation? Check the one that applies.

    Same options as above, Question 19

21. (If "Full-time employee", "Part-time employee", or "Self-employed or small business owner" to 5) Which of the following sectors are you currently employed in?

    If you have multiple jobs, check the one that best corresponds to your main occupation.

    Natural resources and mining (agriculture, forestry, fishing, hunting, mining, quarrying, oil and gas extraction);
    Construction;
    Manufacturing (food, beverage and tobacco, textile, apparel, leather product, wood, paper, printing, petroleum and coal, chemical, plastics and rubber, nonmetallic mineral, primary metal, fabricated metal, machinery, computer and electronic, electrical equipment, appliance and component, transportation equipment, furniture and related, miscellanous manufacturing);
    Trade, transportation, and utilities (wholesale and retail trade, transportation and warehousing, utilities);
    Information;
    Financial activities (Finance and insurance; real estate; rental and leasing);
    Professional and business services (professional, scientific, and technical, company management, administrative);
    Education and health services (educational services, health care and social assistance);

Leisure and hospitality (arts, entertainment, and recreation, accommodation and food services);
Public administration;
Armed forces;
Other

22. (If "Unemployed and looking for work" to 5) Even if you are not currently working, in which sector did you last work?

    If you had multiple jobs, check the one that best corresponds to your main latest occupation.

    Same options as above, Question 21

23. In addition to your main job, do you or other household members have any other job (including part time, evening, or weekend work)? Please do not consider completing online tasks such as this survey.

    Yes; No

24. Does anyone in your household work in any of the following jobs? Please select all that apply.

    Pet services such as dog walking; Elder or child care services (such as babysitting); House cleaning, yard work, or other maintenance work; Tutoring, proofreading, or giving lessons; Driving for a ride-sharing service such as Uber or Lyft; Paid tasks online, such as freelance work through Fiverr or Upwork (other than completing online surveys); Other paid personal tasks, such as making deliveries, running errands, or helping people move; Other (please specify); No, no one in my household works in any of these jobs

25. Generally speaking, do you you usually think of yourself as a Democrat, a Republican, an independent, or something else?

    Republican; Democrat; Independent; Something else

A-7.2 Households' financial decision-making process

We are trying to understand how and why Americans make financial decisions, spend, and save. By answering this survey, you are advancing research on these issues that can help other families. Often, policy makers or financial planners do not understand people's concerns and goals. we are trying to survey people like you to learn more.

26. Which of the following best describes how financial decisions are made in your household?

    "Someone else in my household makes all financial decisions;" "Someone else in my household makes most financial decisions;" "I share financial decisions equally with someone else in my household;" "I make most financial decisions myself;" "I make all financial decisions myself."

27. How many hours per month do you or other household members usually devote to reviewing and planning your household's finances (i.e., your spending, savings, investments, and budget)?

    (Insert hours)

28. How important is it for you to know where each dollar in your household budget is coming from and where each dollar is going to?

    Not at all important; Somewhat important; Very important; Extremely important.

29. Think about how precisely would you be able to list all your sources of income and all your expenses. (Don't worry, we will not ask you about this in more detail!)
    How informed are you about where the money in your household is coming from and what exactly it is being spent on?

    Not at all informed; Somewhat informed; Very informed; Extremely informed

30. For which of the following goals is your household currently planning to save?
    Please enter the target savings amount for each goal your household is planning toward.

    Saving for retirement (insert value $);
    Large housing-related spending (e.g. a home purchase or home renovation) (insert value $);
    Large purchases of durable goods (e.g. a car or new major appliances) (insert value $);
    Large education-related spending (e.g. college tuition) (insert value $);
    Major health expenses (e.g. healthcare for a chronic condition or for when you are older) (insert value $);
    Other large investments (please specify) (insert value $);
    None of these

31. Is your household saving for any particular purchase, expense, or event that is happening over the next few months? Please select all that apply.

    Holidays; Vacations; Travel; Birthday and graduation gifts; Specific family events (e.g., weddings); Specific medical expenses; Specific home repairs; Large purchases of durable goods (e.g. a car or home appliances); Other (please specify)

Let us now discuss your household's regular spending and saving decisions. These are decisions about your day to day life, and your ongoing saving and spending choices (e.g., groceries, gas, utilities).

32. How often do you review and plan for your household's regular spending and savings?

    Daily; Once a week; Once every two weeks; Once a month; Once every (insert text); Never

33. When you review or plan for your household's regular spending and savings, how far in advance do you usually try to plan for?

    Less than 2 weeks; Between 2 and 4 weeks; Between 1 and 2 months; Between 2 and 3 months; Between 3 and 6 months; Between 6 and 9 months; Between 9 and 12 months; More than 12 months

34. Do you try to stick to a monthly or weekly plan or rules when making decisions about your household's spending or savings, or do your plans frequently change depending on circumstances?

    We are able to stick to a monthly or weekly plan or rules; we try but cannot easily stick to a plan because things are always changing; we do not try to stick to a plan or rules

35. How many of your household's bills are you usually able to pay every month?

    We generally pay all of our bills within the month; we cannot usually pay all the bills, so we try to repay the ones that are most overdue first; we cannot usually pay all the bills, so we decide each month which bills to pay and which ones to roll over; Other (please specify)

36. How often are you able to pay your household credit card balances in full?

    Always (every month); Most months, but not all; In some months; Almost never (in very few months); Never

37. How often are you able to make your household full rent, mortgage payments, auto-loan payments and other loan payments on time?

    Always (every month); Most months, but not all; In some months; Almost never (in very few months); Never

A-7.3 Hurdles, problems, and response to news/shocks

38. Do you typically feel that you and your household have enough money to meet your basic spending needs, like on food, housing, health, and other necessities?

    Yes; No

39. Do you feel that you and your household can spend and save money the way you would like, or do you feel that there are things preventing you from spending and saving the way you would like?

    We do not feel at all free to spend and save the way we would like;
    We feel somewhat free to spend and save the way we would like;
    We feel completely free to spend and save the way we would like

40. How relevant is each of the following obstacles in preventing you and your household from spending and saving as you would like?

    N.B. Each option is evaluated on a scale "Not at all relevant," "Somewhat relevant," "Very relevant," Extremely relevant."

    We have large recurring payments that we have to make (e.g., on rent, utilities, mortgage payments, etc.);
    Our checking and saving accounts are almost empty and we are near our credit card limit;
    We cannot afford some pricier items, although we need them (e.g., appliances, furniture, a car, etc.);
    We have to save too much money for future goals (e.g., college tuition, retirement, etc.);
    We do not have good investment opportunities with high returns

41. When you are making your spending and savings decisions, how relevant is each of the following concerns in preventing you and your household from spending and saving the way you would like?

    N.B. Each option is evaluated on a scale "Not at all relevant," "Somewhat relevant," "Very relevant," Extremely relevant."

    Our concern about someone in our household losing their job;
    Our concern about having a lower income in the future;

Our concern about incurring large expenses due to health-related events or other forms of family support (e.g. nursing homes);
Our concern about not being able to access credit (e.g., obtain a mortgage, loan, or credit card) in the future;
Our concern about not being able to repay our debts in the future;
Our concern that the value of our real estate properties might go down;
Our concern that the value of our financial assets might go down;
Our concern that our business may need to shut down or file for bankruptcy;
Our concern about not having enough money to meet basic needs during retirement;
Our concern that our investments and retirement savings will not grow fast enough due to low returns

42. How certain or uncertain are you about your total household income over the next 12 months?

    Extremely certain; Very certain; Somewhat certain; Neither certain nor uncertain; Somewhat uncertain; Very uncertain; Extremely uncertain

43. How concerned are you that your household will struggle to meet debt repayments (e.g., mortgage payments, loan payments, and credit card payments) or struggle to access credit (e.g., obtain a mortgage, loan, or credit card) over the next 12 months?

    Not concerned at all; Somewhat concerned; Very concerned; Extremely concerned

44. How concerned are you by large, unexpected expenses that might arise due to health-related events other than COVID-19 or some form of family support (e.g., nursing homes and other long-term care support for the elderly) over the next 5 years?

    Not concerned at all; Somewhat concerned; Very concerned; Extremely concerned

45. How concerned are you that you or someone else in your household might struggle financially during retirement?

    Not concerned at all; Somewhat concerned; Very concerned; Extremely concerned

46. How do you think the value of your household's financial assets will change over the next 12 months?

    Significantly decrease; Slightly decrease; Stay the same; Slightly increase; Significantly increase

47. What is the maximum unexpected and large emergency expense that your household would be able to cover without running into trouble if it arose today (using all the ways in which you would typically cope, e.g., your credit cards or by borrowing money)?

