On-line Appendix for

Economic Impact Payments and Household Spending During the Pandemic

by

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A Further information about the CE and our use of it

A.1 The CE survey instruments, already updated for BPEA

The BLS asked the following questions in all CE interviews from June 2020 until December 2020, and then again from February 2021 until October 2021 with two minor changes. First, in June 2020, the fifth question did not include the option for the EIP to be received by debit card, which was only added in July 2020 following the addition of this means of disbursement being added in reality. Second, from July 2021 on, the questions were modified to allow respondents to report receiving EIPs as credits when filing their 2020 taxes.

The following wording reflected here represents how the questions were asked in July 2021:[1]

In response to the coronavirus, the Federal government began sending stimulus payments, that is the coronavirus (COVID-19) related economic impact payment, directly to many households, either by check, direct deposit, or debit card. Since the first of (reference month), have (you/you or any members of your household) received a stimulus payment from the Federal government? Do not include refunds on annual income taxes, unemployment compensation, or payments from an employer.
10. Stimulus Payment
99. None/No more entries

Who received the stimulus payment?
* Select all line numbers who are recipients of this stimulus payment, separate with commas. Enter each stimulus payment separately.

In what month was the stimulus payment received? [enter text] _____
* Probe if month entered is not in the reference period.

What was the total amount of the stimulus payment? [enter text] _____
* Probe if amount is less than 100 or greater than 5000.

Was the stimulus payment received by ...
1. check?
2. direct deposit?
3. debit card?

[1] From July 2021 on, the first question had the following text added "Others have received it through the Recovery Rebate credit when filing their 2020 federal income taxes" and the fifth question had the following option added "4 TaxCredit as a credit on 2020 federal income taxes?"

How did or will (you/you or any members of your household) use the stimulus payment?
1. Mostly to pay for expenses
2. Mostly to pay off debt
3. Mostly to add to savings

Did (you/you or any members of your household) receive any other stimulus payments?
1. Yes
2. No
If yes, return to"Who received the stimulus payment?"

A.2 CE files and variables

Data for this study come from the public-use CE interview survey.[2] We construct the panels primarily using the FMLI, CNT, and MEMI files.

The FMLI files contain interview information such as the interview identifier (NEWID), interview month ($QINTRVMO$), and calibration final weight ($FINLWT21$). They also document demographics, including the age of reference person and spouse (AGE_REF, $AGE2$), family size (FAM_SIZE), number of kids ($PERSLT18$), sex of the reference person (SEX_REF), marital status ($MARITAL1$), and housing tenure ($CUTENURE$). There are also variables regarding the economics of the household, among which are pre-tax family annual income in the last 12 months ($FINCBTXM$), total value of liquid assets a year before ($LIQUDYR$ and $LIQUDYRX$), and category-specific expenditures in the current calendar quarter ($XXXXXXCQ$) and the previous calendar quarter ($XXXXXXPQ$).[3]

The CNT20 file contains data on EIP receipt (indicated by $CONTCODE = 800$), including the amount ($CONTEXPX$), the month of receipt ($CONTMO$), the disbursement method ($CHCKEFT$, where 1 is "Check," 2 is "Direct Deposit," and 3 is "Debit Card"), and usage ($REBTUSED$, where 1 is "Mostly to pay for expenses," 2 is "Mostly to pay off debts," 3 is "Mostly to add to savings").

Finally, the MEMI files contain the same interview information as the FMLI files. They additionally contain demographic and socioeconomic characteristics at the member level, as opposed to the FLMI files which are at the household level.

We use CE variables listed above to construct variables for the analysis of household spending response. A CU's expenditure in a reference period is the sum of $XXXXXXCQ$ and $XXXXXXPQ$. The first difference in consumer expenditures is consumer expenditures

[2] Available at: https://www.bls.gov/cex/pumd.htm.

[3] In comparison to $FINCBTAX$ that only uses reported income, $FINCBTXM$ uses both reported income and imputed income, and thus, has fewer missing values.

in the current reference period minus consumer expenditures in the previous reference period. Similarly, $\Delta FamSize_{i,t}$ is the difference between FAM_SIZE in the current reference period and the previous reference period. If $AGE2$ is not missing, we use the average of AGE_REF and $AGE2$ as the control variable $age_{i,t}$. If $AGE2$ is missing, then $age_{i,t} = AGE\_REF$. $EIP_{i,t-s}$ is the total dollar amount of payments received by household i in period $t-s$. We provide details about EIP variables and related cleaning in Appendix A.5.2. When dropping high-income households, we use FINCBTAX that makes use of imputation, some of which impute exact amounts within brackets of income reported by respondents.

Our main regressions also require CU average expenditure, average weights, income, liquidity, and group indicators. A CU's average expenditure $(\bar{C}_i)$ is the average of all reported expenditures across all its interviews. We compute a CU's average weight ($FINLWT21$) analogously. For income, we consider a CU's first $FINCBTXM$, which reflects the CU's annual income during the 12 months prior to the first interview. For liquidity, we use $LIQUDYRX$ (reported by CUs in their fourth/last interviews only), which measures the total value of checking, savings, money market accounts, and certificates of deposits (CDs) one year before the date of the interview.[4] Due to missing data, our analysis using the liquidity variable has fewer observations. The non-recipient categorical variable for a CU equals 1 if the CU never reports any EIP in its interviews and 0 otherwise. Categorical variables for the disbursement method and reported main use follow the same idea. The bottom third and top third cutoffs for age, income, and liquidity groups are the terciles over the weighted sample.

From the MEMI files we obtain industry ($OCCUCODE$), education ($EDUCA$), salary ($SALARYBX$ and $SALARYX$), employment status ($WKSTATUS$) and reason for unemployment ($INCNONWK$), all at the member level.

For EIP1, we use all relevant interviews conducted before February 2021 (including January interviews, but not February interviews) to analyze spending responses. We do not include later interviews since very few EIP1 were disbursed by then, and the IRS already started to send out EIP2 and EIP3. The corresponding CE files are FMLI193 to FMLI211 and CNT20. In addition, we use FMLI212 but only for one purpose: to obtain liquidity information for CUs that have their last interview in the second quarter of 2021. For EIP2 and EIP3, we use all relevant interviews without restricting the latest interview included. The CE files used for EIP2 are FMLI202 to FMLI213, CNT20, and CNT21. The CE files used for EIP3 are FMLI203 to FMLI213 and CNT21. Ideally, interviews conducted in the fourth

[4]We assign CUs who do not have such accounts ($LIQUDYR = 2$) to have $LIQUDYRX = 0$. We keep valid, topcoded $LIQUDYRX$.

quarter of 2021 and the first quarter of 2022 could also be used to analyze the longer-term impact, but these data are not yet available.

A.3 Definitions of consumer spending

Following Lusardi (1996) and Johnson et al. (2006), expenditures on food include food away from home, food at home, and alcoholic beverages. Expenditures on strictly nondurable goods and services include expenditures on food, utilities (and fuels and public services), household operations, public transportation and gas and motor oil, personal care, tobacco, and miscellaneous goods. Non-durable goods and services (broadly defined) add expenditures on apparel goods and services, health care goods and services (only out-of-pocket expenditures by the CU), and reading materials. Total expenditures include those for all CE goods and services.

