

# Evaluating the Impact of Economic Impact Payments

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## **Abstract**

As part of the CARES Act, the IRS distributed \$300 billion in Economic Impact Payments (EIPs) directly to US households. In the Census Bureau's Household Pulse Survey, almost 75% of households receiving an EIP reported using it to mostly pay for expenses. Separating respondents based on labor income interruptions, 84% of unemployed households reported mostly spending their EIPs, compared to 63% of employed households, suggesting that the benefits of more targeted direct transfers may have been limited, especially at the expense of timeliness. Overall, I conclude that Economic Impact Payments played an important role in stabilizing aggregate spending.

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# 1 Introduction

On March 27, 2020, President Donald Trump signed into law the Coronavirus Aid, Relief, and Economic Security (CARES) Act. The \$2.2 trillion economic stimulus bill is the largest of its kind in US history, surpassing the \$831 billion stimulus programs designed in response to the Great Recession. The Act included \$300 billion in direct and untargeted Economic Impact Payments (EIPs) to individuals in the form of a refundable tax credit. Critics of the program have argued for programs more targeted towards those most severely affected, while conceding that the timeliness of the program was due to its relatively simple design (see, for example, International Monetary Fund (2020)).

In this paper, I address two questions. First, did households primarily use their Economic Impact Payments to pay for expenses, add to savings, or pay off debt? Using data from the Census Bureau's new Household Pulse Survey, I find that almost 75% of households who received an EIP reported using it mostly to pay for expenses. Only 11% reported using the EIP to mostly add to saving, and 14% reported using the EIP to mostly pay off debt. I estimate that the aggregate marginal propensity to consume (MPC) under several sets of assumptions is between 0.62 and 0.84.

Second, how did households facing unemployment use their Economic Impact Payments? Studying these households sheds light on the potential impact of a more targeted fiscal program. I find that 84% of households facing (or anticipating) lockdown-related labor income interruptions reported using their Economic Impact Payments mostly to pay for expenses, compared to 63% of households remaining employed. Instead, I find larger slightly larger differences when grouping households by income. Over 85% of low-income households earning less than \$35,000 per year reported using the EIP mostly to pay for expenses, compared to 56% of high-income households earning \$200,000 or more, with most of the difference coming from a larger fraction of high-income households mostly adding to savings using their EIPs.

My analysis is separated into two parts. In the first, I present three findings using the survey questions on how households used their Economic Impact Payments. First, both employed and unemployed households reported large spending responses. Approximately 63% of employed households reported using the EIP mostly to pay for expenses, compared to 84% of unemployed households. The majority of both types of households reported spending the EIP on expenditure categories related to consumption, such as food, clothing, and household supplies.

Second, 74% of unemployed households reported using their EIP to make regular payments for housing (rent or mortgage), utilities, and vehicles, compared to 44% of em-

ployed households. Third, employed households used their EIP to explicitly improve their balance sheets more than unemployed households. Only 11% of unemployed households reported using the EIP mostly to pay off debt, compared to 18% of employed households, and almost 19% of employed households reported using the EIP mostly to add to savings, compared to just 5% of unemployed households.

In the second part, I construct each household's expenditure basket using their survey responses and estimate the average MPC. In the baseline estimate, I assume that the household equally divides the EIP across each expenditure category, and in the preferred alternate estimate, I assume that if the household selects any saving or debt repayment expenditure category, it allocates 50% of the EIP towards saving or debt repayment and the remainder towards consumption. Under these assumptions, the aggregate MPC is between 0.62 and 0.69. When vehicle and housing payments are included as consumption, as opposed to debt repayment, the estimated MPC increases to between 0.78 and 0.84.

The estimated MPC for employed households is between 0.59 and 0.65, compared to between 0.64 and 0.73 for unemployed households. When vehicle and housing payments are included as consumption, these ranges increase to between 0.70 and 0.75 and 0.83 to 0.90 for employed and unemployed households, respectively. These estimates are driven by two factors: the majority of households selected four or less expenditure categories, and, as noted above, a small fraction of households selected the categories corresponding to explicitly saving or repaying debt.

I contribute to the literature on self-reported usage of Economic Impact Payments. While my analysis focuses on how households divided their payments between paying for expenses, adding to saving, or paying off debt, two recent surveys poll households on whether they used their payments to *increase* spending, *increase* saving, or pay off debt. Unsurprisingly, responses to these questions differ significantly to those in the Household Pulse Survey, as the majority of households did not report *increasing* spending. Using an insert in the University of Michigan's May and June 2020 editions of the Survey of Consumers, Sahm, Shapiro and Slemrod (2020) find that 18% of households reported using their payments mostly to increase spending, 38% mostly to increase saving, and 44% mostly to pay off debt. Coibion, Gorodnichenko and Weber (2020) attach a questionnaire to the July 2020 Nielsen Homescan panel and find similar results: 15% of households reported using their payments mostly to increase spending, 33% mostly to increase saving, and 52% mostly to pay off debt. Taken together, these results indicate that households spent a large fraction of their Economic Impact Payments without increasing total spending. For example, of the 75% of households in my sample that reported using their EIPs mostly to pay for expenses, more than 80% reported spending on quasi-fixed monthly ex-

penditures such as rent or mortgage payments, vehicle payments, and utility or telecommunication bills. In agreement with this interpretation are estimates of the spending response using quantitative survey questions or high-frequency transactional data, which indicate that households immediately spent between 25-50% of their Economic Stimulus Payments (Baker, Farrokhnia, Meyer, Pagel and Yannelis, 2020; Karger and Rajan, 2020).