    $0-$199; $200-$499; $500-$999; $1,000-$1,499; $1,500-$1,999; $2,000-$4,999; $5,000-$9,999; $10,000-$19,999; $20,000-$49,999; $50,000 or more

A-7.4 Usual spending and saving behavior

48. In practice, how much does your household's monthly spending vary from month to month?

    Our spending stays almost the same from month to month;
    Our spending changes slightly from month to month;

Our spending changes moderately from month to month;
Our spending changes a lot from month to month

49. How often does your household face unexpected or unplanned expenses larger than $1,000?

    Once a week; Once a month; Once every 3 months; Once a year; Almost never

50. The total monthly spending of every US household can be divided into two categories:

    Committed spending: housing-related expenditures such as mortgage and rent payments, health and other insurance payments, necessary transportation costs, and all the other expenses that cannot be easily adjusted or delayed.
    Adjustable spending: spending on food, entertainment, personal care, and all the other expenses that can be easily adjusted or delayed.

    Thinking about your household's usual total monthly spending, please provide an estimate of the share of committed and adjustable spending for your household.

    Note that the total should add up to 100%, where 100% represents your household's usual total monthly spending.

    Fill two bars 0-100 (one for committed spending, one for adjustable spending)

51. People sometimes buy things that they later wish they had not bought. How often do you or other household members make purchases that you later regret? [question from Parker (2017)]

    Never; Rarely; Sometimes; Often; Very often

52. In general, how willing or unwilling are you to give up something that is beneficial for you today in order to benefit more from that in the future? [question from Falk et al. (2018)]

    Please use a scale from 0 to 10, where 0 means "completely unwilling to give up" and a 10 means you are "very willing to give up".

    Scale 0-10

53. In general, how willing or unwilling are you to take risks? [question from Falk et al. (2018)]

    Please use a scale from 0 to 10, where 0 means "completely unwilling to take risks" and a 10 means you are "very willing to take risks".

    Scale 0-10

54. **Attention question 3.** This is a question to check whether you are still paying attention and reading the questions carefully. Please select both "Somewhat unfair" and "Very fair" to continue.

    Very unfair; Somewhat unfair; Somewhat fair; Very fair

A-7.5 Elicitation of iMPCs and iMPDs using hypothetical scenarios

N.B. Below: 50% of respondents receive a fixed shock worth $1,000; 50% of respondents receive a proportional shock worth 10 percent of household total net annual income. Randomized formulations in square brackets.

55. 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

N.B. Below: 50% of respondents see the positive income shock (blocks in A-7.5.1, A-7.5.2); 50% of respondents see the negative income shock (blocks in A-7.5.4, A-7.5.5).

A-7.5.1 Positive income shock received right away

56. 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) / $1,000]. 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:

    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.
    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.
    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.

    Click on the arrow on the right to proceed.

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

    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 be saved for future use.

    Matrix to allocate the income shock between additional spending and additional debt repayments over 4 quarters

    N.B. We do not allow for negative values for spending and debt repayments. When respondents insert a negative value we do not allow them to move to the following page and we display the message:

    You cannot insert negative values.

    N.B. We allow them to have MPC > 1. Once they reach 1 in the matrix, we show them a message that informs that their answers suggest they are planning to increase spending and debt repayments relative to their previous plans by more than the amount they receive with

the one-time payment. This means that they will use other available resources they have. we propose to show them the following message:

The total that you are allocating to spending and debt repayments is greater than the one-time payment you are receiving. This means that after receiving the one-time payment you plan to use some of your existing funds to increase your spending or debt repayments even further.

A-7.5.2 Positive income shock in the future

N.B. Below: 50% of respondents receive a shock in 3 months; 50% of respondents receive a shock in 6 months. Randomized formulations in square brackets.

58. 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 transfers and taxes) / $1,000]. 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 [3/6] months from now.

    Will you and your household be able to increase spending and debt repayments over the next [3/6] months ahead of the one-time payment?

    Yes; No

59. Suppose that [3/6] months from now you and your household receive a one-time payment of the following amount: $...

    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 be saved for future use.

    Matrix to allocate the income shock between additional spending and additional debt repayments over different quarters. The [first/first and second] rows [i.e., quarter 1/quarters 1 and 2] are constrained to be zero depends on whether "Yes" was selected to 58

    N.B. We show the same messages as in 57.

A-7.5.3 Feedback Matrix - Positive Shock

60. Do you think that this last set of questions about the one-time payment allocation was clear?

    Yes; No

61. Do you have any comments or feedback about these questions?

    (Insert Text)

A-7.5.4 Negative income shock received right away

62. Suppose that today you learn that you and your household will face an unexpected one-time expense worth [approximately 10 percent of your total household annual income (after transfers and taxes)/$1,000]. For instance, you may be facing an unexpected tax payment, medical bill, fine, home repair cost, or car repair cost that cannot be postponed. This one-time expense is due in a few days.

    Now, consider ways in which you and your household could deal with this expense:

    Reduce spending: reduce 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.) relative to what you have already planned.
    Reduce debt repayments or increase borrowing: reduce principal and interest payments to reimburse outstanding debts (e.g., credit card debts, mortgages, student and consumer loans, etc.) or increase borrowing (e.g., take a new loan, take cash advances on a credit card, etc.) relative to what you have already planned.
    Draw from savings: tap into checking or savings accounts, sell financial or physical assets, etc.

    We would like to understand how you and your household would deal with this one-time expense by reducing spending and debt repayments in the next few quarters.

    Click on the arrow on the right to proceed.

63. Suppose that today you and your household face a one-time expense of the following amount: $...

    Please enter by how much you would reduce spending and debt repayments, or increase borrowing, out of this one-time expense in different 3-month periods. Note that if your planned reduction in spending or debt repayments and your planned increase in borrowing are not sufficient to cover the expense, it means that you have to dip into your existing savings.

    Matrix to allocate the income shock between: "Reduce spending by:" and "Reduce debt repayments or increase borrowing by:" over 4 quarters

    N.B. We do not allow for negative values for reduction in spending and debt repayments. When respondents insert a negative value we do not allow them to move to the following page and we display the message:

    You cannot insert negative values.

    N.B. we allow them to have MPC $>$ 1. Once they reach 1 in the matrix, we show them a message:

    The total reduction in spending and debt repayments is greater than what is needed to cover the expense you are facing. This means that after facing the one-time expense you plan to cut your spending and debt repayments by more than the amount of the unexpected expense.

A-7.5.5 Negative income shock in the future

N.B. Below: 50% of respondents receive a shock in 3 months; 50% of respondents receive a shock in 6 months. Randomized formulations in square brackets.

64. Consider a hypothetical scenario identical to the question above, except that today you learn that you and your household will face a future one-time expense worth [approximately 10 percent of your total household annual income (after transfers and taxes)/$1,000]. For instance, you may be facing an unexpected tax payment, medical bill, fine, home repair cost, or car repair cost that cannot be postponed. This one-time expense is due [3/6] months from now.

    Will you and your household reduce spending, debt repayments, or borrow more over the next [3/6] months ahead of the expense?

    Yes; No

65. Suppose that [3/6] months from now you and your household face a one-time expense of the following amount: $...

    Please enter by how much you would reduce spending and debt repayments, or increase borrowing, out of this one-time expense in different 3-month periods. Note that if your planned reduction in spending or debt repayments and your planned increase in borrowing are not sufficient to cover the expense, it means that you have to dip into your existing savings.

    Matrix to allocate the income shock between additional spending and additional debt repayments over different quarters. The [first/first and second] rows [i.e., quarter 1/quarters 1 and 2] are constrained to be zero depends on whether "Yes" was selected to 64

    N.B. We show the same messages as in 63.

A-7.5.6 Feedback Matrix - Negative Shock

66. Do you think that this last set of questions about how to face a one-time expense was clear?

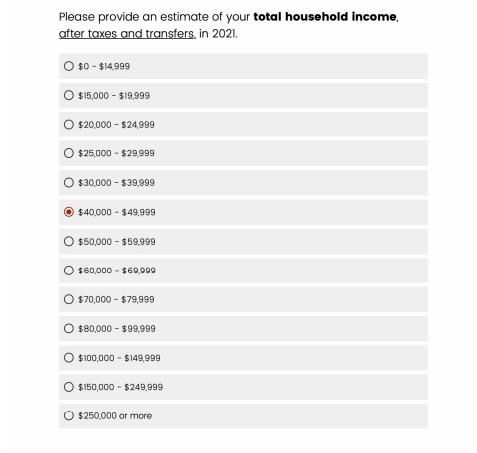
    Yes; No

67. Do you have any comments or feedback about these questions?

    (Insert text)

Figure A-52: Eliciting *i*MPCs and *i*MPDs I

(a) Reporting net income



(b) Description of the scenario

Positive shock

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.