A.4 Effect of the pandemic on data quality

With the onset of the COVID-19 pandemic, like other household surveys, the BLS modified its survey protocols starting in mid-March for contacting households and conducting interviews to be solely over the telephone. The survey continued to be conducted via telephone only through June, at which point in-person interviews began to resume in select locations. Both the changes to protocol and the pandemic resulted in lower than usual response rates. For the two months that we anchor the sample, response rates are 44.7% in June and 40.2% in July. BLS has studied and continues to study the impact of the pandemic and the protocol changes on the quality of estimates, finding little evidence for nonresponse bias in the Interview survey and no adverse impact to quality due to changes in the mode of the Interview survey. The BLS did report an increase in year-over-year change in the variation in expenditures, measured by the standard error divided by the mean, of between 1 and 2 percent for several expenditure categories. More information on the BLS evaluation of quality during the pandemic can be found on their website: https://www.bls.gov/covid19/effects-of-covid-19-pandemic-and-response-on-the-consumer-expenditure-surveys.htm.

A.5 Further details on data processing

A.5.1 CUs in the panel

As a first step, a CU can potentially be in the all CE sample or final sample if it satisfies both of the following: *a*) the CU was interviewed in June or July 2020 for the EIP1 panel, in February, March, and April 2021 for the EIP2 panel, and April, May, and June 2021 for the EIP3 panel. *b*) the CU must have at least two consecutive interviews. The first condition implies that we do not include CUs interviewed in May for EIP1 analysis, since one can never know whether such a CU receives an EIP in April. The second condition is for computing the first difference. These two conditions are necessary but not sufficient for a CU to be in our samples, given that the all CE sample and final sample drops outliers (as noted in Appendix A.5.3) and the final sample also drops CUs with high income (Tables C.5 to C.7). For analysis of differences across households, we also drop households that do not have the information necessary to assign them to a group.

A.5.2 Cleaning EIP variables

Below are some assumptions we adopt for cleaning EIP variables.

i) The CNT20 file contains all EIP information collected by the CE. If a CU does not have a documented EIP in the CNT20 file, there are two possibilities: the CU did not receive an EIP or the CU did not report receipt. The BLS does not flag non-response regarding EIP in the CE, so one cannot distinguish the former from the latter. We assume that everybody who does not have a documented EIP in the CNT20 file did not receive an EIP. Also, we keep EIPs flagged as "Valid value; imputed or adjusted in some other way," which affects only a small number of observations in the sample.

ii) We assume EIP1 were only received between April and November 2020. EIP2 were only received between December 2020 and February 2021. EIP3 were only received in and after March 2021. In other words, we assume that there are no EIPs received particularly late, which is largely consistent with the reality. We essentially also restrict the disbursement period of different rounds of EIPs to be non-overlapping.

iii) We move November 2020 EIPs that are likely EIP2 to December and label them as EIP2. These are EIPs with payment size smaller than \$600 times family size.[5]

[5]The number of November rebates (107) reported in the CE is high in comparison to September (34) and October (14). This increase is inconsistent with the IRS data. Moreover, many November payments are small

iv) We move February 2021 EIPs that are likely EIP3 to March, labeling them as EIP3. Many reported February EIPs are likely EIP3 received in March.[6] First, we move any EIPs with payment size larger than \$600 times family size to March. For the remaining EIPs, we move any EIPs that are multiples of \$1,400 (including common multiples of \$600 and \$1,400) to March.

v) We drop seven rebates (received by 5 CUs) reported to be received as a tax refund. These rebates are typically small (five of which are less than \$300) in amount and it is unclear whether they are EIP1 or EIP2. In addition, the option of reporting an EIP as "received as tax refund" was added late July 2021. Some rebates reported earlier can potentially be received as tax refund too, but the CU had no ways to report that.

vi) We assume that January interviewees did not receive any EIPs during the reference period. That is, we assume that they did not receive EIP1 in October and November, and did not receive EIP2 in December. To be consistent, if a CU did not have a January interview, we also assume that no EIPs were received in the reference period of January. Similarly for CUs that did not have a February or March interview, we assume that there are no EIP1 received during the reference periods.

vii) Where the method of disbursement of an EIP is missing, we treat it as missing.[7]

viii) Where the mode of usage is missing for an EIP, we do one of the following: a) where there is at least one other EIP reported in the same interview, and the other EIP or EIPs all have the same reported usage, we apply that usage to the missing response. b) where there are multiple other EIPs reported in the same interview with different uses, we keep usage for that EIP missing. c) where there is no other EIP in the same interview, we keep usage as missing.

If a CU receives more than one EIPs in a reference period, variable $EIP_{i,t}$ is the sum of EIP amounts received by the CU during the reference period. Similarly, $EIP_{i,t}$ by a certain

in size and resemble EIP2. About 40% is \$600, and another 40% is \$1,200. The average payment size (\$1,149) is about \$400 smaller than Sep or Oct, and is only half of the average April amount. On the contrary, \$1,149 is pretty close to the average payment size in December (\$1,084) and Jan 2021 (\$1,188).

[6]The IRS reports that EIP2 are all disbursed by the end of January, and they only started to send out EIP3 in March. Hence, there should be very few EIP2, and no EIP3 received in February. However, for the payment size of the February EIPs reported in the raw CE, the mean and quartiles are higher than those received in December 2020 and January 2021 (EIP2) but are closer to those in April 2021 (EIP3). Plus, many Feb EIPs are multiples of \$1,400 instead of \$600.

[7]One may raise the question that if a CU receives more than one EIP in a reference period and does not report disbursement method for at least one EIP, how should we assign EIP by disbursement method variables? This issue does not affect any CU in the final sample.

disbursement method (or for a certain usage) is the sum of EIP payments with the same disbursement method (or usage). If a CU receives multiple EIPs in a reference period and reports more than one disbursement method (or usage), then the CU will have positive values for more than one $EIP_{i,t}$ by a certain disbursement method (or for a certain usage). For instance, assume CU i reports 4 EIPs in reference period t: \$1,200 by check, used for expenses, \$1,200 by direct deposit, used for expenses, and \$1,200 by debit card, used for paying down debt, and another \$500 by debit card, used for paying down debt. Then $EIP_{i,t} = \$4,100$, $EIP_{i,t}$ *by check* $= \$1,200$, $EIP_{i,t}$ *by direct deposit* $= \$1,200$, $EIP_{i,t}$ *by debit card* $= \$1,700$, $EIP_{i,t}$, *used for expenses* $= \$2,400$, $EIP_{i,t}$, *paid off debt* = \$1,700, and $EIP_{i,t}$, *added to savings* = \$ 0.

A.5.3 Cleaning the sample

Following Johnson et al. (2006) and Parker et al. (2013), we clean the panel by dropping noisy observations (e.g., observations that we suspect contain misreporting). We first present a data cleaning process that exactly follows the two previous studies, and then address three modifications we make for the main analysis of this study.

i) Drop every observation living in student housing ($CUTENURE = 6$).

ii) Drop every observation with $AGE\_REF > 85$ or $AGE\_REF < 21$; and with $AGE2 > 85$ or $AGE2 < 21$ if $AGE2$ is not missing. Keep observations that have missing $AGE2$.

iii) Drop every observation with change in $AGE\_REF > 1$ or change in $AGE\_REF < 0$, if the reference person has the same sex (SEX_REF) in the two consecutive interviews. Similarly, we drop every observation with change in $AGE2 > 1$ or change in $AGE2 < 0$, if the reference person has the same sex (SEX_REF) and marital status ($MARITAL1$). Keep observations that has missing change in $AGE2$.

iv) Drop every observation that has change in FAM_SIZE greater than 3 or less than -3.

v) Drop the bottom 1% observations with the lowest non-durable expenditures after adjusting for family size and time trend: a) Compute adult equivalized non-durable expenditures, counting kids as 0.6 adults. b) Create a time trend variable by setting interview month December 2019 (the earliest interview month in our panel) as 0, January 2020 as 1, March 2020 as 3, April 2020 as 4, and so on. c) Run a quantile regression of equivalized expenditure on time trend for the 1st percentile. d) Drop all observations with fitted values greater than the observed values (that is, all observations below the regression line).