A large literature studies similar stimulus programs in 2001 and 2008 that distributed direct transfers to households (Shapiro and Slemrod, 2003; Johnson, Parker and Souleles, 2006; Agarwal, Liu and Souleles, 2007; Shapiro and Slemrod, 2009; Sahm, Shapiro and Slemrod, 2010; Parker, Souleles, Johnson and McClelland, 2013; Broda and Parker, 2014) using a variety of self-reported survey data and consumption data, which have been demonstrated to produce consistent results (Parker and Souleles, 2019). The spending response in previous programs appears to have been somewhat smaller, which is likely due to the differing macroeconomic conditions and the state-dependency of the marginal propensity to consume out of stimulus payments (Parker, 2011). In 2020, relative to 2001 and 2008, payments were distributed simultaneously with one of the largest declines in consumption spending, both in the US and elsewhere (Dunn, Hood and Driessen, 2020; Andersen, Hansen, Johannesen and Sheridan, 2020; Chen, Qian and Wen, 2020).

## **2 CARES Act and Economic Impact Payments**

US citizens and resident aliens received EIPs of \$1,200 for individual filers or \$2,400 for joint filers. Qualified taxpayers also received \$500 per child. Further, several groups of taxpayers, such as eligible retirees and recipients of some Social Security benefits who do not file tax returns, received a \$1,200 payment automatically.

Above specified thresholds, EIPs were reduced by 5% of adjusted gross income (AGI) above the threshold. These thresholds were \$150,000 for joint filers, \$112,500 for head of household filers, and \$75,000 for individual filers. As a result, EIPs were not distributed to individual filers with no children and income above \$99,000 and joint filers with no children and income above \$198,000. To calculate eligibility and the amount of the EIP, the IRS used tax returns from 2018 or 2019. When 2020 returns are filed, filers who were eligible for a smaller EIP will have their overpayment forgiven, while filers eligible for a larger EIP will receive the difference.

### 3 Data

I use data from the US Census Bureau's Household Pulse Survey (HPS). The HPS was designed to quickly measure the impact of COVID-19 on US households. Unlike other survey products designed by the Census Bureau, the HPS was mainly distributed via text and email. As with other survey products, the HPS begins by selecting a sample from the Bureau's Master Address File. Anticipating lower response rates, the sample is selected such that even with response rates less than 5%, the Bureau is able to create estimates at the national, state, and MSA level. Households are surveyed for up to three consecutive waves of the HPS.

I use the 12th wave of the HPS, which was in the field from July 16 to July 21 and received responses from 86,792 households. Using the national weights provided by the Census Bureau, the survey represents 249,170,916 adults in households.<sup>1</sup> Households were also asked several demographic questions such as race, education level, income, and number of adults and children in the household.

More than 99% of surveyed households answered questions regarding current employment status, expected employment status, and the Economic Impact Payment. In what follows, the labels attached to each question are for referencing in this paper, and not the labels attached to the questions in the HPS.

**Questions About Employment** With respect to employment, households were asked:

**Question 1:** Have you, or has anyone in your household experienced a loss of employment income since March 13, 2020?

**Question 2:** Do you expect that you or anyone in your household will experience a loss of employment income in the next 4 weeks because of the coronavirus pandemic?

For both questions, households were able to select either "yes" or "no". Note that both questions is about any individual in the household, not just the respondent. I label households answering "no" to Q1 and "no" to Q2 as "employed & not anticipating unemployment". I label households answering "no" to Q1 and "yes" to Q2 as "employed & anticipating unemployment". Finally, I label households answering "yes" to Q1 as "unemployed," although it may be the case that individuals in the household who "experience a loss of employment income," as stated in the question, do not become unemployed in the usual sense. Approximately 51% of households reported experience a loss

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<sup>1</sup>For more details on the sample selection and weighting procedure used by the Census Bureau, see Fields, Hunter-Childs, Tersine, Sisson, Parker, Velkoff, Logan and Shin (Forthcoming).

of employment income since March 13, 2020. Just over 45% of households reported not experiencing a loss of employment income nor expecting to lose employment income, and 3.5% reported not experiencing a loss of income but expecting to do so in the next four weeks.

In the first wave of the HPS, the proportion of households that are employed and anticipating no employment loss is 47%, which is similar to the 45% in the 12th wave of the survey. There are larger differences in the other two groups. The proportion of employed households anticipating unemployment peaks at 6% in the first wave of the survey, while the proportion of unemployed households is at its lowest value, 47%. As the survey progresses, households appear to move from being employed and expecting unemployment to being unemployed. I verify that this occurs for the subset of households that appear in multiple panels of the survey.

**Questions About the EIP** Beginning in the 7th wave of the HPS, the Census Bureau asked households about Economic Impact Payments. Households were asked about their majority use of the EIP:

**Question 3:** If you, or anyone in your household, already received, or plan to receive a “stimulus payment,” that is the coronavirus related Economic Impact Payment from the Federal Government, did or will you use it:

1. Mostly to pay for expenses (food, clothing, shelter, etc.)
2. Mostly to pay off debt (car loans, student loans, credit cards)
3. Mostly to add to savings
4. Not applicable, I did not and do not expect to receive the stimulus payment

Households were instructed to select one of these four options. For consistency with the existing literature, I relabel “mostly pay for expenses” as “mostly spend,” “mostly to pay off debt” as “mostly repay debt,” and “mostly to add to savings” as “mostly save.” If the household selected one of the first three options, the survey asked about more specific uses of the EIP:

**Question 4:** What did, or will, you and your household spend the “stimulus payment” on?

Categories: (1) Food (groceries, eating out, take out), (2) Clothing (clothing, accessories, shoes), (3) Household supplies and personal care products, (4)

Household items (TV, electronics, furniture, appliances), (5) Recreational goods (sports and fitness equipment, bicycles, toys, games), (6) Rent, (7) Mortgage (scheduled or monthly), (8) Utilities and telecommunications (natural gas, electricity, cable, internet, cellphone), (9) Vehicle payments (scheduled or monthly), (10) Paying down credit card, student loans, or other debts, (11) Charitable donations or giving to family members, (12) Savings or investments, (13) Other, specify

Households were instructed to select all expenditure categories that applied. Households selected three expenditures categories on average, with 80% of households selecting six or fewer. Approximately 70% of households reported spending some of the EIP on food, making it the most common response by far. Just over 50% of households selected categories 3 (household supplies and personal care products) and 8 (utilities and telecommunications), rounding out the top three responses.