Negative shock

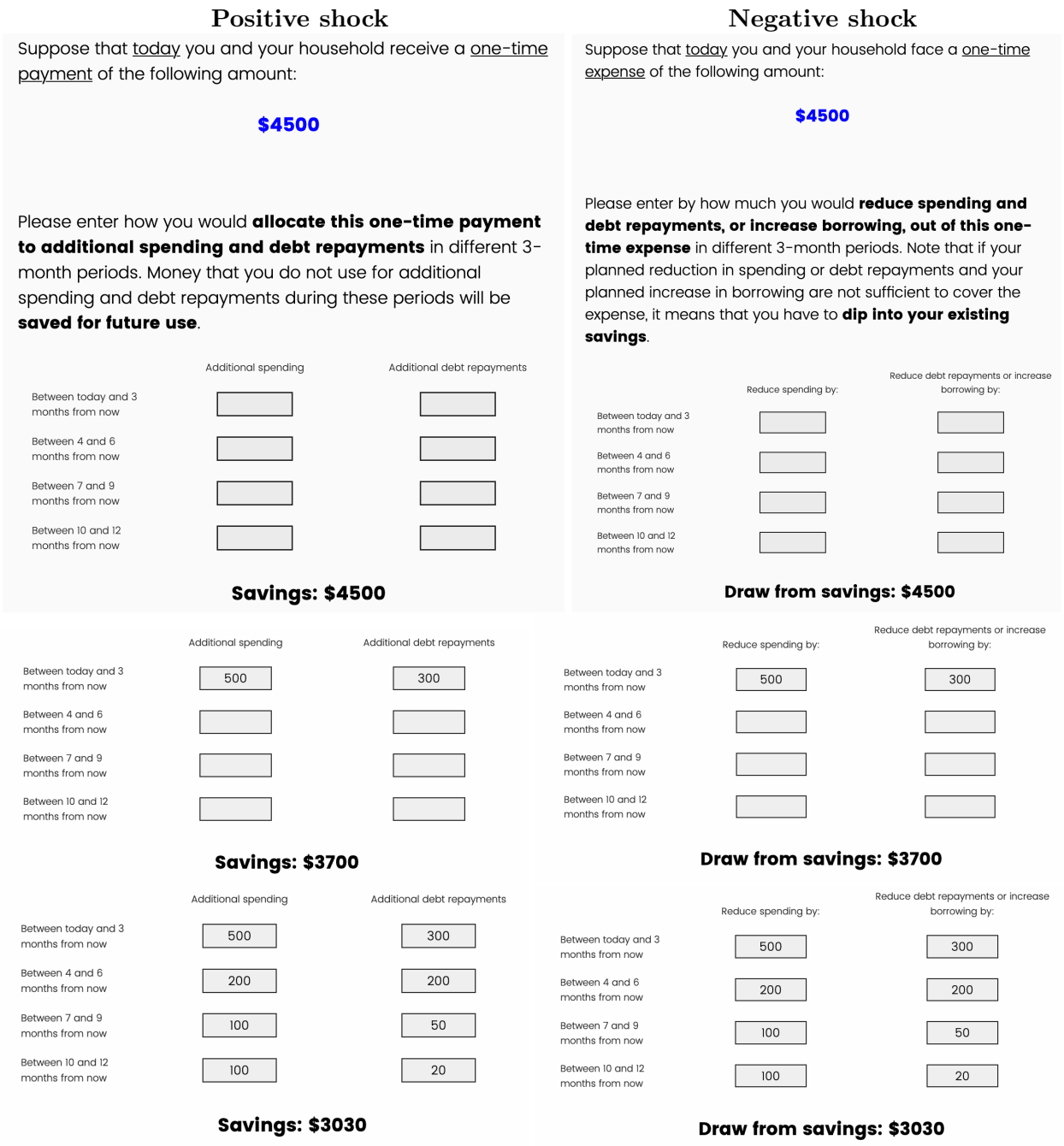
Suppose that today you learn that you and your household will face an **unexpected, one-time expense** of approximately 10 percent of your total household annual income (after taxes and transfers). For instance, you may be facing an unexpected tax payment, medical bill, fine, home repair cost, or car repair cost that cannot be postponed. This one-time expense is due in a few days.

Now, consider ways in which you and your household could deal with this expense:

1. **Reduce spending:** reduce 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.) relative to what you have already planned.
2. **Reduce debt repayments or increase borrowing:** reduce principal and interest payments to reimburse outstanding debts (e.g., credit card debts, mortgages, student and consumer loans, etc.) or increase borrowing (e.g., take a new loan, take cash advances on a credit card, etc.) relative to what you have already planned.
3. **Draw from savings:** tap into your checking or savings accounts, sell financial or physical assets, etc.

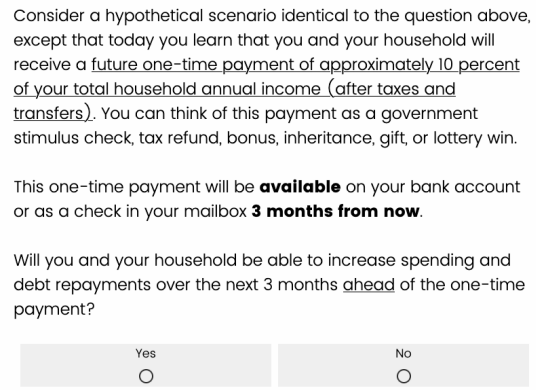
We would like to understand how you and your household would deal with this one-time expense by reducing spending and debt repayments in the next few quarters.

(c) Matrix question



Notes. We show an example of our elicitation strategy for iMPCs and iMPDs (over 4 quarters) out of a proportional positive (left panels) and negative (right panels) income shocks worth 10% of total household net annual income, received in the same quarter of the news. After reporting their total household net annual income (Panel A) and after being presented with the scenario (Panel B), the respondents allocate their income shock (computed automatically as a fraction of the income shock) over 4 quarters between spending and repaying debts (Panel C). Savings are computed residually. Boxes can be filled only with non negative numbers.

Figure A-53: Eliciting *i*MPCs and *i*MPDs II



Notes. When the income shock is received one or two quarters after the news, respondents are shown the above scenario. In case they answers not to be able to anticipate the income shock, the matrix question (Figure A-52, Panel C) has already zeros automatically inserted in the first or the first two rows, corresponding to quarter 1 and 2 (the number of rows depends on whether the income shock is received in 1 or 2 quarters). Respondents cannot modify these rows. Otherwise, if they can anticipate the income shock, we show them the same matrix question as in Figure A-52, Panel C.

A-7.6 Responding to income shocks

A-7.6.1 Positive income shock

Eliciting margins of adjustment

Suppose that today you learn that your household will receive an unexpected one-time payment worth [$1,000/10% of net income] (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 your household would react to this unexpected payment.

68. Would you do any of the following after receiving the unexpected one-time [$1,000/10% of net income] payment?

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

    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

69. Is there any other action you would take in response to the unexpected one-time [$1,000/10% of net income] payment?

    (Insert text)

    Eliciting reasons

    N.B. The following questions are shown as described in 5.1 depending on the answer to question 68. Detailed adjustment margins in question 68 are combined as shown in Appendix A-2.1.

    N.B. Each answer option of questions below (except question 76) is evaluated on a scale "Not at all relevant," "Somewhat relevant," "Very relevant," Extremely relevant."

70. You answered that you would increase your spending in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for increasing your 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.

71. You answered that you would increase your spending in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not increasing your spending by even 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.

72. You answered that you would repay some bills and debts (including your credit card balances or any other loan you have) in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for repaying some bills and debts?

We have too many outstanding loans and debts;
We have maxed out or are close to maxing out our credit card(s);
We want to maintain or improve our credit score;
We are late on our credit card payments/bills or loan payments;
We want to make sure that if we need to borrow or take out credit again in the future, we will be able to do so;
We don't like having debt so we try to reduce them whenever we can;
We need to repay friends or family members who lent us money;
We worry about what could happen and that we may not be able to repay our bills or debts in the future. So, we prefer paying whatever we can now.

73. You answered that you would repay some bills and debts (including your credit card balances or any other loan you have) in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not repaying some bills and debts by even more?

We do not have any additional outstanding bills, credit card payments, or other overdue loan payments;
We do not have any outstanding loans or debts;
The interest rates on all our loans are low;
Even if we have some outstanding bills, credit card payments, or other loan payments, we

already have a plan for how to repay them over time;
We mostly stick to our regular monthly payments for all our loans or credit cards. It is too complicated to make any change to our plans;
This amount of money wouldn't make much of a difference so we'd rather not think about which additional loans to repay;
Even if we have some additional outstanding bills, credit card payments, or other loan payments on which we are late, we don't want to think about it more now

74. You answered that you would save and invest in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for saving and investing?

In order to meet our long-term goals, we need to save as much as we can;
We don't have as much in savings as we'd like right now;
We like saving extra money whenever we can;
We are usually not able to save as much as we would like;
We worry about unexpected things that can happen in the future, so we'd rather save the money;
We worry that in the future we may struggle to access credit (e.g., obtain a loan or credit card) in case we need some money. So, we prefer to save this money;
We want to invest and take advantage of the current market returns and rates;
We don't need to buy anything right now or over the next several months that we haven't already budgeted for;
We plan to use the money for some purchases or activities in a few months, but not now;
We are worried about rising prices, so we prefer to save for future needs.

75. You answered that you would save and invest in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not saving and investing by even more?

We don't need to save more;
We are well on track to meet our financial goals;
We don't worry too much about future problems because we have enough savings if something comes up;
We would like to save more, but we don't want to think about it right now;
We wouldn't be able to invest more of this money well right now;

76. (If "No one else" is not selected in 14) You answered that you would cut back on your working hours in response to an unexpected [$1,000/10% of net income] payment. Who is going to cut back on working hours in your household?