We refer to the sample obtained from the above procedure *all households*. The three modifications we make for our *final sample* (used in Section II and Section IV onward) are:

i) Modification to ii) above: We keep observations with $AGE\_REF > 85$ or $AGE2 > 85$, who are about 5% of the sample and consist of a lot of recipients.

ii) Modification to v) above: We drop the bottom 1% of the distribution in non-durable consumer expenditures per capita (defined as change in expenditure divided by the number of family members in the reference period), but instead of estimating the bottom one percent using a quantile regression on a linear trend, we drop the 1% observations with the lowest non-durable consumer expenditures per capita in each interview month. This modification is to account for the volatility of spending over time during the pandemic.

iii) In addition, we drop CUs with income above a certain threshold determined by marital status and family structure, as discussed in Section III. Table C.5 to Table C.7 shows the thresholds.

Similar to previous studies, not all observations in the panel are used for the regressions. Scaling the variables essentially drops observations of a CU that has an zero or missing average expenditure. We also drop extreme outlier CUs whose scaled EIP is at least 1.5 times as large as the next largest scaled EIP (this step affect very few CUs). For the analysis that uses log change in expenditure as the dependent variable, observations with negative expenditure are dropped. For the analysis of EIPs by group, observations with relevant missing values (e.g, liquidity, disbursement method, use) are dropped.

A.6 Imputation of EIPs

Imputed values of the EIPs were created using the MEMI and NTAXI files. The MEMI file contains an interview identifier ($NEWID$), an identifier for the tax unit to which each CU member belongs (TAX_UNIT), the code of the tax payer (TU_CODE, where 1 is "Taxpayer", 2 is "Spouse", and 3 is "Dependent"), the tax unit to which a dependent is a member of (TU_DPNDT), and the age of the CU member (AGE). The NTAXI file contains an interview identifier ($NEWID$), an identifier for the tax unit (TAX_UNIT), the filing status ($FILESTAT$, where 1 is "Single", 2 is "Married filing jointly", 3 is "head of household", and 8 is "Dependent tax payer"), and a measure of the Federal adjusted gross

income ($FDAGI$).[8]

We begin by creating a count of the number of dependents by NEWID in each tax unit using the MEMI file. A dependent can also be a tax filer, which means the tax unit identifier for the dependent will not be the same as the tax unit that claims the dependent (i.e., $TAX\_UNIT \neq TU\_DPNDT$). To create a count of the number of dependents within a tax unit, TAX_UNIT is replaced with TU_DPNDT if the member is a dependent and a tax filer. Two counts of dependents are created, the number of dependents under the age of 17 ($DPNDLT17\_TU$) and the number of dependents regardless of age ($DPNDANY\_TU$). This data is merged with the tax unit level data from NTAXI, yielding a dataset with observations at the tax unit level and includes measures of filing status, the number of dependents, and adjusted gross income (AGI).

We use this dataset to impute values of EIP1, EIP2, and EIP3 following the qualification and phase out rules laid out in the respective legislation. For example, tax units whose filing status is single ($FILESTAT = 1$) and have an AGI less than \$75,000 have an imputed value of EIP1 of \$1,200. The imputed value is reduced by \$50 for every \$1,000 over the \$75,000 threshold, and is \$0 for any single tax filer with AGI greater than \$99,000. For the imputation of EIP1 and EIP2 $DPNDLT17\_TU$ is used to meausre the number of dependents. For EIP3, the number of dependents is measured by $DPNDANY\_TU$ due to the change in definition of "qualifying dependent." The result is a dataset that contains imputed values for all three waves of EIPs at the tax unit level. The imputed values for each EIP are summed across tax units to get a $NEWID$ level measure of imputed EIPs.

Each CU have up to four imputations for each EIP, one for each interview in which the CU participated. Imputations are calculated independently across interviews because the determinants the value of the imputation (AGI, number of dependents, etc.) can vary between interviews. To account for this variation and the uncertainty surrounding which set of information corresponds closest to the information used by the IRS when calculating the actual payment, the imputations across interviews are combined such that a CU has up to four imputed values for each of the three waves of EIPs.

The imputed values need to be assigned to a specific interview for each CU; however, each wave of EIPs were distributed over multiple months, and therefore, it is not immediately obvious which interview to assign the imputation. For simplicity, we assume each EIP was received within the first two months of when the wave began being distributed. This means EIP1 was received in April or May 2020, EIP2 was received in January or February

[8]Using data collected during the Interview, the BLS creates tax units and then employs the NBER TAXSIM model to provide tax unit level measures of wages, the tax burden, etc.

2021, and EIP3 was received in March or April 2021. In order for us to remain agnostic about which month the EIP was received, the *final sample* is restricted to CUs with a reference period that contain both critical months. For example, the sample for EIP3 is restricted to CUs on the May or June 2021 interview cycle. CUs interviewed in May or June have reference periods that containe March and April. In contrast, CUs interviewed in April only have March in their reference period. If these CUs are included in the sample we have to determine whether the imputed value of EIP3 is assigned to the April interview, meaning the EIP was received in March, or the July interview, meaning the EIP was received in April. Since we have no way of making this decision, besides arbitrarily, we drop these CUs from the sample.

The restricted *final sample* is merged with the imputed EIP data. IMP_EIPnt represents the imputed value of EIPn at time t. We compare the four imputed values for the corresponding wave to the reported value of EIPn at time t ($EIPn_t$). If any of the four imputed values match the reported value it is assigned to IMP_EIPnt. If none of the imputations match the reported value then the imputation corresponding to the interview during which the EIP could have been received is assigned to IMP_EIPnt. For example, if a CU's second interview occurred in March 2021 then the imputation for EIP3 from the second interview of the CU is assigned to IMP_EIP3t. Note, IMP_EIPnt is the imputed value that will be used for the analysis. All other EIP imputations are dropped after this step.

The analysis of the imputed EIPs follows the procedure laid out by equations 3 to 5. When analyzing EIP2 and EIP3, the first stage includes controls for the other waves of EIPs. In order to maintain our position on not determining which month an EIP was received, the controls for the other EIPs in the first stage are based on the reported values.

The results for the imputed equivalent to Table C.8 can be found in Appendix Tables **??** to C.10. Panel A of the tables shows the estimates of the MPC using the reported EIP values and restricted *final sample*. Panel B of the tables shows the estimates of the MPC using the imputed EIPs values and restricted *final sample*. Panel C shows the estimates of the MPC using the imputed EIPs but further restricting the *final sample* by removing outliers of imputed EIPs. For EIP1 this means any observation with an imputed value greater than $\$4,520$ were dropped. For EIP2 and EIP3 any observations with imputed values greater than $\$3,527$ and $\$10,212$, respectively, were dropped.[9]

Results for the imputed equivalent to Table C.11 can be found in Appendix Tables **??** to C.13. The same structure described for the previous three tables also applies to these tables.

[9]These thresholds were determined by adding three times the standard deviation to the average of non-zero imputed EIPs.

B Ability to work from home

B.1 Creating a measure of work-from-home ability by industry and education level

Our objective is to measure for each member in the CE, the extent to which the pandemic potentially impacted their income due to an inability to work from home. We do this based on pre-pandemic wage and salary incomes and a *low-work-from-home* measure at the occupation-education level constructed by Mongey et al. (2021), based on data from O*NET and building on Dingel and Neiman (2020). We take the continuous version of their low-work-from-home measure, which is a tally $\in [0, 17]$ of the number of in-person activities required of a job. Dividing by 17, we interpret this measure as the share of the job that can be done from home or as the probability that the job can be done at home.