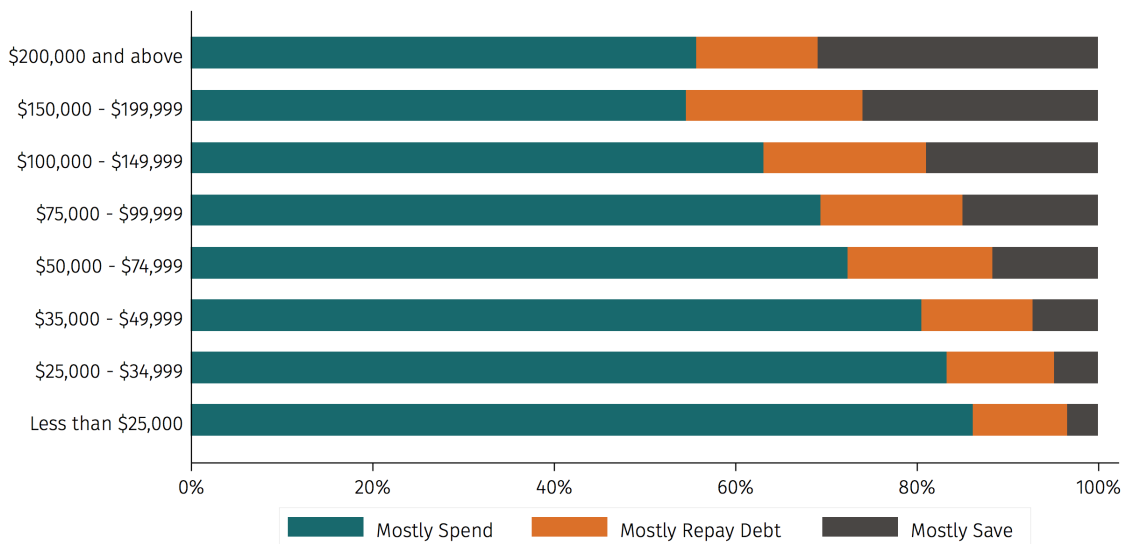
## **4 How Did Households Use Their EIPs?**

In this section, I perform a general analysis of how households reported using their Economic Impact Payments, before dividing households by labor status in Section 5. In the next section, I show that, consistent with the extant literature, lower income households had a larger spending response than high income households. I then demonstrate households were consistent in their answers between the majority use and expenditure category questions. Overall, almost 75% of households reported that they would use their payments mostly to spend, compared to only 14% using their payment mostly to pay off debt and 11% mostly to add to savings.

### **4.1 Usage by Income**

Figure 1 shows the fraction of each income group that reported using the EIP mostly to spend, mostly repay debt, and mostly save. There is a strong, negative relationship between income and using the EIP mostly to pay for expenses. Almost 86% of low income households earning less than \$25,000 per year report using the EIP mostly to spend, as opposed to around 55% for households earning more than \$200,000 per year. Most of the difference is made up of households switching from mostly spending to mostly saving. Only 3% of low income households report using the EIP mostly to add to savings, compared to almost 30% of high-income households. The fraction of households who used

Figure 1: Economic Impact Payment Usage by Income Group



Notes: Fraction of households in each income group that used the Economic Impact Payment mostly to spend (“pay for expenses”), repay debt (“pay off debt”), or save (“add to savings”).

the EIP mostly to repay debt is fairly stable across the income distribution, increasing from approximately 10% for low-income households to 20% for the highest earners.<sup>2</sup>

## 4.2 Matching Majority Use to Expenditure Categories

Table 1 cross-tabulates the expenditure categories that households selected in Question 2 with their responses for how they spent the majority of the EIP in Question 1. Each column represents one of the three answers to Question 1 (mostly pay for expenses, mostly pay off debt, and most add to savings), and each row presents the share of households that selected a given category. Column totals sum to more than 100% because households are able to select multiple categories.

On average, households that reported using the EIP mostly to pay for expenses selected 3.7 categories. Among these households, the three most popular expense categories were food, 83%, household supplies and personal care products, 62%, and utilities and telecommunications, 64%. Around 17% of these households also reported using the EIP to explicitly pay down credit card, student loan, or other debt. Approximately 29% reported paying down their mortgages and 28% reported using the EIP for vehicle payments, which are implicit forms of paying down debt.<sup>3</sup> Only 6% of these households

<sup>2</sup>Regression analysis controlling for demographic factors confirms these patterns (see Appendix Table A.1).

<sup>3</sup>The HPS does not distinguish between vehicle payments for leased versus financed vehicles.



Table 1: Reported EIP Usage by Expenditure Categories and Majority Usage

		Use EIP mostly to . . .		
		Pay for expenses	Pay off debt	Add to savings
1	Food (groceries, eating out, take out)	0.832	0.444	0.194
2	Clothing (clothing, accessories, shoes)	0.228	0.126	0.061
3	Household supplies and personal care products	0.624	0.316	0.123
4	Household items	0.062	0.063	0.072
5	Recreational goods	0.024	0.028	0.038
6	Rent	0.358	0.195	0.068
7	Mortgage (scheduled or monthly)	0.294	0.203	0.078
8	Utilities and telecommunications	0.639	0.330	0.097
9	Vehicle payments (scheduled or monthly)	0.276	0.308	0.058
10	Paying down credit card, student loans, or other debts	0.172	0.655	0.097
11	Charitable donations or giving to family members	0.037	0.049	0.133
12	Savings or investments	0.056	0.113	0.711
13	Other, specify	0.050	0.068	0.065

*Notes:* Responses to survey questions regarding majority and categorical usage of Economic Impact Payments. Respondents selected one majority usage category (pay for expenses, pay for debt, or add to savings) and multiple categorical responses. See Section 3 for survey instruments.

reported using the EIP for savings or investments.