Please select all that you think apply to you.

Me; Other (please specify)

77. You answered that you would cut back on your working hours in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for cutting back on your working hours?

Our main jobs have flexible hours and we can easily adjust our working hours from month to month;
We have second jobs with flexible hours and can easily adjust our working hours from month to month;

We already work overtime, so we'd like to reduce our work hours;
We usually work extra hours in some paid activity (such as freelance, driving for a ride-sharing company, babysitting, etc.) that we would be willing to cut down if we could.

78. You answered that you would cut back on your working hours in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not cutting back on your working hours by even more?

Our current jobs do not allow us to adjust hours more;
We do not work extra hours in any paid activity (such as in a freelance, driving or ride-sharing company babysitting, etc.);
We do not want to reduce our income from working by more;
It's too complicated to change our work hours further.

79. You answered that you would not increase your spending in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not increasing your spending?

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

80. You answered that you would not repay bills and debts (including your credit card balances or any other loan you have) in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not repaying bills and debts?

We do not have any outstanding bills, credit card payments, or overdue loan payments;
We do not have any outstanding loans or debts;
The interest rates on all our loans are low;
Even if we have some outstanding bills, credit card payments, or loan payments, we already have a plan for how to repay them over time;
We stick to our regular monthly payments for all our loans or credit cards. It is too complicated to make any change to our plans;
This amount of money wouldn't make much of a difference so we'd rather not think about which loans to repay;
Even if we have some additional outstanding bills, credit card payments, or loan payments on which we are late, I don't want to think about it right now.

81. You answered that you would not save and invest in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not saving and investing?

We don't need to save more;
We are well on track to meet our financial goals;
We don't worry too much about the future because we have enough savings if something comes up;
We would like to save more, but we don't want to think about it right now;
We wouldn't be able to invest this money well right now;

82. You answered that you would not cut back on your working hours in response to an unexpected [$1,000/10% of net income] payment. How relevant are the following reasons for not cutting back on your working hours?

Our current jobs do not have flexible hours;
We want to leave our income from working unchanged;
It's too complicated to change our work hours.

A-7.6.2 Negative income shock

Eliciting margins of adjustment

Suppose that today you learn that your household faces an unexpected one-time expense of [$1,000/10% of net income] (e.g., a tax payment, medical bill, fine, home repair, or car repair), due in a few days.

We will now ask you a few questions about how you and your household would deal with this unexpected expense.

83. Would you do any of the following if you had to deal with this unexpected one-time [$1,000/10% of net income] expense?

Please select all that apply.

Reduce spending on non-essential items;
Reduce spending on essential items;
Postpone some bigger expenses we were planning (e.g., car, appliances, home repairs, etc.);
Put it on our credit card(s) and pay it off in full at the next statement;
Put it on our credit card(s) and pay it off over time;
Use a bank loan or line of credit;
Borrow from a friend or family member;
Use a payday loan, deposit advance, or overdraft;
Leave some of our bills unpaid;
Use money from our checking or savings account(s) or cash;
Dip into our emergency fund;
Sell some financial assets (e.g., stocks, etc.);
Dip into retirement funds;
Sell some big ticket items (e.g., car, jewelry, etc.);
Sell some small ticket items (e.g., computer, car, etc.);
Work extra hours to make more money;
Leave part or all of this expense unpaid because I cannot find ways of covering it

84. Is there any other action you would take in response to the unexpected one-time [$1,000/10% of net income] payment?

(Insert text)

Eliciting reasons

N.B. The following questions are shown as described in 5.1 depending on the answer to question 83. Detailed adjustment margins in question 83 are combined as shown in Appendix A-2.1.

N.B. Each answer option of questions below (except question 91) is evaluated on a scale "Not at all relevant," "Somewhat relevant," "Very relevant," Extremely relevant."

85. You answered that you would cut your spending in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for cutting your spending?

    We can no longer afford some items we need because of this expense;
    We can cut back on some purchases that we don't truly need;
    We was close to making a larger purchase (e.g., a car, appliances, etc.) and this expense will prevent me from making it;
    We can reduce our spending by switching to less expensive items and by cutting down on some leisure activities;
    We don't have time to think about and organize other ways of adjusting to this expense, so we simply prefer cutting back on our spending;
    It is easier to decide how to cut down our spending rather than making other adjustments;
    It is better to reduce our spending because other such unexpected expenses may be looming and we need to be prepared.

86. You answered that you would cut your spending in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not cutting your spending by even more?

    We mostly spend on essential items and cannot cut down further;
    We spend on some non-essential items, but we do not want to forgo them;
    We prefer to keep our spending at its current level.;
    We are used to our lifestyle and we don't want to change our spending habits too much.;
    We have a hard time reducing our spending by more because we always end up buying things;
    We don't want to think too much about how to reduce our spending, so it's easier to adjust in other ways;
    It is hard to decide how to reduce our spending, so it's easier to adjust in other ways;
    Many of our expenses are hard to temporarily suspend or cut (e.g., mortgage or rent payments, subscriptions, phone or internet plans)

87. You answered that you would borrow in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for borrowing?

    We would be able to repay the loan or credit card balance quickly;
    We would be able to repay the loan or credit card balance over time;
    We would prefer putting this on our credit card or taking out a loan now and thinking about it later;
    The easiest thing would be to use our credit card(s) or take out a bank loan;
    The easiest thing would be to borrow from friends or family.

88. You answered that you would borrow in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not borrowing by even more?

    We could borrow more money or put more of this expense on our credit card, but we worry that we already have too much outstanding debt;
    We could borrow more money or put more of this expense on our credit card, but we prefer to pay for it in other ways;
    We wouldn't be able to get a larger loan from a bank.;

We are already close to maxing out all our credit cards;
We want to maintain or improve our credit score;
We don't want to borrow more from friends or family;
None of our friends or family would lend me more money;
Borrowing more money from a bank or other lender would be too complicated and time-consuming;
We worry about what could happen in the future and not being able to repay our credit cards or loans. So, we prefer not to borrow more.

89. You answered that you would dip into your savings or sell your financial assets in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for dipping into your savings or selling your financial assets?

    We are well on track to meet our financial goals and it's fine to dip into our savings;
    We don't worry too much about future problems because we have enough savings if something comes up;
    We specifically saved for such unexpected expenses;
    Our savings are easily accessible (e.g., in a checking account or cash);
    We prefer using our savings for this expense and thinking about how to replenish them later.

90. You answered that you would dip into your savings or sell your financial assets in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not dipping into your savings or not selling your financial assets by even more?

    We worry about the future and need to keep money stashed away;
    We need savings to meet our financial goals;
    We like having at least a certain amount stashed away;
    We do not have enough savings;
    We cannot easily access additional savings for immediate use (e.g., they are all in stocks or bonds that we cannot easily sell or in retirement accounts);
    If we try to draw more from our savings, there are penalties (e.g., for early withdrawal);
    We want to take advantage of the current market returns, invest as much as we can, and not dip into our savings or investments too much

91. You answered that you would work extra hours in response to an unexpected [$1,000/10% of net income] expense. Who would work extra hours in your household?

    Me; our spouse/partner; Other (please specify)

92. You answered that you would work extra hours in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for working extra hours?

    Our jobs have flexible hours;
    We can choose to put in some overtime hours at our jobs;
    We can find an additional job quickly;
    We can work extra hours in another job (such as in a freelance job, driving for a ride-sharing company, babysitting, etc.);
    We prefer earning a bit more to cover this expense rather than putting more on our credit cards, dipping into savings, or reducing spending.

93. You answered that you would work extra hours in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not working extra hours by even more?

Our current job(s) would not allow me to increase our hours more;
Our jobs do not pay extra for overtime hours beyond a certain limit;
We cannot find or get other jobs to work extra hours (such as in a freelance job, driving for a ride-sharing company, babysitting, etc.);
Our current job(s) would allow me to work extra hours, but it would be complicated to do so;
We don't have the time to work any more than we already do;
We don't want to work more than we already do

94. You answered that you would not cut your spending in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not cutting your spending?

We spend only on essential items and cannot cut down further;
We spend on some non-essential items, but we do not want to forgo them;
We prefer to keep our spending at its current level;
We are used to our lifestyle and we don't want to adjust our spending habits;
We have a hard time reducing our spending because we always end up buying things;
We don't want to think about how to reduce our spending, so it's easier to adjust in other ways;
It's hard to decide exactly how to reduce our spending, so it's easier to adjust in other ways;
Most of our expenses are hard to temporarily suspend or cut (e.g., mortgage or rent payments, subscriptions, phone or internet plans).

95. You answered that you would not borrow in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not borrowing?

We could borrow money or put this on our credit card, but we worry that we already have too much outstanding debt;
We could borrow money or put more of this expense on our credit card, but we prefer to pay for it in other ways;
We wouldn't be able to get a loan from a bank to cover this expense;
We have already maxed out or am close to maxing out all our credit cards;
We want to maintain or improve our credit score;
We don't want to borrow from friends or family;
None of our friends or family would lend me the money;
Borrowing from a bank or other lender would be too complicated and time-consuming;
We worry about what could happen and that we may not be able to repay our credit cards or loans in the future. So, we prefer not to borrow.