B.2 Merging into the CE

Ideally, we would observe the occupation of each member in the CE, but the BLS does not ask for this information in the CE Survey. However, the BLS does collect each member's industry and education level. We therefore merge the Mongey et al. (2021) measure into the March 2019 CPS Annual social and economic supplement file, merging at the 4-digit occupation level. Using a cross-walk between industries and occupations in the CPS and those in the CE, we group individuals in the CPS into industry-education cells, and take the average of the work-from-home measure in each cell. We end up with 105 industry-education cells each with a separate value of $wfh \in [0, 1]$. We then merge the industry-education averages into the CE.

We set $wfh = 1$ for any household in which no reference person or spouse/partner has earned income (valid missing earnings), like retirees or people not in the labor force due to illness or disability. We drop CUs with (valid or missing) labor earnings for which either education level or industry is missing, unless they are not in the labor force.

B.3 Constructing CU-level work-from-home measures

We measure each CU's ability to work from home in two separate ways. Throughout, we only consider the earnings the CU reference member and their spouse or partner.

Earnings-based measure The first work-from-home measure we construct is based on pre-pandemic wage and salary earnings, which requires that we limit the sample to households whose first CE survey takes place in 2019Q1, 2019Q2 or 2020Q1.

Whenever individual-level earnings is observed, it is reported as either an exact amount or as a range. When a range is reported, we take the midpoint of this range as an individual's earnings. To minimize dropping of data, if one member within a CU has positive earnings and the other member has a missing value for earnings, we construct the measure as if the member with a missing value has zero earnings. If both members in a CU have missing earnings, we drop the observation. If both members of the CU have no wage and salary earnings (not missing), we keep this observation.

Having done this, for each CU, we construct a measure of the amount of labor income that was not exposed to the pandemic. We do this by taking reported before tax family income in the first interview wave, before the onset of the COVID-19 pandemic, and subtracting an imputed estimate of an amount potentially lost during the pandemic due to a lack of ability to work from home:

$$\text{Retained income share}_i = \frac{\text{total income}_i - \sum_{k \in H}(1 - \text{wfh}_{i,k}) \times \text{earnings}_{i,k}}{\text{total income}_i}.$$

where H indexes the (zero, one, or two) earners in the household (no one, reference person, and/or spouse/partner). A household for which all work can be done from home will have a retained income share of 1. A household with lower levels of $\text{wfh}_{i,j}$, will have a lower share of retained income. Households with no wage and salary earners such as retirees have retained income share of 1. In total, we are able to construct the work from home measure for approximately 91% of CUs with first interviews before the pandemic.

Because we require pre-pandemic income, we only use this measure to analyze EIP1.

Worker-based measure In order to investigate differences in consumption responses across ability to work from home for EIP2 and EIP3, we construct a work-from-home measure that does not rely on observing pre-pandemic wage and salary earnings. Earnings after the onset of the pandemic may already reflect losses incurred by an inability to work from home.

This earnings-less measure is equivalent to the earnings-based measure above but imposing the assumptions that CUs have no source of income apart from labour income

and that all members within a CU are equal earners.

$$\text{Retained worker share}_i = \text{Average}_{k \in H} \left[\text{wfh}_{i,k} \right]$$

As noted, we are assuming that retirees and those not in the labour force retain 100% of their income.

C Additional Tables and Figures

Table C.1: EIP1 amounts in the CE Survey

Panel A: Distribution of EIP1 amounts		
EIP value	Number of Observations	Percentage
$EIP = 0$	498 (12808701)	19.0 (19.0)
$0 < EIP < 1200$	99 (2262445)	3.8 (3.4)
$EIP = 1200$	763 (19424546)	29.1 (28.8)
$1200 < EIP < 1700$	43 (1205195)	1.6 (1.8)
$EIP = 1700$	43 (1227011)	1.6 (1.8)
$1700 < EIP < 2400$	108 (2843463)	4.1 (4.2)
$EIP = 2400$	626 (15870540)	23.9 (23.5)
$2400 < EIP < 2900$	30 (801208)	1.1 (1.2)
$EIP = 2900$	104 (2707011)	4.0 (4.0)
$2900 < EIP < 3400$	21 (634388)	0.8 (0.9)
$EIP = 3400$	71 (1974085)	2.7 (2.9)
$3400 < EIP < 3900$	91 (2367474)	3.5 (3.5)
$EIP = 3900$	40 (1067875)	1.5 (1.6)
$EIP > 3900$	83 (2311985)	3.2 (3.4)
Total	2620 (67505928)	100 (100)
Panel B: Average EIPI amount		
	Unweighted	Weighted
Average EIP amount:	\$2,077	\$2,098

Notes: 2020 Consumer Expenditure Survey (BLS). Statistics based on our final sample which includes only CE household with an interview in June or July 2020, with income that does not exceed a certain threshold determined by marital status and family structure, and cleaning described in Appendix A.5.3. Weights applied are average CU weights across reference periods. EIP values are the total amount received by a household in the 3-month reference period, as in the main regressions, and counts are un-weighted sums. Weighted counts and percentages are in parentheses. The number of $EIP = 0$ essentially is the number of CUs that never received an EIPI in the panel. The average EIP amounts are conditional on receiving an EIP.

Table C.2: EIP2 amounts in the CE Survey

Panel A: Distribution of EIPII amounts		
EIP value	Number of Observations	Percentage
$EIP = 0$	2035 (53140461)	51.6 (52.6)
$0 < EIP < 600$	62 (1369577)	1.6 (1.4)
$EIP = 600$	671 (16304796)	17.0 (16.1)
$600 < EIP < 1200$	55 (1406318)	1.4 (1.4)
$EIP = 1200$	604 (15459617)	15.3 (15.3)
$1200 < EIP < 1800$	44 (1097892)	1.1 (1.1)
$EIP = 1800$	190 (5086242)	4.8 (5.0)
$1800 < EIP < 2400$	29 (807944)	0.7 (0.8)
$EIP = 2400$	116 (2857817)	2.9 (2.9)
$2400 < EIP < 3000$	22 (531490)	0.6 (0.5)
$EIP = 3000$	48 (1280559)	1.2 (1.3)
$EIP > 3000$	64 (1671696)	1.6 (1.7)
Total	3940 (101014409)	100 (100)
Panel B: Average EIPII amount		
	Unweighted	Weighted
Average EIP amount:	$1,281	$1,301

Notes: 2020 and 2021 Consumer Expenditure Survey (BLS). Statistics based on our final sample which includes only CE household with an interview in February, March, or April 2020, with income that does not exceed a certain threshold determined by marital status and family structure, and cleaning described in Appendix A.5.3. Weights applied are average CU weights across reference periods. EIP values are the total amount received by a household in the 3-month reference period, as in the main regressions, and counts are un-weighted sums. Weighted counts and percentages are in parentheses. The number of $EIP = 0$ essentially is the number of CUs that never received an EIPII in the panel.The average EIP amounts are conditional on receiving an EIP.

Table C.3: EIP3 amounts in the CE Survey

Panel A: Distribution of EIP amounts		
EIPIII value	Number of Observations	Percentage
$EIP = 0$	1148 (29146336)	28.8 (28.5)
$0 < EIP < 1400$	291 (7372425)	7.3 (7.2)
$EIP = 1400$	839 (21095236)	21.1 (20.6)
$1400 < EIP < 2800$	253 (6495903)	6.4 (6.3)
$EIP = 2800$	751 (19589152)	18.9 (19.1)
$2800 < EIP < 4200$	130 (3483544)	3.3 (3.4)
$EIP = 4200$	191 (4876644)	4.8 (4.8)
$4200 < EIP < 5600$	63 (1614958)	1.6 (1.6)
$EIP = 5600$	153 (4218936)	3.8 (4.1)
$EIP > 5600$	163 (4498133)	4.1 (4.4)
Total	3982 (102391266)	100 (100)
Panel B: Average EIPIII amount		
	Unweighted	Weighted
Average EIP amount:	\$2,767	\$2,814

Notes: 2021 Consumer Expenditure Survey (BLS). Statistics based on our final sample which includes only CE household with an interview in April, May, or June 2021, with income that does not exceed a certain threshold determined by marital status and family structure, and cleaning described in Appendix A.5.3. Weights applied are average CU weights across reference periods. EIP values are the total amount received by a household in the 3-month reference period, as in the main regressions, and counts are un-weighted sums. Weighted counts and percentages are in parentheses. The number of $EIP = 0$ essentially is the number of CUs that never received an EIPIII in the panel. The average EIP amounts are conditional on receiving an EIP.