Households that reported using the EIP mostly to pay off debt selected 2.9 categories on average. Approximately 68% used the EIP to pay down credit card, student loan, or other debt, 20% paid down their mortgages, and 31% made vehicle payments. A large fraction of these households also selected regular spending categories, including food, 44%, household supplies and personal care products, 32%, and utilities and telecommunications, 33%.

Finally, households that used the EIP mostly to add to savings selected 1.8 categories on average, and approximately 71% selected using the EIP for savings or investments. The next most frequent category, food, was selected by 19% of households. Only 10% of households in this group reported explicitly using the EIP to pay down credit card, student loans, or other debts, and just 8% and 6% of households paid down mortgages or made vehicle payments, respectively.

Overall, households' responses to Questions 1 and 2 were largely consistent. Households reporting they used the EIP mostly to pay for expenses selected various spending categories, in addition to explicitly and implicitly repaying debt. The majority of households reporting they used the EIP mostly to pay down debt further selected explicitly and implicitly paying down debt, as well as some spending. Households that responded they used the EIP mostly to add to savings overwhelmingly added to savings or investments, with some repayment of debt and other spending.

## **5 EIPs Among Unemployed Households**

Economic Impact Payments were distributed to households regardless of individual economic circumstances stemming from the pandemic-induced lockdown. On the one hand, the program's simple eligibility criteria was instrumental in ensuring timely distribution of payments. On the other, critics of the program argue for a smaller and more targeted program with specific eligibility criteria related to the pandemic. Distributing payments to households unaffected by the pandemic, who, critics argue, would use the fiscal transfer to increase savings or pay off debt, unnecessarily adds to the public deficit.

In this section, I contrast between unemployed households, who would have been the focus of a more targeted program, and employed households, who would have been excluded from such a program. Consistent with economic theory and existing studies of fiscal programs, unemployed households had larger spending responses than employed households. However, even employed households had large and economically significant spending responses, quelling fears that these households simply increased their per-

Table 2: Majority Usage of Economic Impact Payments by Labor Status

	Use EIP mostly to . . .		
	Pay for expenses	Pay off debt	Add to savings
<hr/>			
Base Group: Employed			
Anticipating Unemployment	0.141 (0.004)	-0.037 (0.003)	-0.099 (0.003)
Unemployed	0.189 (0.002)	-0.066 (0.001)	-0.121 (0.001)
<hr/>			
Observations	395,695	395,695	395,695
$R^2$	0.11	0.02	0.09

*Notes:* Estimates from linear regression with time fixed effects and demographic factors. Observations pooled from weeks 7-12 of Household Pulse Survey. Robust standard errors are clustered at the household level. See Section 5.1.

sonal wealth.

## 5.1 Usage by Labor Status

Recall that in the entire sample, 75% of households reported using their EIPs mostly to pay for expenses, 14% mostly to repay debt, and 11% mostly to add to savings. Dividing households by labor status reveals import heterogeneity in EIP usage. Approximately 63% of employed households reported they would mostly spend the EIP, compared to 81% of employed households anticipating unemployment and 84% of unemployed households. Despite differences in spending response between labor status groups, the majority of both employed and unemployed households reported using their Economic Impact Payments mostly to pay for expenses.

This important finding dispels fears that these untargeted payments were used by households remaining gainfully employed solely to increase their personal wealth. Instead, just under 20% of employed households reported they would use the EIP mostly to repay debt, compared to 11% for households that were either unemployed and anticipating unemployment or unemployed. Approximately 19% of employed households reported they would most save the EIP, compared to 9% of employed households anticipating unemployment and 5% of unemployed households.

In Table 2, I estimate the regression equation

$$EIP\ Usage\ Category_{it} = \gamma_t + \sum_{g=2}^3 \alpha_g Labor\ Status_{git} + \beta X_{it} + u_{it}. \quad (1)$$

using OLS. Each column represents a different dependent variable,  $EIP\ Usage\ Category_{it}$ , corresponding to whether the respondent selected that they mostly spent, mostly saved, or mostly repaid debt using their Economic Impact Payment. Each  $Labor\ Status_{git}$  is an indicator that activates if the household is either anticipating unemployment or unemployed. As noted in Section 3, the questions regarding Economic Impact Payments began in week 7, and in total, the estimation includes almost 400,000 (unweighted) observations of households from weeks 7 to 12 that reported receiving Economic Impact Payments.

The vector of covariates,  $X_{it}$ , includes indicators for income group, gender, hispanic status, race, education, and values for the total number of people in the household and the total number of people in the household under 18-years-old. Each row of differential effects sums to zero since the respondent must have selected one of the three usage categories. For example, unemployed households were 19 pp more likely to report using the EIP mostly to pay for expenses, 7 pp less likely to report using the EIP mostly to pay off debt, and 12 pp less likely to report using the EIP mostly to add to savings. The estimated coefficients in the table indicate that even controlling for demographic characteristics, the patterns in the analysis above remain true.