96. You answered that you would not dip into your savings and not sell your financial assets in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not dipping into your savings or not selling your financial assets?

We worry about the future and need to keep money stashed away;
We need savings to meet our financial goals;
We like having at least a certain amount stashed away;
We do not have enough savings;
We cannot easily access savings for immediate use (e.g., they are all in stocks or bonds that

we cannot easily sell or in retirement accounts);
If we try to draw from our savings, there are penalties (e.g., for early withdrawal);
We want to take advantage of the current market returns, invest as much as we can, and not dip into our savings or investments.

97. You answered that you would not work extra hours in response to an unexpected [$1,000/10% of net income] expense. How relevant are the following reasons for not working extra hours?

    Our current job(s) don't have flexible hours;
    Our jobs don't pay extra for overtime hours;
    We would need to find another job (such as a freelance job, driving for a ride-sharing company, babysitting, etc.) and we cannot find one;
    Our current job(s) would allow me to work extra hours, but it would be complicated to do so;
    We don't have the time to work any more than we already do;
    We don't want to work more than we already do;
    We don't currently have a job and am not trying to find one.

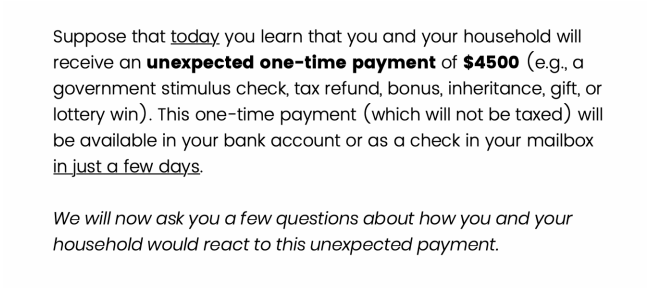
A-7.6.3 Feedback Matrix

98. Do you think that this last set of questions about how your household would respond to an unexpected one-time payment and expense was clear?

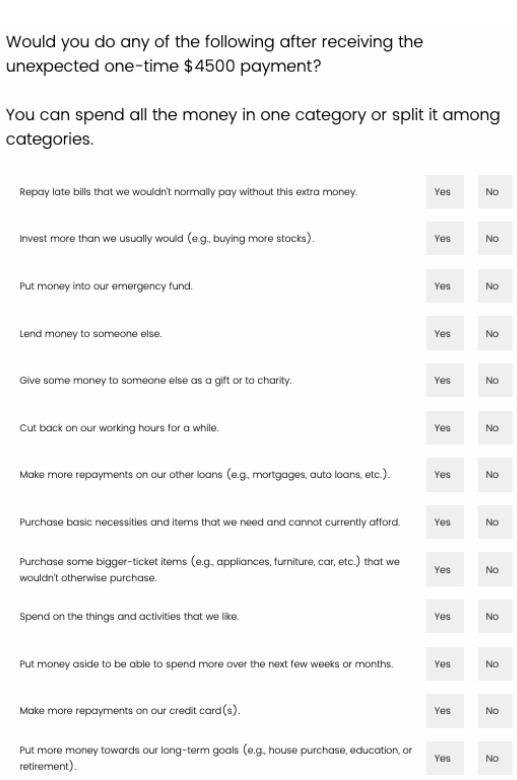
    Yes; No

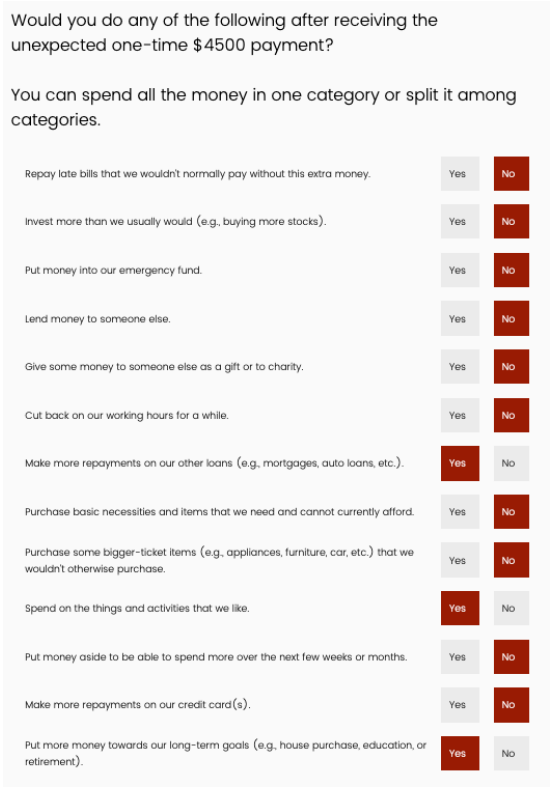
Figure A-54: Eliciting the adjustment margins

(a) Description of the scenario

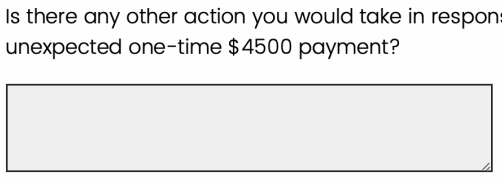


(b) Closed-ended question





(c) Open-ended question

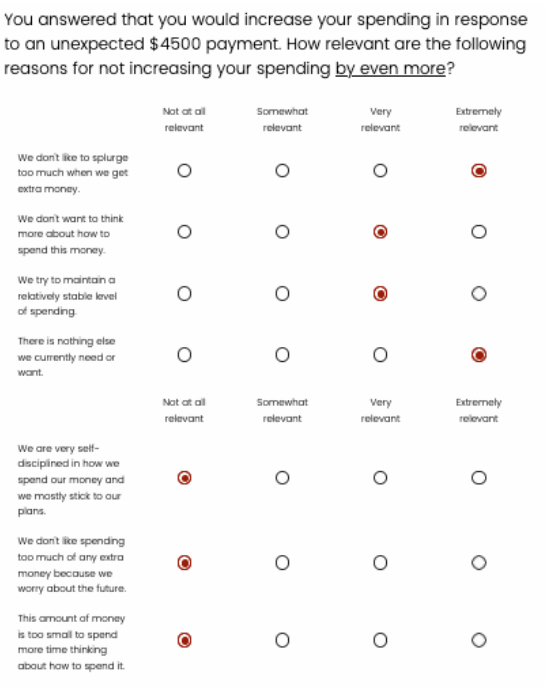


Notes. We show an example of our elicitation strategy for adjustment margins out of a positive shock worth 10% of total household net income (corresponding to a bracket of $40000-$49999). After being presented with the scenario (A), the respondents can select multiple options from a forced choice format (B), answering the question "Would you do any of the following after receiving the unexpected one-time payment?" In the example above the respondent behaves adjusting savings ("Put more money..."), spending ("Spend more on the things..."), and debt ("Make more payments..."), but not adjusting working hours. Finally, we show an open-ended question (C) asking whether the respondent would take any other action in response to the unexpected payment.

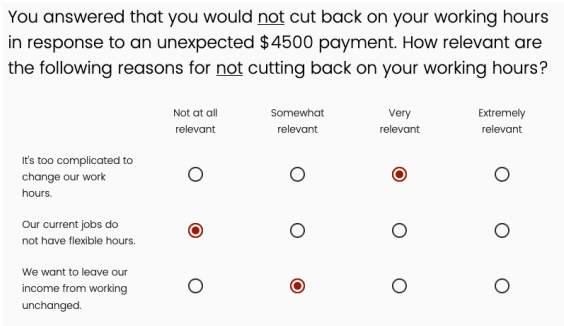
Figure A-55: Eliciting the reasons

(a) Why adjust spending?

(b) Why not adjust spending by more?



(c) Why not adjust working hours?



Notes. We show a continuation of the example of Figure A-54 of our elicitation strategy for reasons for using/not using adjustment margins out of a positive income shock. Since respondents in the example adjust spending, savings, and borrowing, they are asked which are the reasons for spending (A) and for not spending by more (B), for saving and for not saving by more (not shown in the figure), for repaying debts and for not repaying debts by more (not shown in the figure), and for not cutting working hours (C).

A-7.7 Assets and debts

99. Do you and your household own or rent your primary residence?

    Own; Rent

100. (If "Rent" to 99) Please provide an estimate of the monthly rent (excluding utilities) that you pay for your primary residence.

    $0-$399; $400-$499; $500-$649; $650-$799; $800-$949; $950-$1,099; $1,100-$1,299; $1,300-$1,499; $1,500-$2,499; $2,500 or more

101. (If "Own" to 99) Please provide an estimate of the value of your primary residence (if you were to sell it today).

    $0-$49,999; $50,000-$99,999; $100,000-$149,999; $150,000-$199,999; $200,000-$249,999; $250,000-$299,999; $300,000-$349,999; $350,000-$449,999; $450,000-$649,999; $650,000 or more

102. (If "Own" to 99) Do you have a mortgage on your primary residence?