Table C.4: The response of consumer expenditure to EIP arrival estimated on recipients and non-recipients using the methodology previously applied to tax rebates

Est. method	OLS	OLS	OLS	OLS	2SLS	2SLS	2SLS	2SLS
	Pct change in spending. Dependent variable: $\Delta \ln C$				*MPC. Dependent variable:* ΔC			
	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services
				Panel A: EIP 1				
EIP1					0.077	0.145	0.183	0.625
					(0.044)	(0.064)	(0.082)	(0.316)
I(EIP1)	2.71	1.58	1.53	1.35				
	(3.02)	(2.01)	(1.94)	(2.33)				
				Panel B: EIP 2				
EIP2					-0.044	-0.008	-0.008	-0.385
					(0.040)	(0.061)	(0.077)	(0.576)
I(EIP2)	-1.23	1.16	0.64	-0.06				
	(1.96)	(1.39)	(1.33)	(1.71)				
				Panel C: EIP 3				
EIP3					0.005	-0.003	0.008	0.247
					(0.017)	(0.026)	(0.034)	(0.235)
I(EIP3)	3.35	1.26	1.38	2.03				
	(1.58)	(1.18)	(1.12)	(1.52)				

Notes: Table reports β_0 from estimation of equation 1 with $S = 0$. The coefficients for 2SLS regressions are multiplied by 100 so as to report a percent change. In 2SLS regressions, EIP indicator, together with control variables, are used as instruments for the EIP amounts. Regressions also include interview month dummies, age, and change in the size of the CU. The samples are constructed as in previous research papers (see Appendix). Panel A has 5,634 observations and includes the sample of all CE households with an interview in June or July 2020. Panel B has 8,302 observations, includes the sample of all CE households with an interview in February, March, or April 2021, and additionally includes controls for EIP1 and EIP3. Panel C has 7,335 observations, includes the sample of all CE households with an interview in April, May or June 2021, and additionally includes controls for EIP1 and EIP2. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity.

Table C.5: Income cutoff values for the final sample of EIP1 and number of observations nearby

CU type	Income cutoff	Below cutoff by 0 to 25K		Above cutoff by 0 to 25K	
		recipients	non-recipients	recipients	non-recipients
Single, no kids	\$175K	4	12	0	1
Single, with kid(s)	\$225K	0	0	0	1
Married, no kids	\$400K	5	10	0	4
Married, with kid(s)	\$400K	1	8	0	2
Adults, no kids	\$425K	0	0	0	2
Adults, with kid(s)	\$425K	0	0	0	0

Notes: Data Source: 2019-2020 Consumer Expenditure Survey (BLS), final sample. CU types "Single, no kids" and "Single, with kid(s)" include every CU that has one and only one unmarried adult. CU types "Married, no kids" and "Married, with kid(s)" can include CUs that have one or more than one adults, as long as the reference person is married. Similarly, CU types "Adults, no kids" and "Adults, with kid(s)" can include CUs that have two or more than 2 adults, as long as the reference person is single. We posit an income cutoff at the nearest \$25,000 above the income level (also rounded to the nearest \$25,000) at which a household would no longer receive an EIP. For this baseline income level, we assume two kids per household if a household has kid(s) (type 2, 4, and 6), and two adults if the reference person is married or there are more than one adult in the household (type 2 to 6). The income levels at which the six types of households can no longer receive rebate after rounding are \$100K, \$150K, \$200K, \$225K, \$225K, and \$250K, respectively. We adjust each income cutoff up in increments of \$25,000 until about more than 80% of the CE households with incomes in the \$25,000 range just above the cutoff are non-recipients. To be clear, if the \$25,000 interval above an income level contains no recipients nor non-recipients, we continue to adjust up the income level. In addition, we set the cutoff for CUs with kids to be the same as the cutoff for CUs that are otherwise the same but without kids (i.e., married, no kids and married, with kids), if the former has a lower cutoff after increments.

Table C.6: Income cutoff values for the final sample of EIP2 and number of observations nearby

CU type	Income cutoff	Below cutoff by 0 to 25K		Above cutoff by 0 to 25K	
		recipients	non-recipients	recipients	non-recipients
Single, no kids	\$125K	38	72	3	59
Single, with kid(s)	\$175K	3	4	0	4
Married, no kids	\$275K	16	38	6	27
Married, with kid(s)	\$275K	9	43	13	28
Adults, no kids	\$250K	4	10	1	6
Adults, with kid(s)	\$275K	2	0	0	1

Notes: Data Source: 2020-2021 Consumer Expenditure Survey (BLS), final sample. CU types "Single, no kids" and "Single, with kid(s)" include every CU that has one and only one unmarried adult. CU types "Married, no kids" and "Married, with kid(s)" can include CUs that have one or more than one adults, as long as the reference person is married. Similarly, CU types "Adults, no kids" and "Adults, with kid(s)" can include CUs that have two or more than 2 adults, as long as the reference person is single. We posit an income cutoff at the nearest \$25,000 above the income level (also rounded to the nearest \$25,000) at which a household would no longer receive an EIP. For this baseline income level, we assume two kids per household if a household has kid(s) (type 2, 4, and 6), and two adults if the reference person is married or there are more than one adult in the household (type 2 to 6). The income levels at which the six types of households can no longer receive rebate after rounding are \$75K, \$150K, \$175K, \$200K, \$200K, and \$225K, respectively. We adjust each income cutoff up in increments of \$25,000 until more than 80% of the CE households with incomes in the \$25,000 range just above the cutoff are non-recipients. To be clear, if the \$25,000 interval above an income level contains no recipients nor non-recipients, we continue to adjust up the income level. In addition, we set the cutoff for CUs with kids to be the same as the cutoff for CUs that are otherwise the same but without kids (i.e., married, no kids and married, with kids), if the former has a lower cutoff after increments.

Table C.7: Income cutoff values for the final sample of EIP3 and number of observations nearby

CU type	Income cutoff	Below cutoff by 0 to 25K		Above cutoff by 0 to 25K	
		recipients	non-recipients	recipients	non-recipients
Single, no kids	\$125K	27	65	3	44
Single, with kid(s)	\$275K	0	0	0	1
Married, no kids	\$225K	22	36	10	46
Married, with kid(s)	\$225K	13	30	8	76
Adults, no kids	\$425K	0	0	0	4
Adults, with kid(s)	\$425K	0	0	0	0

Notes: Data Source: 2020-2021 Consumer Expenditure Survey (BLS), final sample. CU types "Single, no kids" and "Single, with kid(s)" include every CU that has one and only one unmarried adult. CU types "Married, no kids" and "Married, with kid(s)" can include CUs that have one or more than one adults, as long as the reference person is married. Similarly, CU types "Adults, no kids" and "Adults, with kid(s)" can include CUs that have two or more than 2 adults, as long as the reference person is single. We posit an income cutoff at the nearest \$25,000 above the income level (rounded to the nearest \$25,000) at which a household would no longer receive an EIP. For this baseline income level, we assume two kids per household if a household has kid(s) (type 2, 4, and 6), and two adults if the reference person is married or there are more than one adult in the household (type 2 to 6). The income levels at which the six types of households can no longer receive rebate after rounding are \$75K, \$125K, \$150K, \$150K, \$200K, and \$200K, respectively. We adjust each income cutoff up in increments of \$25,000 until more than 80% of the CE households with incomes in the \$25,000 range just above the cutoff are non-recipients. To be clear, if the \$25,000 interval above an income level contains no recipients nor non-recipients, we continue to adjust up the income level. In addition, we set the cutoff for CUs with kids to be the same as the cutoff for CUs that are otherwise the same but without kids (i.e., married, no kids and married, with kids), if the former has a lower cutoff after increments. Note that the \$275K for single with kid(s) look high, but are in fact due to consecutive 25K intervals with no observations – setting this cutoff as 200K gives exactly the same sample as \$275K, but we strictly follow the rules to decide cutoffs. Similarly, for adults with or without kids, setting the cutoffs to be \$350K gives exactly the same sample as \$425K.