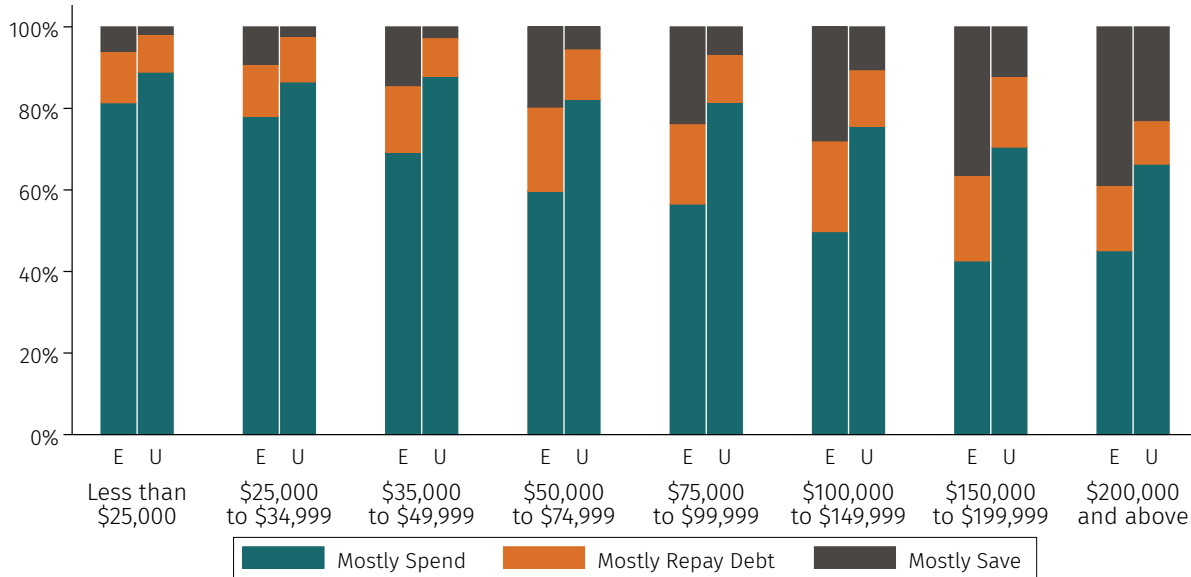
## 5.2 Income as a Determinant of Behavior

The proportion of households reporting unemployment is strictly monotonically decreasing with total household income. Approximately 60% of households with less than \$25,000 in total income reported a loss of labor income, compared to only 47% for households with between \$75,000 and \$99,999 in total income and 33% for households with more than \$200,000 in total income. Across the income distribution, only a small fraction of between 2.5% and 4.5% of households reported currently being employed but anticipating a loss of labor income. For brevity, I combine households that are either employed and anticipating unemployment or unemployed into a single category called “unemployed.”

Figure 2 shows the fraction of households in each income and labor status group that used the EIP mostly to spend, repay debt, or save. As in Figure 1, there is a strong and negative relationship between income and the fraction of households that used the majority of the EIP to pay for expenses. Within each income group, a larger fraction of unemployed households reported mostly spending their EIP compared to employed households. In Table A.2 of the Online Appendix, I confirm the patterns discussed in this section using standard regression analyses.

Low-income households reported large spending response regardless of labor status. Almost 89% of unemployed low-income households earning less than \$25,000 per

Figure 2: EIP Usage by Labor Status and Income Group



Notes: "E" bars represent employed households who reported no income interruption since March 2020 and no anticipation of an interruption. "U" bars represent unemployed households who are either currently unemployed or currently employed and anticipating unemployment soon.

year reported using the EIP mostly to spend, compared to 81% of employed low-income households. As income increases, the difference in spending response between employed and unemployed households begins to widen. For middle-income households earning \$50,000 to \$74,999 per year, 60% of unemployed households used the EIP mostly to spend, compared to 82% of employed households. For high-income households earning \$200,000 or more per year, only 45% of employed households reported using the EIP mostly to spend, compared to 66% of unemployed households. Most of the differences were made up of households with more income switching from mostly spending mostly to saving the EIP. While only 2% of unemployed and 6% of employed low-income households reported using the EIP mostly to save, these figures increased to 23% of unemployed and 39% of employed high-income households. Approximately 13% of employed low-income households used the EIP mostly to repay debt, compared to 16% of employed high-income households.

### 5.3 Categorical Responses

Table 3 cross-tabulates the usage categories that households selected in Question 2 with the labor force status (employed, employed but anticipating unemployment, and unemployed). Columns do not sum to one because households are able to select multiple cate-

Table 3: Reported EIP Usage by Expenditure Categories and Labor Status

	Employed	Anticipating Unemp.	Unemp.
1 Food (groceries, eating out, take out)	0.598	0.766	0.791
2 Clothing (clothing, accessories, shoes)	0.186	0.200	0.203
3 Household supplies and personal care products	0.455	0.572	0.579
4 Household items	0.076	0.055	0.054
5 Recreational goods	0.032	0.011	0.022
6 Rent	0.186	0.345	0.394
7 Mortgage (scheduled or monthly)	0.189	0.357	0.305
8 Utilities and telecommunications	0.407	0.649	0.632
9 Vehicle payments (scheduled or monthly)	0.174	0.313	0.320
10 Paying down credit card, student loans, or other debts	0.240	0.246	0.225
11 Charitable donations or giving to family members	0.075	0.038	0.030
12 Savings or investments	0.198	0.106	0.089
13 Other, specify	0.065	0.047	0.045

*Notes:* Responses to survey question regarding categorical usage of Economic Impact Payments for each labor status group. See Question 2 of Section 3 for survey instrument.

gories.

### 5.3.1 Spending on Consumer Goods

Categories 1 to 5 in Table 3 represent spending on consumer goods. Overall, the majority of both employed and unemployed households reported spending on regular consumption goods. Approximately 60% of employed households reported using the EIP to purchase food, compared to 77% of households anticipating unemployment and 79% of unemployed households. Around 45% of employed households reported spending on household supplies and personal goods, compared to 57% of households anticipating unemployment and 58% of unemployed households. There were also similarities in spending across groups. Just under 20% of all three groups of households reported using the EIP to purchase clothing. Relatively few households in any group reported using the EIP for recreational goods or household items.

### 5.3.2 Spending on Recurring Expenses

Categories 6 to 9 in Table 3 represent regular payments that households likely committed to well before the lockdown began. In these categories, the difference between employed households and households unemployed or anticipating unemployment is stark.

Just under 20% of employed households reported using the EIP to pay rent, while approximately 35% of employed households anticipating unemployment and 39% of unemployed households reported using the EIP to pay rent. The rates are very similar for mortgage payments. Approximately 19% of employed households reported paying their mortgage with the EIP, while 36% of employed households anticipating unemployment and 30% of unemployed households reported paying their mortgage with the EIP.<sup>4</sup>

Approximately 41% of employed households used their EIP to pay for utilities and telecommunications, compared to 65% for employed households anticipating unemployment and 63% of unemployed households. Just over 17% of employed households reported using the EIP for a vehicle payment, while 31% of employed households anticipating unemployment and 32% of unemployed households made a vehicle payment using the EIP.

