Economic Impact Payments and Household Spending During the Pandemic

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Recent Lump-Sum Fiscal Payment Programs in the US

Tax Payment	Total Estimated Cost	Payment per filer	Payment per qualifying dependent	Number of payments
2020 Economic Impact Payments, CARES Act	$292 billion	$1,200 single $2,400 joint	$500	162 million
2020 Economic Impact Payments, Tax Relief Act of 2020	$142 billion	$600 single $1,200 joint	$600	147 million
2021 Economic Impact Payments, American Rescue Plan Act	$409 billion	$1,400 single $2,800 joint	$1,400	175 million

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2001 Economic Recovery Rebates, Economic Growth and Tax Relief Reconciliation Act	$38 billion	$300 single $600 joint	—	92 million
2008 Economic Stimulus Payments, Economic Stimulus Act	$96 billion	$300-$600 single $600-$1,200 joint	$300	130 million

Motivating Questions

1. **Did the EIPs provide widespread, urgently-needed pandemic insurance?**

   1.1 Did households spend their EIPs rapidly after receipt?
   - ▶ Estimate average marginal propensity to spend on consumer expenditures (MPC) using new methods suited for the pandemic

   1.2 Did the different economic situation in 2020-21 lead to different spending responses to EIPs than to tax rebates in 2001 and 2008?
   - ▶ Estimate MPC using the **same** method as the 2001 and 2008 rebates (and the **same** dataset)

2. **Did the EIPs provide pandemic insurance for some households?**

   2.1 Did households who entered the pandemic with little liquid wealth spend more of their EIPs more rapidly?

   2.2 Did households who worked and could not work from home spend more of their EIPs more rapidly?

Main Findings

1. The EIPs did not provide **widespread**, **urgently-needed** pandemic insurance

   ▶ Relatively low average MPCs during the three-month period of arrival on CE-measured non-durable goods and services (44% of total spending)

Share of payment spent on CE non-durable goods and services

| | During 3-month period of receipt | | And also next 3 months |
Policy	Full Sample	Recipients Only	Full Sample, long horizon
2020 EIP 1	0.102	-0.062	0.124
	(0.028)	(0.072)	(0.068)
2020 EIP 2	0.083		0.153
	(0.039)		(0.104)
2021 EIP 3	0.009		-0.030
	(0.018)		(0.047)

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2001 Stimulus Rebates	0.386	0.247	0.691*
	(0.135)	(0.213)	(0.260)
2008 Stimulus Rebates	0.121	0.308	0.347
	(0.055)	(0.112)	(0.155)

Source: Authors calculations on CE survey data, Johnson, Parker, Souleles (2006), Parker Souleles, Johnson, McClelland (2013).

* big due to one outlier in spending on food

Main Findings

1. The EIPs did not provide **widespread**, **urgently-needed** pandemic insurance
   - Relatively low average MPCs during the three-month period of arrival on CE-measured non-durable goods and services (44% of total spending)
     - EIP1/2/3 10% (2.8) / 8% (3.9) / 1% (1.8) for spending on CE non-durable goods
     - EIP3 least reliable estimates
     - Only slightly larger for longer horizons 12-15% for EIP1 and EIP2
     - Some more spending including durable goods

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      ▶ Some more spending including durable goods

2. The EIPs appear to have provided pandemic insurance to some households with little ex ante liquidity and who could not work from home

      ▶ EIP1 MPC roughly twice the average for bottom third of liquidity
      ▶ EIP1 MPC close to three times as large (stat insignificant) for unable to WFH

Why were MPCs lower than in previous episodes?

   ▶ The pandemic; the EIP size or variation across people; statistical uncertainty
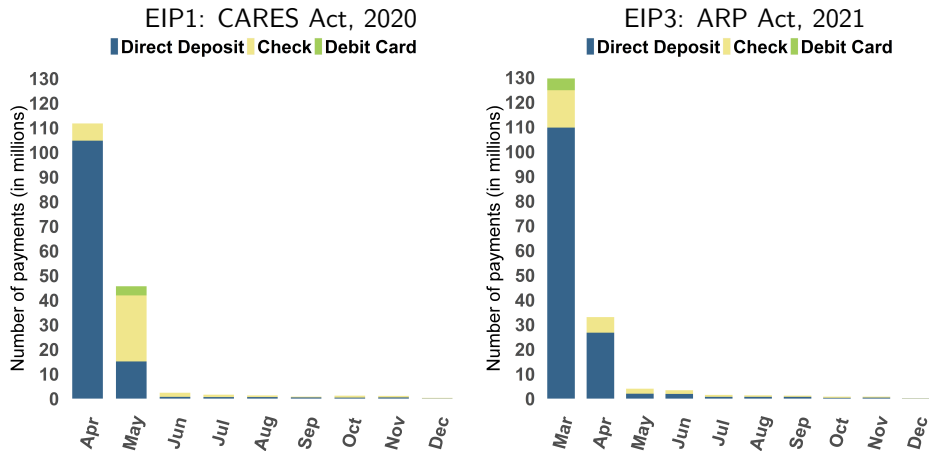
I. The Economic Impact Payments