Table C.8: The contemporaneous response of consumer expenditures to EIP1 receipt

	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services
	MPC				*Dollars spent*			
				Panel A. Observed				
$\widetilde{EIP1}$	0.011	0.075	0.102	0.234				
	(0.016)	(0.020)	(0.028)	(0.059)				
$\mathbb{1}[\widetilde{EIP1} > 0]$					6.5	96.5	80.8	336.5
					(25.3)	(36.6)	(46.4)	(96.6)
				Panel B. Imputed				
$\widetilde{EIP1}$	0.027	0.051	0.247	0.356				
	(0.018)	(0.029)	(0.027)	(0.057)				
$\mathbb{1}[\widetilde{EIP1} > 0]$					132.2	32.5	318.1	482.8
					(25.3)	(42.1)	(48.1)	(91.0)
				Panel C. Imputed and Restricted				
$\widetilde{EIP1}$	0.097	0.053	0.250	0.354				
	(0.017)	(0.030)	(0.027)	(0.058)				
$\mathbb{1}[\widetilde{EIP1} > 0]$					132.3	32.6	318.5	482.2
					(25.3)	(42.2)	(48.1)	(91.0)
	Average quarterly household spending							
Panels A and B	\$2,258	\$4,429	\$5,962	\$14,381	\$2,258	\$4,429	\$5,962	\$14,381
Panel C	\$2,256	\$4,427	\$5,958	\$14,377	\$2,256	\$4,427	\$5,958	\$14,377

Notes: Table reports estimation of equations 3 to 5 with $S = 1$, with scaled dollar change in consumption as the dependent variable and using weighted least squares using average weights. The rows in Panels A and B use the final sample restricted to CUs on the March and April 2021 interview cycle. The rows in Panel C further restrict the sample to all observations with imputed EIP1 value less than \$4,520. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. Besides separate intercepts, regressions also include interview month dummies, scaled age, and change in the size of the CU. For Panel A, the columns have 3,541, 3,543, 3,543, and 3,544 treated observations, and 2,264 never-treated or not-yet-treated observations except for the first column which has 2,261. For Panel B, the columns have 3,981, 3,985, 3,985, and 3,986 treated observations, and 1,822 never-treated or not-yet-treated observations except for the first column which has 1,821. For Panel C, the columns have 3,970, 3,974, 3,974, and 3,975 treated observations, and 1,822 never-treated or not-yet-treated observations except for the first column which has 1,821.

Table C.9: The contemporaneous response of consumer expenditures to imputed EIP2 receipt

	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services
	MPC				*Dollars spent*			
				Panel A. Observed				
$\widetilde{EIP2}$	0.026	0.148	0.130	0.324				
	(0.025)	(0.037)	(0.047)	(0.104)				
$\mathbb{1}[\widetilde{EIP2} > 0]$					18.0	149.9	126.8	343.0
					(32.7)	(58.2)	(68.7)	(140.1)
				Panel B. Imputed				
$\widetilde{EIP2}$	0.078	0.370	0.235	0.111				
	(0.029)	(0.039)	(0.041)	(0.096)				
$\mathbb{1}[\widetilde{EIP2} > 0]$					103.0	355.5	235.7	361.2
					(28.5)	(42.5)	(46.2)	(120.4)
				Panel C. Imputed and Restricted				
$\widetilde{EIP2}$	0.090	0.412	0.262	0.092				
	(0.032)	(0.045)	(0.047)	(0.109)				
$\mathbb{1}[\widetilde{EIP2} > 0]$					102.8	355.8	236.0	352.1
					(28.5)	(42.5)	(46.2)	(46.2)
	Average quarterly household spending							
Panels A and B	\$2,345	\$4,631	\$6,111	\$14,734	\$2,345	\$4,631	\$6,111	\$14,734
Panel C	\$2,336	\$4,618	\$6,100	\$14,717	\$2,336	\$4,618	\$6,100	\$14,717

Notes: Table reports estimation of equations 3 to 5 with $S = 1$, with scaled dollar change in consumption as the dependent variable and using weighted least squares using average weights. The rows in Panels A and B use the final sample restricted to CUs on the March and April 2021 interview cycle. The rows in Panel C further restrict the sample to all observations with imputed EIP2 less than \$3,527. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. Besides separate intercepts, regressions also include interview month dummies, scaled age, change in the size of the CU, and controls for observed EIP1 and EIP3. For Panel A, the columns have 1,755 treated observations except for the first column that has 1,753, and 3,568, 3,576, 3,578, and 3,579 never-treated or not-yet-treated observations. For Panel B, the columns have 3,672, 3,677, 3,679, and 3,679 treated observations, and 1,649, 1,654, 1,654, and 1,655 never-treated or not-yet-treated observations. For Panel C, the columns have 3,632, 3,637, 3,639, and 3,639 treated observations, and 1,649, 1,654, 1,654, and 1,655 never-treated or not-yet-treated observations.

Table C.10: The contemporaneous response of consumer expenditures to imputed EIP3 receipt

	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services	Food and alcohol	Strictly Nondurables	Nondurable goods and services	All CE goods and services
	MPC				*Dollars spent*			
				Panel A. Observed				
$\widetilde{EIP3}$	0.041	0.042	0.002	-0.001				
	(0.014)	(0.020)	(0.023)	(0.053)				
$\mathbb{1}[\widetilde{EIP3} > 0]$					133.2	133.4	47.6	-75.7
					(37.0)	(57.8)	(51.8)	(122.5)
				Panel B. Imputed				
$\widetilde{EIP3}$	0.028	0.140	0.126	0.179				
	(0.012)	(0.017)	(0.021)	(0.042)				
$\mathbb{1}[\widetilde{EIP3} > 0]$					42.8	282.7	165.8	-191.0
					(32.1)	(40.0)	(47.7)	(99.9)
				Panel C. Imputed and Restricted				
$\widetilde{EIP3}$	0.011	0.141	0.126	0.173				
	(0.011)	(0.017)	(0.022)	(0.044)				
$\mathbb{1}[\widetilde{EIP3} > 0]$					44.1	283.5	166.9	-182.4
					(32.1)	(40.0)	(47.8)	(100.0)
	Average quarterly household spending across three waves							
Panels A and B	\$2,311	\$4,561	\$5,970	\$13,971	\$2,311	\$4,561	\$5,970	\$13,971
Panel C	\$2,301	\$4,548	\$5,961	\$13,940	\$2,301	\$4,548	\$5,961	\$13,940

Notes: Table reports estimation of equations 3 to 5 with $S = 1$, with scaled dollar change in consumption as the dependent variable and using weighted least squares using average weights. The rows in Panels A and B use the final sample restricted to CUs on the May and June 2021 interview cycle. The rows in Panel C further restrict the sample to all observations with imputed EIP3 less than \$10,212. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. Besides separate intercepts, regressions also include interview month dummies, scaled age, change in the size of the CU, and controls for the observed values of EIP1 and EIP2. For Panel A, the columns have 2,429, 2,429, 2,431, and 2,431 treated observations and 2,331, 2,337, 2,338, and 2,335 never-treated or not-yet-treated observations. For Panel B, the columns have 3,205, 3,206, 3,209, and 3,209 treated observations and 1,555, 1,560, 1,560, and 1,557 never-treated or not-yet-treated observations. For Panel C the columns have 3,183, 3,184, 3,187, and 3,187 treated observations and 1,555, 1,560, 1,560, and 1,557 never-treated or not-yet-treated observations.