### 5.3.3 Spending on Increasing Wealth and Charitable Giving

Categories 10 and 12 in Table 3 represent repayment of debt and adding to savings, respectively, and category 11 is for charitable donations. Category 13 is a catchall miscellaneous category where respondents were able to write-in their own answers; these were not made available to researchers, but they represent a very small share of total answers.

Employed households did not overwhelmingly direct their Economic Impact Payments towards improving their balance sheets. In fact, all three labor status groups reported similar values for repayment of debt, between 22% and 25%. Only 20% of employed households reported using the EIP to add to savings or invest, relative to 11% of employed households anticipating unemployment and 9% of unemployed households. Just under 8% of employed households made charitable donations using the EIP, compared to 4% of employed households anticipating unemployment and 3% of unemployed households.

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<sup>4</sup>In the Online Appendix, I control for home ownership status, which is closely correlated with income and labor status, and find similar differences across labor status groups and EIP usage for rent or mortgage payments.

## 6 Measuring Total Spending of EIPs

Evaluating the impact of the CARES Act and Economic Impact Payments requires constructing a measure of total spending out of EIPs, or the aggregate marginal propensity to consume (MPC). However, given that the HPS asks households about how they *mostly* spent their stimulus payments, the survey does not provide a direct estimate of the MPC. As noted by Shapiro and Slemrod (2003), if we assume that “mostly spend” corresponds to an MPC of 0.51 and “mostly repay debt” and “mostly save” correspond to an MPC of 0.49, then regardless of the underlying distribution of responses, the aggregate MPC will be near 0.50. To address this, Shapiro and Slemrod (2003) construct a hypothetical distribution of MPCs centered around the fraction of households that responded “mostly spend” and calculate the aggregate average.

Instead, I use the spending categories selected by the household in Question 4 to calculate an estimate for the aggregate MPC. I label categories 7, “Mortgage (scheduled or monthly),” 9, “Vehicle payments (scheduled or monthly),” and 10, “Paying down credit card, student loans, or other debts,” as “repay debt.” I label category 12, “Savings or investments,” as “save,” and the remaining categories as “consume.” I omit category 13, “Other,” but I verify that since this category represents less than 5% of all responses, its exclusion does not make a material difference in my estimates.

Approximately 13% of households selected either “save” or “repay debt” and no other spending categories, implying an MPC of 0.00. Given the similarities between employed households anticipating unemployment and unemployed households documented in 5, I group these two categories of households together and label them as unemployed. Approximately 21% of employed households had an MPC of 0.00, compared to almost 8% of unemployed households. Conversely, 38% of all households did not select either “save” or “repay debt,” implying an MPC of 1.00. Just over 39% of employed households had an MPC of 1.00, similar to the 36% of unemployed households. The remaining 40% of employed households and 56% of unemployed households selected a combination of categories.

### 6.1 Baseline Estimate of Aggregate MPC

In my baseline estimate of the MPC, I assume that if a household selects  $n$  categories, it uses the EIP equally across all  $n$  categories. For example, if the household uses the EIP to save as well as spend in three categories (such as food, recreational goods, and household items), then I estimate that the household’s MPC is 0.75, MPS is 0.25, and MPRD is 0.00. If the household further reports using the EIP to pay down debt, then the MPC is 0.60,



the MPS is 0.20, and the MPRD is 0.20.

The baseline estimated MPC in the entire sample is 0.69, similar to the fraction of households reporting using the EIP mostly to spend, 0.75. The estimated MPS is 0.08 and the MPRD is 0.23, compared to 0.14 and 0.11, the fractions of households reporting they would use the EIP mostly to add to savings and repay debt, respectively. The disparity in estimates arises because of the multiplicity of category selections discussed in Section 4. In particular, many households appear to categorize mortgage and vehicle payments as paying expenses, which is consistent with economic theory on spending versus consumption. Subsection 6.3 discusses this in more detail and presents an alternate estimate of the MPC.

The baseline MPC for employed households is 0.65, compared to 0.73 for unemployed households. The MPRD is 0.22 for employed households and 0.23 for unemployed households. This difference is driven primarily by differences in the MPS, which is 0.13 for employed households and 0.04 for unemployed households. Employed households reported using the EIP to add to savings much more than unemployed households, driving up the MPS and therefore lowering the MPC.

## 6.2 Alternate Estimate of MPC

Alternatively, it is likely that households did not equally distribute their EIPs across all of the usage categories they selected. In this estimate, I focus on the MPC and group together the “repay debt” and “save” categories into a single category labelled “increase wealth.” I calculate the MPC assuming that if a household opts to “increase wealth” and selects at least one spending category, then the household uses fraction  $p \in [0, 1]$  of the EIP to increase wealth, and the remainder to pay for expenses. Under this specification, the estimated MPC for the households that selected “increase wealth” and at least one other spending category is  $1 - p$ .

Setting  $p = 0.25$ , the estimated MPC in the entire sample is 0.74. The MPC for employed households is 0.69, compared to 0.78 for unemployed households. All three estimates are larger than in the baseline estimate, reflecting the fact that the average number of spending categories selected is 2.2. Increasing  $p$  to 0.50, the estimated MPC in the entire sample is 0.62, while the MPC is 0.59 for employed households and 0.64 for unemployed households. In an extreme scenario with  $p = 90\%$ , the aggregate MPC in the entire sample decreases to 0.43. The estimated MPC is 0.43 for employed households and 0.42 for unemployed households.

The alternative estimates illustrate that households had large MPCs even under when

assuming that they spent up to 90% of their EIPs on saving or repaying debt.

### 6.3 Relabeling Mortgage and Car Payments as Spending

As discussed in 4 and reported in Table 1, among households that reported using the EIP mostly to spend, 29% selected paying their mortgage and 28% selected making a vehicle payment. This reflects the fact that although making payments against these secured loans reduces a household's debt obligation, it also usually ensures that the household can continue consuming the good used to secure the loan.