    Yes; No

103. (If "Yes" to 102) Please provide an estimate of the outstanding amount of the mortgage on your primary residence. In other words, if you had to fully repay the rest of your mortgage today, how much would you have to pay?

    Note that we are only interested in the outstanding principal, and not interests, fees, etc.

    $0-$24,999; $25,000-$49,999; $50,000-$74,999; $75,000-$99,999; $100,000-$124,999; $125,000-$149,999; $150,000-$199,999; $200,000-$249,999; $250,000-$349,999; $350,000 or more

104. (If "Yes" to 102) Please provide an estimate of the current monthly mortgage payment for your primary residence.

    $0-$449; $450-$649; $650-$799; $800-$999; $1,000-$1,199; $1,200-$1,399; $1,400-$1,699; $1,700-$1,999; $2,000-$2,999; $3,000 or more

105. Do you and your household own any real estate properties other than your primary residence?

    Yes; No

106. (If "Yes" to 105) Please provide an estimate of the total value of your real estate properties other than your primary residence (the amount you would receive if you were to sell them today).

    $0-$19,999; $20,000-$29,999; $30,000-$49,999; $50,000-$99,999; $100,000-$149,999; $150,000-$199,999; $200,000-$299,999; $300,000-$499,999; $500,000-$899,999; $900,000 or more

107. (If "Yes" to 105) Do you have one or more mortgages on your other real estate properties?

    Yes; No

108. (If "Yes" to 107) Please provide an estimate of the outstanding amount of the mortgage(s) on other real estate properties. In other words, if you had to fully repay the rest of your mortgage today, how much would you have to pay?

    Note that we are only interested in the outstanding principal, and not interests, fees, etc.

    $0-$14,999; $15,000-$24,999; $25,000-$49,999; $50,000-$74,999; $75,000-$99,999; $100,000-$149,999; $150,000-$199,999; $200,000-$299,999; $300,000-$449,999; $450,000 or more

109. (If "Yes" to 107) Please provide an estimate of the current monthly mortgage payment(s) for your other real estate properties.

$0-$449; $450-$649; $650-$799; $800-$999; $1,000-$1,199; $1,200-$1,399; $1,400-$1,699; $1,700-$1,999; $2,000-$2,999; $3,000 or more

110. Do you and your household own shares in any business activity that you directly manage?

Yes; No

111. (If "Yes" to 110) Please provide an estimate of the total net value of your household's shares in these business activities (the amount you would receive if you were to sell them today)?

Note that by total net value we mean the total value of the business assets minus the total value of its debts/liabilities.

$0-$9,999; $10,000-$24,999; $25,000-$49,999; $50,000-$74,999; $75,000-$99,999; $100,000-$199,999; $200,000-$399,999; $400,000-$799,999; $800,000-$2,499,999; $2,500,000 or more

112. Do you and your household own any cars, motorcycles, or other motor vehicles?

Yes; No

113. (If "Yes" to 112) Please provide an estimate of the total value of the motor vehicles that you and your household own (the amount you would receive if you were to sell them today).

$0-$4,999; $5,000-$7,499; $7,500-$9,999; $10,000-$12,499; $12,500-$14,999; $15,000-$19,999; $20,000-$29,999; $30,000-$39,999; $40,000-$59,999; $60,000 or more

114. (If "Yes" to 112) Do you have any outstanding loans to finance the purchase of your household's motor vehicles?

Yes; No

115. (If "Yes to 114) Please provide an estimate of the outstanding amount of these loan(s). In other words, if you had to fully repay the rest of your loan(s) today, how much would you have to pay?

Note that we are only interested in the outstanding principal, not including interests, fees, etc.

$0-$2,499; $2,500-$4,999; $5,000-$7,499; $7,500-$9,999; $10,000-$12,499; $12,500-$14,499; $15,000-$19,999; $20,000-$24,999; $25,000-$39,999; $40,000 or more

116. (If "Yes to 114) Please provide an estimate of the current monthly payment(s) for these loans?

$0-$274; $275-$299; $300-$349; $350-$399; $400-$449; $450-$499; $500-$549; $550-$649; $650-$799; $800 or more

117. Do you and your household have any checking accounts?

Yes; No

118. (If "Yes" to 117) Please provide an estimate of the total amount of money in your checking account(s).

$0-$199; $200-$699; $700-$1,299; $1,300-$1,999; $2,000-$2,999; $3,000-$4,999; $5,000-$8,999; $9,000-$19,999; $20,000-$39,999; $40,000 or more

119. Do you and your household own any other short-term savings (savings/money market accounts, brokerage accounts or shares in money market mutual funds)?

Yes; No

120. (If "Yes" to 119) Please provide an estimate of the total amount of money currently held in your short-term savings account.

$0-$999; $1,000-$1,999; $2,000-$4,999; $5,000-$9,999; $10,000-$14,999; $15,000-$29,999; $30,000-$49,999; $50,000-$99,999; $100,000-$149,999; $150,000 or more

121. Do you and your household own any certificates of deposit?

Yes; No

122. (If "Yes" to 121) Please provide an estimate of the total amount of money currently held in your certificates of deposit.

$0-$1,999; $2,000-$4,999; $5,000-$9,999; $10,000-$14,999; $15,000-$24,999; $25,000-$39,999; $40,000-$59,999; $60,000-$99,999; $100,000-$249,999; $250,000 or more

123. Do you and your household own shares of mutual funds, ETFs (exchange-traded funds), or hedge funds?

Yes; No

124. (If "Yes" to 123) Please provide an estimate of the total value of these assets (the amount you would if you were to sell them today).

$0-$9,999; $10,000-$24,999; $25,000-$49,999; $50,000-$74,999; $75,000-$99,999; $100,000-$199,999; $200,000-$399,999; $400,000-$699,999; $700,000-$1,699,999; $1,700,000 or more

125. Do you and your household directly own any of the assets?

Do not include assets held in pension accounts or in any other account that you have already reported (e.g., money market mutual funds, mutual funds, etc.).

Please select all that apply.

US Treasury Bills, Treasury Bonds, and other government bonds; Municipal tax-exempt bonds (issued by a state, municipality, or county); Stocks; Corporate bonds; I do not directly own any of these assets

126. (If "US Treasury Bills" to 125) Please provide an estimate of the total value of your household's US Treasury Bills, Treasury Bonds, and other government bonds (the amount you would receive if you were to sell them today).

$0-$4,999; $5,000-$9,999; $10,000-$19,999; $20,000-$29,999; $30,000-$49,999; $50,000-$99,999; $100,000-$399,999; $400,000-$699,999; $700,000-$999,999; $1,000,000 or more

127. (If "Municipal tax-exempt bonds (issued by a State, Municipality or County)" to 125) Please provide an estimate of the total value of your household's municipal (tax-exempt) bonds (the amount you would receive if you were to sell them today).

$0-$4,999; $5,000-$19,999; $20,000-$39,999; $40,000-$89,999; $90,000-$119,999; $120,000-$299,999; $300,000-$449,999; $450,000-$699,999; $700,000-$1,499,999; $1,500,000 or more

128. (If "Stocks" to 125) Please provide an estimate of the total value of your household's stocks holdings (the amount you would receive if you were to sell them today).

$0-$999; $1,000-$2,999; $3,000-$4,999; $5,000-$9,999; $10,000-$24,999; $25,000-$49,999; $50,000-$99,999; $100,000-$199,999; $200,000-$599,999; $600,000 or more

129. (If "Corporate bonds" to 125) Please provide an estimate of the total value of your household's corporate bonds holdings (the amount you would receive if you were to sell them today).

$0-$4,999; $5,000-$9,999; $10,000-$29,999; $30,000-$64,999; $65,000-$119,999; $120,000-$299,999; $300,000-$599,999; $600,000-$999,999; $1,000,000-$1,399,999; $1,400,000 or more

130. Do you and your household own any retirement or pension accounts, such as 401K accounts or IRAs (individual retirement accounts)?

Yes; No

131. (If "Yes" to 130) Please provide an estimate of the total balance of your household's retirement or pension account(s).

$0-$9,999; $10,000-$14,999; $15,000-$29,999; $30,000-$49,999; $50,000-$74,999; $75,000-$99,999; $100,000-$149,999; $150,000-$324,999; $325,000-$699,999; $700,000 or more

132. Do you and your household have any credit cards?

Yes; No

133. (If "Yes" to 132) How many credit cards does your household have in total?

1; 2; ...; 9; 10 or more

134. (If "Yes" to 132) What is the cumulative monthly credit limit on your household's credit card(s)?

$0-$2,499; $2,500-$4,999; $5,000-$7,499; $7,500-$9,999; $10,000-$14,999; $15,000-$19,999; $20,000-$24,999; $25,000-$29,999; $30,000-$49,999; $50,000 or more

135. (If "Yes" to 132) On average, how much of the total credit card(s) limit does your household use in a given month?

Please note that 0 means you don't use any credit and 100 means you use all of your credit.