Table C.11: The longer-term response of consumer expenditures to EIP1 receipt

	Dependent variable: scaled dollar change in spending on								
	Panel A: Observed			*Panel B: Imputed*			*Panel C: Imputed and Restricted*		
	Strictly non-durables	Nondurables	All CE goods and services	Strictly non-durables	Nondurables	All CE goods and services	Strictly non-durables	Nondurables	All CE goods and services
$\widetilde{EIP1}_t$	0.075	0.102	0.234	0.051	0.247	0.356	0.053	0.250	0.354
	(0.020)	(0.028)	(0.059)	(0.029)	(0.027)	(0.057)	(0.030)	(0.027)	(0.058)
$\widetilde{EIP1}_{t-1}$	-0.011	-0.080	-0.017	-0.092	-0.057	-0.153	-0.092	-0.056	-0.154
	(0.020)	(0.028)	(0.070)	(0.050)	(0.028)	(0.070)	(0.050)	(0.029)	(0.070)
	Implied cumulative fraction of EIP spent over two three-month periods								
	0.139	0.124	0.452	0.0100	0.438	0.559	0.0136	0.444	0.555
	(0.051)	(0.068)	(0.158)	(0.071)	(0.069)	(0.153)	(0.072)	(0.070)	(0.154)

Notes: Table reports β_0 and β_1 from estimation of equations 3 to 5 with $S = 1$. Regressions also include interview month dummies, a separate intercept for non-recipients, scaled age, and change in the size of the CU. Panels A and B use the final sample restricted to CUs on the June and July 2020 interview cycle. Panel C further restrict the sample to all observations with imputed EIP1 value less than \$4,520. Regressions are conducted using weighted least squares, where the weights applied are average weights. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. For Panel A, the columns have 3,543 treated observations except for the last column which has 3,544, and 2,264 never-treated or not-yet-treated observations. For Panel B, the columns have 3,985 treated observations except for the last column which has 3,986, and 1,822 never-treated or not-yet-treated observations. For Panel C, the columns have 3,974 treated observations except for the last column which has 3,975, and 1,822 never-treated or not-yet-treated observations.

Table C.12: The longer-term response of consumer expenditures to imputed EIP2 receipt

	Dependent variable: scaled dollar change in spending on								
	Panel A: Observed			*Panel B: Imputed*			*Panel C: Imputed and Restricted*		
	Strictly non-durables	Nondurables	All CE goods and services	Strictly non-durables	Nondurables	All CE goods and services	Strictly non-durables	Nondurables	All CE goods and services
$\widetilde{EIP2}_t$	0.148	0.130	0.324	0.370	0.235	0.111	0.412	0.262	0.092
	(0.037)	(0.047)	(0.104)	(0.039)	(0.041)	(0.096	(0.045)	(0.047)	(0.109)
$\widetilde{EIP2}_{t-1}$	0.080	-0.022	-0.052	0.158	-0.060	-0.015	0.172	-0.051	-0.028
	(0.051)	(0.060)	(0.155)	(0.052)	(0.050)	(0.120)	(0.052)	(0.050)	(0.121)
	Implied cumulative fraction of EIP spent over two three-month periods								
	0.376	0.238	0.595	0.898	0.410	0.206	0.996	0.472	0.155
	(0.105)	(0.130)	(0.305)	(0.114)	(0.113)	(0.269)	(0.124)	(0.125)	(0.297)

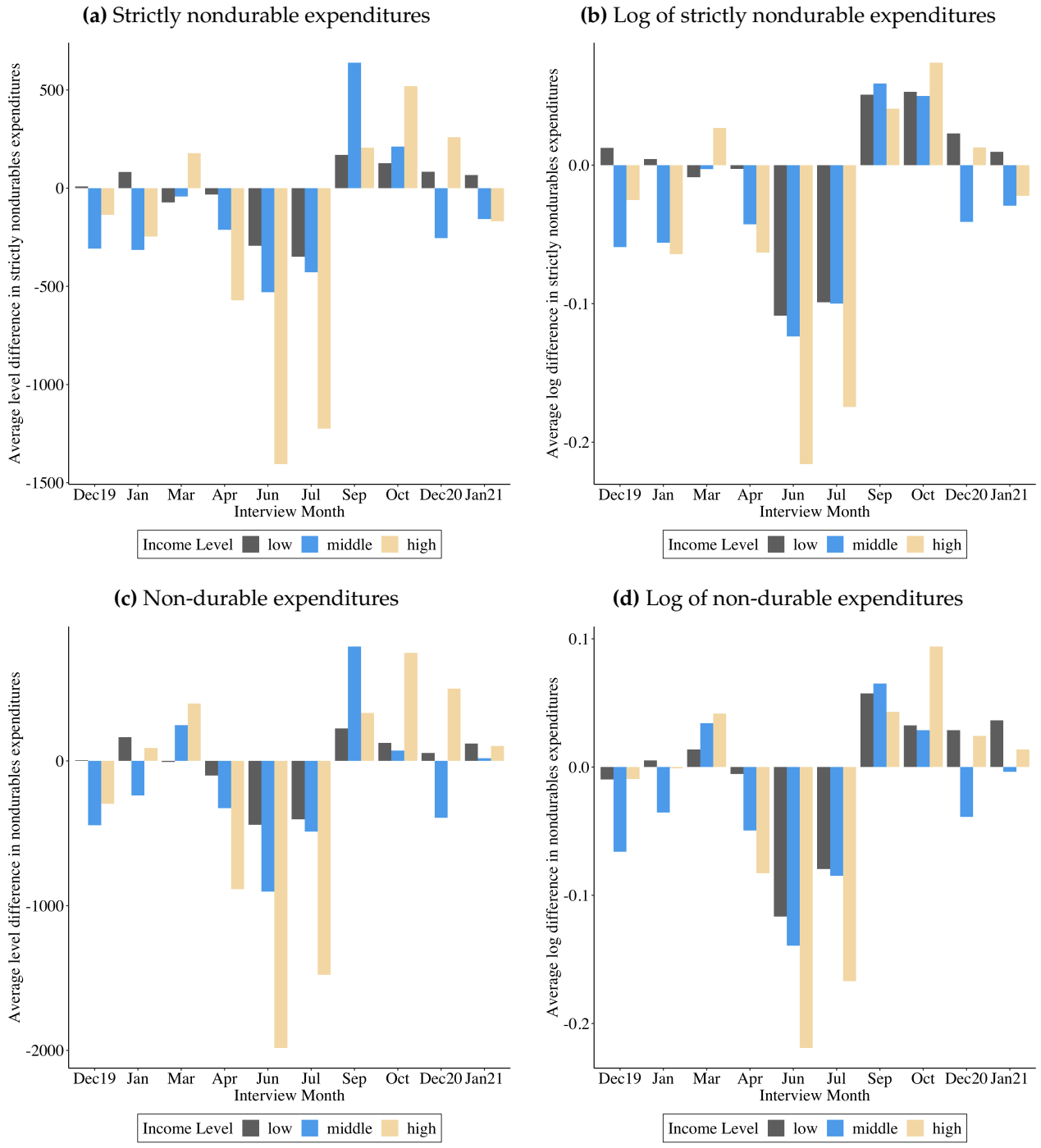
Notes: Table reports β_0 and β_1 from estimation of equations 3 to 5 with $S = 1$. Regressions also include interview month dummies, a separate intercept for non-recipients, scaled age, change in the size of the CU, and controls for observed EIP1 and EIP3. The rows in Panels A and B use the final sample restricted to CUs on the March and April 2021 interview cycle. The rows in Panel C further restrict the sample to all observations with imputed EIP2 less than \$3,527. Regressions are conducted using weighted least squares, where the weights applied are average weights. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. For Panel A, the columns have 1,755 treated observations, and 3,576, 3,578, and 3,579 never-treated or not-yet-treated observations. For Panel B, the columns have 3,679 treated observations except for the first column that has 3,677, and 1,654 never-treated or not-yet-treated observations except for the last column that has 1,655. For Panel C, the columns have 3,639 treated observations except for the first column that has 3,637, and 1,654 never-treated or not-yet-treated observations except for the last column that has 1,655.