In this section, I re-label these two categories as consumption categories, and only category 10, "Paying down credit card, student loans, or other debts," is labelled as "repay debt." As above, I label category 12, "Savings or investments," as "save," and category 13, "Other," is omitted. The remaining categories are labelled as "consume."

**Baseline Estimate of MPC** The baseline estimated MPC increases to 0.84, reflecting the large fraction of households that reported using the EIP for their mortgage or vehicle payments. The MPRD decreases to 0.09, and the MPS remains 0.08. The MPC increases to 0.75 for employed households and 0.90 for unemployed households. The increase is larger for unemployed households because many more of these households reported using the EIP to make mortgage and vehicle payments.

**Alternate Estimate of MPC** The alternate estimated MPCs are affected by the relabelling since far fewer households selected the explicit debt repayment category than either the mortgage or vehicle payment categories. With  $p = 25\%$ , the MPC for the entire sample is 0.84. The MPC is 0.76 for employed households and 0.89 for unemployed households. With  $p = 50\%$ , the MPC for the entire sample is 0.78. The MPC for employed households is 0.70 and 0.83 for unemployed households. In the extreme case of  $p = 90\%$ , the MPC for the entire sample is 0.68. The MPC is 0.61 for employed households and 0.73 for unemployed households.

In all three cases, the MPC is much higher than above, because there's a lot less people in the explicit debt repayment category. The MPC is higher and reflects that people used the EIP to make car payments and house payments that they otherwise wouldn't have been able to make.

## 7 Conclusions

The CARES Act was drafted in response to one of the largest economic downturns in US history. As part of the Act, the IRS quickly distributed \$300 billion in Economic Impact

Payments directly to all households under a simple income eligibility threshold. I find that almost all households spent or planned to spend a large fraction of their EIPs, and conclude that Economic Impact Payments contributed significantly to stabilizing aggregate spending during the economic downturn associated with COVID-19.

Critics of the Act concede that the direct transfer program's simple design was crucial for the timeliness of payments, but argue for more specific targeting towards households whose income was directly affected by the pandemic-induced lockdown. The analysis in this paper contributes to studying one aspect of this classic trade-off between the timeliness and specificity of government transfer programs. I conclude that since the estimated propensities to consume for employed and unemployed households are similar, a more targeted program would not have yielded a much larger spending response. I find larger differences between households sorted on income, regardless of employment status, suggesting that income may be the more important determinant of EIP usage.

## References

- Agarwal, Sumit, Chunlin Liu, and Nicholas S. Souleles**, “The Reaction of Consumer Spending and Debt to Tax Rebates—Evidence from Consumer Credit Data,” *Journal of Political Economy*, Dec. 2007, 115 (6), 986–1019.
- Andersen, Asger, Emil Toft Hansen, Niels Johannesen, and Adam Sheridan**, “Consumer Responses to the COVID-19 Crisis: Evidence from Bank Account Transaction Data,” Technical Report, Working Paper. 2020.
- Baker, Scott R., R. A. Farrokhnia, Steffen Meyer, Michaela Pagel, and Constantine Yannelis**, “Income, Liquidity, and the Consumption Response to the 2020 Economic Stimulus Payments,” September 2020. NBER Working Paper No. 27097.
- Broda, Christian and Jonathan A. Parker**, “The Economic Stimulus Payments of 2008 and the Aggregate Demand for Consumption,” *Journal of Monetary Economics*, Fall 2014, 68.
- Chen, Haiqiang, Wenlan Qian, and Qiang Wen**, “The Impact of the COVID-19 Pandemic on Consumption: Learning from High Frequency Transaction Data,” Technical Report, Working Paper. 2020.
- Coibion, Olivier, Yuriy Gorodnichenko, and Michael Weber**, “How Did U.S. Consumers Use Their Stimulus Payments?,” August 2020. Working Paper.
- Dunn, Abe C., Kyle K. Hood, and Alexander Driessen**, “Measuring the Effects of the COVID-19 Pandemic on Consumer Spending Using Card Transaction Data,” Technical Report, Working Paper. 2020.
- Fields, JF, J Hunter-Childs, A Tersine, J Sisson, E Parker, V Velkoff, C Logan, and H Shin**, “Design and Operation of the 2020 Household Pulse Survey,” *U.S. Census Bureau*, Forthcoming.
- International Monetary Fund**, “Fiscal Monitor: Policies for the Recovery,” Washington, October 2020.
- Johnson, David S., Jonathan A. Parker, and Nicholas S. Souleles**, “Household Expenditure and the Income Tax Rebates of 2001,” *American Economic Review*, Dec. 2006, 96 (5).
- Karger, Ezra and Aastha Rajan**, “Heterogeneity in the Marginal Propensity to Consume: Evidence from Covid-19 Stimulus Payments,” May 2020. FRB of Chicago Working Paper No. WP 2020-15.

- Parker, Jonathan A.**, “On Measuring the Effects of Fiscal Policy in Recessions,” *Journal of Economic Literature*, September 2011, 49 (3), 703–718.
- , **Nicholas S. Souleles, David S. Johnson, and Robert McClelland**, “Consumer Spending and the Economic Stimulus Payments of 2008,” *American Economic Review*, October 2013, 103 (6), 2530–2553.
- Parker, Jonathan and Nicholas Souleles**, “Reported Effects vs. Revealed-Preference Estimates: Evidence from the Propensity to Spend Tax Rebates,” *American Economic Review: Insights*, 2019, 1 (3), 273–290.
- Sahm, Claudia, Matthew Shapiro, and Joel Slemrod**, “Direct Stimulus Payments to Individuals in the Covid Pandemic,” 2020. Presented in Virtual Macro Seminar on 06/11/2020. See <https://www.youtube.com/watch?v=lnzHSSDbVF0>.
- Sahm, Claudia R., Matthew D. Shapiro, and Joel Slemrod**, “Household Response to the 2008 Tax Rebate: Survey Evidence and Aggregate Implications,” *Tax Policy and the Economy*, 2010, 24 (1), 69–110.
- Shapiro, Matthew D. and Joel Slemrod**, “Consumer Response to Tax Rebates,” *American Economic Review*, 2003, 93 (1), 381–396.
- **and** —, “Did the 2008 Tax Rebates Stimulate Spending?,” *American Economic Review: Papers & Proceedings*, 2009, 99 (2), 374–379.