Slider (0-100)

136. (If "Yes" to 132) Please provide an estimate of the average interest rate applied to your household's credit card(s).

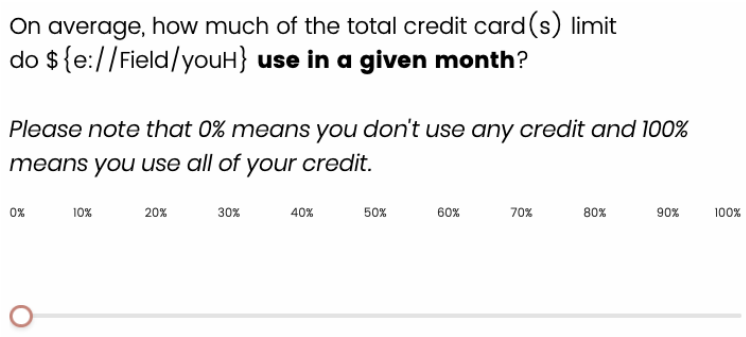
0.0%; 0.5%; 1.0%; ...; 30.0%

137. (If "Yes" to 132) Do you have any outstanding balance on your credit card(s) that you plan not to repay in the current billing period and to roll over into the future?

Yes; No

138. (If "Yes" to 137) Please provide an estimate of the total outstanding balance on your household's credit card(s).

FIGURE A-56: SLIDER AS SHOWN TO RESPONDENTS



Note that the total credit card outstanding balance is the amount of credit card debt that you plan not to repay in the current billing period and instead will roll over into the next period, after paying your most recent monthly bill(s).

$0-$249; $250-$499; $500-$999; $1,000-$1,499; $1,500-$2,499; $2,500-$3,999; $4,000-$5,999; $6,000-$8,999; $9,000-$14,999; $15,000 or more

139. Do you or your household have any outstanding student loans?

Yes; No

140. (If "Yes" to 139) Please provide an estimate of the outstanding amount of these student loan(s). In other words, if you had to fully repay the rest of your student loan(s) today, how much would you have to pay?

Note that we are only interested in the outstanding principal, not interests, fees, etc.

$0-$4,999; $5,000-$7,499; $7,500-$9,999; $10,000-$14,999; $15,000-$19,999; $20,000-$29,999; $30,000-$39,999; $40,000-$59,999; $60,000-$99,999; $100,000 or more

141. Do you have any other outstanding debts or loans that you did not previously report in this survey?

Yes; No

142. (If "Yes" to 141) Please provide an estimate of the outstanding amount of these other debts or loans. In other words, if you had to fully repay them today, how much would you have to pay?

$0-$9,999; $10-$24,999; $25,000-$49,999; $50,000-$99,999; $100,000 or more

143. What is the highest FICO credit score in your household?

579 or lower; 580-669; 670-739; 740-799; 800 or higher

144. Which of the two options best describes the financial position of your household?

Positive net worth: the total value of my household's assets is larger than the total value of its outstanding debts and loans; Negative net worth: the total value of my household's assets is lower than the total value of its outstanding debts and loans.

145. Does anyone in your household receive food stamps or use a food stamp benefit card?

Yes; No

146. Does anyone in your household receive cash assistance from a state or county welfare program such as welfare or welfare to work, TANF, general assistance, diversion payments or refugee cash?

Yes; No

147. Is anyone in your household not covered by health insurance?

Yes; No

148. Is anyone in your household covered by Medicaid, Medical assistance, or Medicare?

Yes; No

149. Is anyone in your household paying premiums for a life insurance plan?

Yes; No

A-7.8 Salient experiences

150. Do you think that your and your household's overall economic and financial situation has worsened or improved over the past 2 years?

Significantly worsened; Slightly worsened; Stayed the same; Slightly improved; Significantly improved

A-7.9 Co-holding puzzle

151. In previous parts of the survey, you said that your household's total credit card outstanding balance is around [amount computed from block A-7.7].

Note that the total credit card outstanding balance is the amount of credit card debt that you plan not to repay in the current billing period and instead will roll over into the next period.

Does this amount look correct to you?

Yes; No

152. (If "No" to 151) Please fill in the box with an estimate of your household's total credit card outstanding balance.

(Insert number)

153. In previous parts of the survey, you said that the total amount that your household currently has in checking accounts and other short-term saving accounts is around [amount computed from block A-7.7].

Does this amount look correct to you?

Yes; No

154. (If "No" to 153) Please provide an estimate of the total amount of money in your household's checking and other short-term saving account(s).

(Insert number)

155. (If identified as co-holder) Based on your previous answers, it seems like your household could repay some of your outstanding credit card debt with money in your checking and short-term saving account(s).

How relevant is each of the following reasons for rolling over credit card balances rather than at least partially repaying them?

Please indicate how relevant each of the following motivations is to you.

N.B. Each option is evaluated on a scale "Not at all relevant," "Somewhat relevant," "Very relevant," Extremely relevant."

We like to have a certain amount of cash in our checking and short-term saving account(s) available at all times;
Taking the cash from our checking and short-term saving account(s) is difficult or costly;
We already planned to cover our credit card outstanding balance with our easily accessible savings soon;
I now understand that this is a financial mistake;
The interest rate on our checking and short-term saving account(s) is higher than the interest rate on our credit card(s);
We are currently holding extra cash to make an investment or face a planned expense in the near future;
In my household we manage some of our financial accounts separately, so our choices are not always coordinated;
We are keeping some cash to repay other debts first, for example to cover mortgage payments, other loans, fines, or bills;
We feel safer holding extra cash since we are concerned that we may face unexpected expenses.

A-7.10 Final feedback

156. Please feel free to give us any feedback or impression about this survey.

(Insert text)

A-7.11 First survey wave (May - October 2021)

Blocks A-7.1, A-7.1 were asked.
Block A-7.5 was asked (only for positive income shock, with the addition of the randomizations for the source and the horizon of the income shock allocation).
Additional block on the elicitation higher-order beliefs about MPCs and MPDs.
Additional blocks on salient experiences, expectations, and concerns.

A-7.12 Cross-validations Survey 1

A-7.12.1 Patterson (2021)

157. Could you estimate your own labor income from your main occupation, after transfers and taxes, in 2020?

Note that labor income includes wages and salaries, employee's contributions to retirement plans (e.g., 401(k), other employment-based retirement plans) and employer-paid health insurance premiums.

If you were unemployed or you did not work in 2020, you can still answer with reference to your labor income in your last year of employment.

$0-$19,999; $20,000-$24,999; $25,000-$29,999; $30,000-$34,999; $35,000-39,999; $40,000-$49,999; $50,000-$59,999; $60,000-$69,999; $70,000-$99,999; $100,000 or more

158. Suppose that today you become unemployed and you lose a major part of your labor income (after transfers and taxes). Note that you may be eligible for unemployment insurance.

Now, consider ways in which your household can deal with this income loss over the next 12 months:

Reduce food spending.
Reduce non-durable spending other than food: purchases of goods and services that do not last in time (e.g., clothes, vacation, utilities, gasoline, car maintenance, public transportation, childcare, health expenditures, education, etc.)
Reduce durable spending: purchases of cars, furniture, jewelry, etc.
Borrow more or dissave: e.g., tap into savings account, take cash advances on a credit card, reduce debt repayments, sell financial or physical assets, etc.

Click on the arrow on the right to proceed.

159. Suppose that over the next 12 months your labor income (after transfers and taxes) drops by: $...

160. Please enter how much your household would reduce food, non-durable (other than food) and durable spending out of this hypothetical income drop over the next 12 months.

Note that the part of your income drop in excess of the reduction in spending will be compensated by borrowing more or dissaving.

3×1 matrix. Rows: Reduce food spending by; Reduce non-durable spending other than food by; Reduce durable spending by. Column: Between today and 12 months from now.

A-7.12.2 Economic Impact Payments

161. In response to the COVID-19 crisis and in order to stimulate the economy, the Federal Government issued the payment of checks to eligible households in three different rounds:

First Economic Impact Payments, between April and June 2020;
Second Economic Impact Payments, between December 2020 and January 2021;
Third Economic Impact Payments, between March and April 2021.

Which of these Economic Impact Payments did you and your household receive?

Please, select all that apply.

None of them; First Economic Impact Payments, between April and June 2020; Second Economic Impact Payments, between December 2020 and January 2021; Third Economic Impact Payments, between March and April 2021.

N.B. Respondents are asked below details of only one EIP (among those they have received).

162. In answering the questions that follow, please consider exclusively the [First/Second/Third] Economic Impact Payment, issued between [April and June 2020/December 2020 and January 2021/March and April 2021].

163. How much did you and your household receive as [First/Second/Third] Economic Impact Payment?

First EIP: *$1,200; $1,700; $2,200; $2,400; $2,700; $2,900; $3,200; $3,400; $3,700; $3,900; $4,400; $4,900 or more*

Second EIP: *$600; $1,200; $1,800; $2,400; $3,000; $3,600; $4,200 or more*

Third EIP: *$1,400; $2,800; $4,200; $5,600; $7,000; $8,400; $9,800 or more*

164. We are now interested in understanding how you and your household used the [First/Second/Third] Economic Impact Payment in the first three months since receipt.