Table C.13: The longer-term response of consumer expenditures to imputed EIP3 receipt

	Dependent variable: scaled dollar change in spending on								
	Panel A: Observed			*Panel B: Imputed*			*Panel C: Imputed and Restricted*		
	Strictly non-durables	Nondurables	All CE goods and services	Strictly non-durables	Nondurables	All CE goods and services	Strictly non-durables	Nondurables	All CE goods and services
$\widetilde{EIP3}_t$	0.042	0.002	-0.001	0.140	0.126	0.179	0.141	0.126	0.173
	(0.020)	(0.023)	(0.053)	(0.017)	(0.021)	(0.042)	(0.017)	(0.022)	(0.044)
$\widetilde{EIP3}_{t-1}$	0.005	-0.049	-0.164	-0.091	-0.050	-0.275	-0.091	-0.050	-0.274
	(0.010)	(0.022)	(0.058)	(0.011)	(0.018)	(0.042)	(0.011)	(0.018)	(0.042)
	Implied cumulative fraction of EIP spent over two three-month periods								
	0.089	-0.045	-0.166	0.188	0.201	0.082	0.191	0.201	0.072
	(0.044)	(0.058)	(0.136)	(0.040)	(0.053)	(0.109)	(0.040)	(0.054)	(0.113)

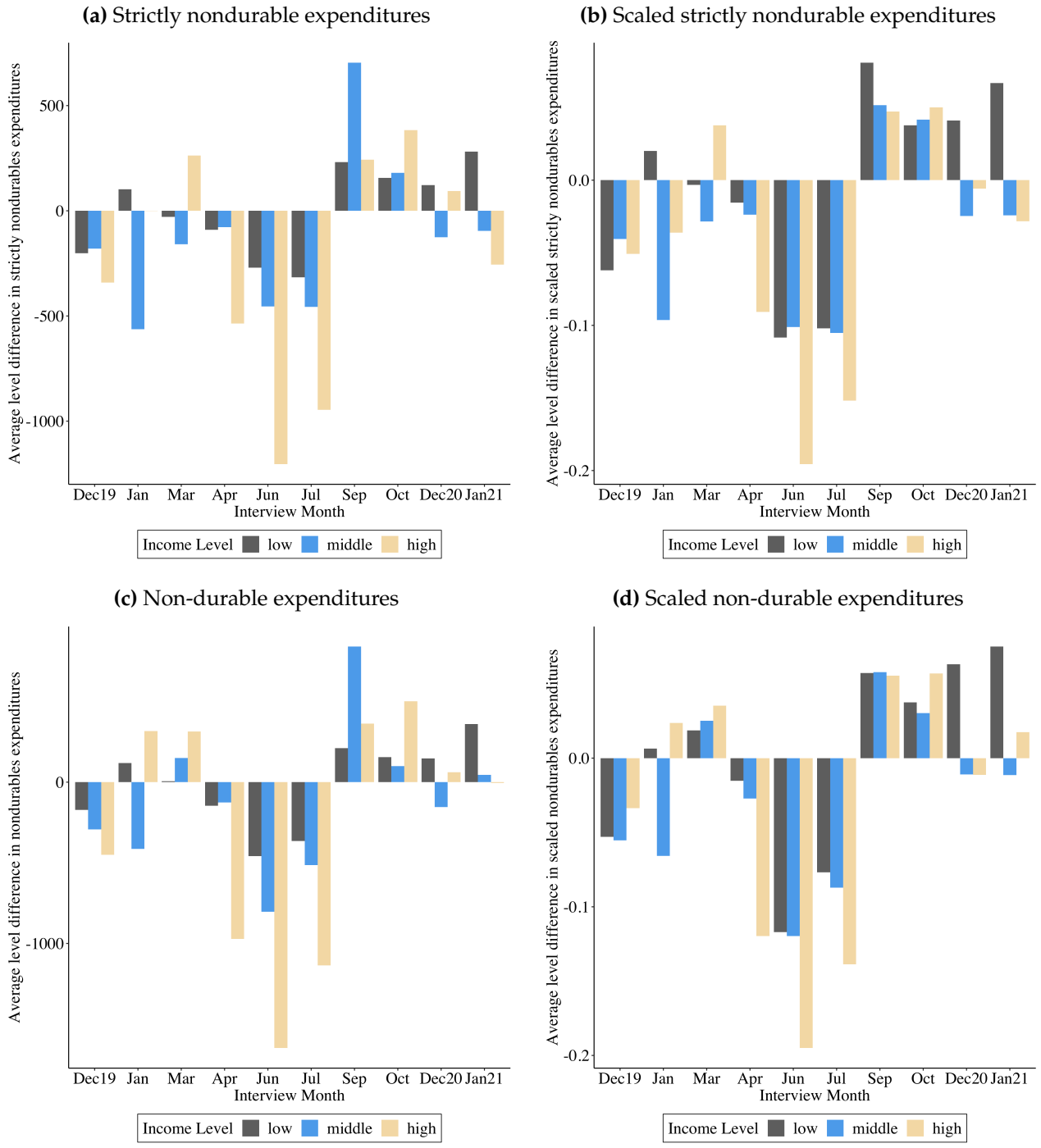
Notes: Table reports β_0 and β_1 from estimation of equations 3 to 5 with $S = 1$. Regressions also include interview month dummies, a separate intercept for non-recipients, scaled age, change in the size of the CU, and controls for the observed values of EIP1 and EIP2. The rows in Panels A and B use the final sample restricted to CUs on the May and June 2021 interview cycle. The rows in Panel C further restrict the sample to all observations with imputed EIP3 less than $10,212. Regressions are conducted using weighted least squares, where the weights applied are average weights. Standard errors included in parentheses are adjusted for arbitrary within-household correlations and heteroskedasticity. For Panel A the columns have 2,431 treated observations except for the first column that has 2,431, and 2,337, 2,338, and 2,335 never-treated or not-yet-treated observations. For Panel B, the columns have 3,209 treated observations except for the first column that has 3,206 and 1,560 never-treated or not-yet-treated observations except for the last column that has 1,557. For Panel C the columns have 3,187 treated observations except for the first column that has 3,184 and 1,560 never-treated or not-yet-treated observations except for the last column that has 1,557.

Figure C.1: Average change in non-durable expenditures among all CE households



Note: CE data, the sample of all households used in Table 6. Each income group contains one-third of the sample. Averages are unweighted.

Figure C.2: Average change in scaled non-durable expenditures in the final sample



Note: CE data, the final sample of all households used in Table C.8. Each income group contains one-third of the sample. Averages are weighted.