## A Regression Analysis

In Table A.1, I estimate the regression equation

$$EIP\ Usage\ Category_{it} = \alpha_i + \gamma_t Labor\ Status_{git} + \beta X_{it} + u_{it}. \quad (2)$$

using OLS. Each column represents a different dependent variable,  $EIP\ Usage\ Category_{it}$ , corresponding to whether the respondent selected that they mostly spent, mostly saved, or mostly repaid debt using their Economic Impact Payment. The vector of covariates,  $X_{it}$ , includes indicators for income group, gender, hispanic status, race, education, and values for the total number of people in the household and the total number of people in the household under 18-years-old. Exploiting the panel nature of the data (as noted in Section 3, each household was surveyed up to three times over 12-week period), I estimate individual and time fixed effects,  $\alpha_i$  and  $\gamma_t$ , respectively. Each row of differential effects sums to zero since the respondent must have selected one of the three usage categories.

In Table A.2, I re-estimate the model for each labor status group and income group, corroborating the visual evidence in Figure 2 that there are smaller differences between lower-income employed and unemployed households. The estimates in each row are the difference between employed and unemployed households within a given income group. For example, for low-income households earning less than \$25,000 per year, an unemployed household was 8.6 pp more likely than an employed household to report using the majority of its EIP to pay for expenses. This difference increases to 22% for high-income households earning \$200,000 or more per year.

Table A.1: Regression: EIP Usage and Demographic Factors

	Use EIP mostly to...		
	Pay for expenses	Pay off debt	Add to savings
Income Base Group: Less than \$25,000			
Income Ind.: \$25,000 - \$34,999	-0.020 (0.008)	0.014 (0.007)	0.006 (0.005)
Income Ind.: \$35,000 - \$49,999	-0.043 (0.010)	0.024 (0.009)	0.019 (0.006)
Income Ind.: \$50,000 - \$74,999	-0.069 (0.011)	0.034 (0.010)	0.036 (0.008)
Income Ind.: \$75,000 - \$99,999	-0.088 (0.013)	0.043 (0.011)	0.045 (0.009)
Income Ind.: \$100,000 - \$149,999	-0.112 (0.015)	0.047 (0.012)	0.064 (0.011)
Income Ind.: \$150,000 - \$199,999	-0.134 (0.017)	0.050 (0.014)	0.083 (0.013)
Income Ind.: \$200,000 and above	-0.134 (0.024)	0.023 (0.020)	0.110 (0.019)
Gender Base Group: Male			
Gender Ind.: Female	-0.012 (0.011)	0.006 (0.009)	0.006 (0.009)
Hispanic Base Group: No, not of Hispanic, Latino, or Spanish origin			
Hispanic Ind.: Yes, of Hispanic, Latino, or Spanish origin	-0.009 (0.014)	0.024 (0.012)	-0.015 (0.009)
Race Base Group: White, Alone			
Race Ind.: Black, Alone	0.028 (0.022)	0.008 (0.018)	-0.036 (0.015)
Race Ind.: Asian, Alone	0.004 (0.024)	-0.008 (0.023)	0.004 (0.017)
Race Ind.: Any other race alone, or race in combination	0.010 (0.012)	0.003 (0.010)	-0.013 (0.008)
Education Base Group: No high school			
Educ. Ind: Some high school	-0.008 (0.026)	0.022 (0.024)	-0.014 (0.016)
Educ. Ind: High school graduate or equivalent (for example GED)	0.002 (0.027)	0.020 (0.025)	-0.022 (0.017)
Educ. Ind: Some college, but degree not received or is in progress	-0.041 (0.028)	0.048 (0.026)	-0.007 (0.018)
Educ. Ind: Associates degree (for example AA, AS)	-0.063 (0.030)	0.064 (0.027)	-0.001 (0.020)
Educ. Ind: Bachelor's degree (for example BA, BS, AB)	-0.052 (0.030)	0.044 (0.028)	0.008 (0.020)
Educ. Ind: Graduate degree (for example master's, professional, doctorate)	-0.066 (0.031)	0.047 (0.028)	0.019 (0.021)
Total number of people in household	-0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)
Total number of people under 18-years-old in household	0.019 (0.005)	-0.002 (0.004)	-0.017 (0.003)
Constant	0.825 (0.030)	0.065 (0.027)	0.110 (0.020)
Observations	396,418	396,418	396,418
R <sup>2</sup>	0.05	0.01	0.05

Table A.2: Regression: Differences Between EIP Usage by Income and Labor Status

	Use EIP mostly to...		
	Pay for expenses	Pay off debt	Add to savings
Less than \$25,000	0.086 (0.004)	-0.035 (0.003)	-0.050 (0.002)
\$25,000 - \$34,999	0.138 (0.004)	-0.052 (0.003)	-0.085 (0.003)
\$35,000 - \$49,999	0.182 (0.004)	-0.073 (0.003)	-0.107 (0.003)
\$50,000 - \$74,999	0.206 (0.003)	-0.074 (0.003)	-0.131 (0.003)
\$75,000 - \$99,999	0.220 (0.004)	-0.076 (0.003)	-0.141 (0.003)
\$100,000 - \$149,999	0.212 (0.004)	-0.066 (0.003)	-0.144 (0.003)
\$150,000 - \$199,999	0.215 (0.006)	-0.049 (0.005)	-0.163 (0.005)
\$200,000 and above	0.222 (0.010)	-0.047 (0.007)	-0.176 (0.009)

*Notes:* Estimates represent the difference in responses between unemployed and employed households.