Out of every $100 received as [First/Second/Third] Economic Impact Payment, please tell us how much you and your household allocated to non-durable spending (e.g., food, clothes, vacation, etc.) and durable spending (e.g., cars, furniture, large appliances, electronics, etc.), how much to paying off debt, and how much to savings and investments, in the period between the day when you and your household first received the check and three months from that day.

Note that the total should add up to $100.

Fill bars 0-100 for the following categories: Non-durable spending (food, clothes, etc.); Durable spending (cars, furniture, electronics, etc.); Paying off debt; Savings and investments

A-7.13 Cross-validations Survey 2

A-7.13.1 Baugh et al. (2021)

165. After filing your Federal tax returns in the last 5 years, did you receive any tax refunds or did you make any additional tax payments after filing your taxes?

I received one or more tax refunds, but I did not make any additional tax payments; I made one or more additional tax payments, but I did not receive any tax refunds; I received one or more tax refunds and I made one or more additional tax payments; None of the above

Tax refunds. (If respondent reports having received a tax refund in 165)

166. Suppose that after filing your annual tax returns, you learn that you are eligible for a tax refund by the Federal Government. Now, consider ways in which you and your household could use this additional income:

Additional non-durable spending: purchases of 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.

Additional durable spending: purchases of cars, furniture, jewelry, etc. in addition to those you have already planned.

Additional debt repayments: principal and interest payments to reimburse outstanding debts (e.g., credit card debts, mortgages, student and consumer loans, etc.) in addition to those you have already planned.

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.

Click on the arrow on the right to proceed.

167. Suppose that after filing your annual tax you learn that you and your household are entitled to a tax refund worth $2,500. This refund will be available on your bank account or as a check in your mailbox in the next few weeks (you don't know at this time the exact date).

Would you and your household increase non-durable and/or durable spending before receiving the refund?

Yes; No

168. (If "Yes" to 167) Please enter how you would increase your non-durable and durable spending over the next 30 days after learning about your refund. Recall that you don't know yet when you will exactly receive the refund.

Matrix to allocate the refund between additional non-durable and durable spending over the next 30 days.

N.B. We do not allow for negative values for spending and debt repayments. When respondents insert a negative value we do not allow them to move to the following page and we display the message:

You cannot insert negative values.

N.B. We allow them to enter a total amount that exceeds the value of the refund ($2,500). In this case we show a message that informs that their answers suggest they are planning to increase spending by more than their refund. The message is:

The total that you are allocating to spending is greater than the tax refund you will receiving. This means that you plan to use some of your existing funds to increase your spending even further.

169. (If "Yes" to 167) Suppose now that you finally receive your tax refund of the following amount: $2,500

Please enter how you would allocate this tax refund into additional non-durable and durable spending over the next 60 days. Money that you do not use for additional non-durable and durable spending during these periods will be saved for future use or used for debt repayments. Recall that you may have spent some of your refund already.

Matrix to allocate the refund between additional non-durable and durable spending over the next 30 days and between 30 and 60 days. Residual savings computed automatically.

N.B. We do not allow for negative values for spending and debt repayments. When respondents insert a negative value we do not allow them to move to the following page and we display the message:

You cannot insert negative values.

N.B. We allow them to enter a total amount that exceeds the value of the refund ($2,500). In this case we show a message that informs that their answers suggest they are planning to increase spending by more than their refund. The message is:

The total that you are allocating to spending is greater than the tax refund you are receiving. This means that after receiving the tax refund you plan to use some of your existing funds to increase your spending even further.

170. (If "No" to 167) Suppose now that you finally receive your tax refund of the following amount: $2,500

Please enter how you would allocate this tax refund into additional non-durable and durable spending over the next 60 days. Money that you do not use for additional non-durable and durable spending during these periods will be saved for future use or used for debt repayments.

Matrix to allocate the refund between additional non-durable and durable spending over the next 30 days and between 30 and 60 days. Residual savings computed automatically.

N.B. We do not allow for negative values for spending and debt repayments. When respondents insert a negative value we do not allow them to move to the following page and we display the message:

You cannot insert negative values.

N.B. We allow them to enter a total amount that exceeds the value of the refund ($2,500). In this case we show a message that informs that their answers suggest they are planning to increase spending by more than their refund. The message is:

The total that you are allocating to spending is greater than the tax refund you are receiving. This means that after receiving the tax refund you plan to use some of your existing funds to increase your spending even further.

Tax payments. (If respondent reports having made a tax payment in 165)

171. Suppose that after filing your annual tax returns, you learn that you need to make an additional tax payment, due 30 days from now. Now, consider ways in which you and your household could deal with this expense:

Reduce non-durable spending: reduce purchases of goods and services that do not last for a long time (e.g., food, clothes, vacation, etc.).

Reduce durable spending: reduce purchases of cars, furniture, jewelry, etc.

Reduce debt repayments or increase borrowing: reduce principal and interest payments to reimburse outstanding debts (e.g., credit card debts, mortgages, student and consumer loans, etc.) or increase borrowing (e.g., take a new loan, take cash advances on a credit card, etc.) relative to what you have already planned.

Draw from savings: tap into checking or savings accounts, sell financial or physical assets, etc.

Click on the arrow on the right to proceed.

172. Suppose that you and your household have to make a tax payment worth $1,500 in 30 days.

Would you and your household cover this unexpected payment only with your existing savings, or would you also reduce your spending or borrow more?

Yes; No

173. (If "No" to 172) Suppose that in 30 days you and your household have to make an additional tax payment of the following amount: $1,500

Please enter by how much you would reduce your non-durable and durable spending, out of this tax payment, over the next 90 days.

Note that if your planned reduction in non-durable and durable spending is not sufficient to cover the tax payment, it means that you have to borrow more or dip into your existing savings.

Matrix to allocate the tax payment between reduction in non-durable and durable spending, reduction in debt repayments/increase borrowing over the next 30 days, between 30 and 60 days, and between 60 and 90 days. Residual draws from savings computed automatically.

N.B. We do not allow for negative values for spending and debt repayments. When respondents insert a negative value we do not allow them to move to the following page and we display the message:

You cannot insert negative values.

N.B. We allow them to enter a total amount that exceeds the value of the refund ($1,500). In this case we show a message that informs that their answers suggest they are planning to reduce spending/increase borrowing by more than their tax payment. The message is:

The total reduction in spending or additional borrowing is greater than what is needed to cover the tax payment you are facing. This means that after facing the tax payment you plan to cut your spending or increase borrowing by more than the amount of the tax payment.

A-7.13.2 Di Maggio et al. (2017)

174. (If "Yes" to 102) Please provide an estimate of the current monthly mortgage payment for your primary residence.

(Insert text)

175. Is the mortgage on your primary residence an adjustable rate mortgage (ARM)?

Yes; No; I don't know

176. Consider the hypothetical scenario in which the interest payments on your mortgage decrease. In particular, at least for the next 12 months, your monthly mortgage payment becomes approximately: *(Show 50% of initial mortgage payment reported in 174)*

177. Following the reduction in your monthly mortgage payment, would you and your household spend more on cars and vehicles than originally planned over the next 12 months?

By spending more than planned, we mean that you will make larger purchases of cars and vehicles on top of those you have already planned, or that you will make new purchases of the same goods that you have not planned.

Yes; No

178. Following the reduction in your monthly mortgage payment, would you and your household spend more on other durable goods than originally planned over the next 12 months?

By spending more than planned on other durable goods, we mean that you will make larger purchases of goods different than cars, like furniture, jewelry, etc. on top of those you have already planned, or that you will make new purchases of the same goods that you have not planned.

Yes; No

179. Following the reduction in your monthly mortgage payment, would you and your household make any additional debt repayments on mortgages, loans, or credit cards over the next 12 months?

By additional debt repayments we mean principal and interest payments to reimburse outstanding debts (e.g., credit card debts, mortgages, student and consumer loans, etc.) on top of those you have already planned.

Yes; No

180. (If "Yes" to 177 or to 178) Recall that, for at least one year, your monthly mortgage payments will be approximately $... *(Show 50% of initial mortgage payment reported in 174)* .

Following the reduction in your monthly mortgage payment, enter how much additional spending on cars or other durable goods (e.g., furniture, jewelry, etc.) you are planning to make over the next 12 months.

Matrix to enter the increase in car or other durable spending in the next 12 months. A zero is automatically inserted in car or durable spending entries if respondent replied "No" to 177 and 178 respectively.

181. (If "Yes" to 179) Recall that, for at least one year, your monthly mortgage payments will be approximately $... *(Show 50% of initial mortgage payment reported in 174).*

Following the reduction in your monthly mortgage payment, enter how much additional debt repayments on mortgages, loans, or credit cards you are planning to make over the next 12 months.

Matrix to enter additional debt repayments on mortgages/loans; additional debt repayments on student loans; additional debt repayments on credit cards in the next 12 months.

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