Figure: Economic Impact Payment Amounts as a Function of AGI and Family Structure
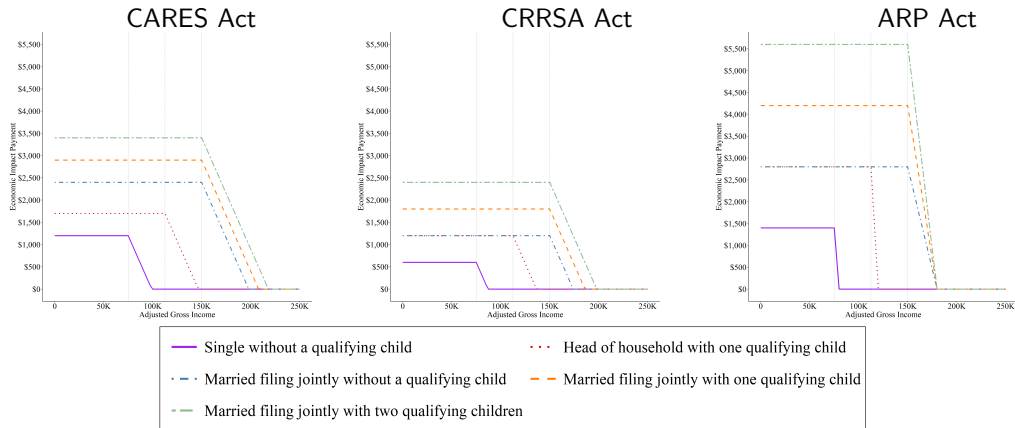
Economic Impact Payment Disbursement

Figure: Economic Impact Payments Over Time and by Mode of Distribution

Note: all EIP2 disbursed in the same month in 2020

II. Estimation of Spending Responses

Basic analysis, to compare to previous studies:

$$\Delta C_{i,t} = \sum_{s=0}^{S} \beta_s EIP_{i,t-s} + \gamma_1 age_{i,t} + \gamma_2 \Delta FamSize_{i,t} + \tau_t + \epsilon_{i,t}$$

- ▶ $\Delta C_{i,j}$ change in expenditures for household i between t and $t-1$
- ▶ $EIP_{i,t-s}$ total dollar amount of EIP1, EIP2, or EIP3 received in period $t-s$
- ▶ $age_{i,t}$ controls for life-cycle patterns
- ▶ $\Delta FamSize_{i,t}$ controls for changes in consumption needs due to family size
- ▶ τ_t controls for average change in spending by period
- ▶ $\varepsilon_{i,t}$ captures movements in consumer expenditures due to individual-level factors
- ▶ Sample: all households or only recipients

II. Estimation of Spending Responses

New analysis, best and more robust estimate of MPC:

$$\Delta \widetilde{C}_{i,t} = \sum_{s=0}^{S} \beta_s \widetilde{EIP}_{i,t-s} + \gamma_1 \widetilde{age}_{i,t} + \gamma_2 \Delta \widetilde{FamSize}_{i,t} + \tau_t + \alpha_{R(i)} + \epsilon_{i,t}$$

1. **Pandemic-appropriate**: Scale by average C for household i $\left(\tilde{X}_{i,t} = X_{i,t}/\bar{C}_i \right)$
   $\Rightarrow \tau_t$ captures percent change in expenditures by period instead of dollar change
   Also include other EIPs as controls when studying each EIP
2. **Econometric advancement**: Drop assumption that β_s does not depend on t by estimating τ_t in first stage using only households who have not received EIPs
   Note: $\alpha_{R(i)}$ absorbs average difference between recipients and never-recipients
3. **Focus on variation in amount and receipt status**: use sample of recipients and "similar" never-recipients by dropping high-income households but keep high-ish income households in ranges where some get EIPs

Results similar for traditional vs. pandemic-adjusted methods, focus on new method

III. Data

- ▶ Consumer Expenditure Interview Survey
  - ▶ Observations at the consumer unit (CU) level
  - ▶ Interviewed up to four times at three month intervals
  - ▶ Reference period is the previous three months
- ▶ EIP questions
  - ▶ Included starting with June 2020 interviews, except January 2021
  - ▶ Receipt, # of payments, amount received, mode of receipt, and how mostly used
  - ▶ Similar phrasing CE 2001 and 2008 tax rebate questions
- ▶ Sample:
  - ▶ Drop households on May 2020 interview schedule due to missing EIP information
  - ▶ As noted: Drop high income households (based on low fraction reporting EIP)

IV. Results: The Average MPC to EIP Receipt

	Dependent variable: scaled dollar change in spending on								
	Panel A: EIP1			*Panel B: EIP2*			*Panel C: EIP3*		
	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
$\widetilde{EIPn}_t$	0.075 (0.020)	0.102 (0.028)	0.234 (0.059)	0.103 (0.031)	0.083 (0.039)	0.247 (0.090)	0.030 (0.016)	0.009 (0.018)	0.015 (0.043)
$\widetilde{EIPn}_{t-1}$	-0.011 (0.020)	-0.080 (0.028)	-0.017 (0.070)	0.030 (0.038)	-0.013 (0.045)	0.107 (0.124)	0.000 (0.010)	-0.049 (0.019)	-0.150 (0.049)
	Implied cumulative fraction of EIP spent over two three-month periods								
	0.139 (0.051)	0.124 (0.068)	0.452 (0.158)	0.235 (0.086)	0.153 (0.104)	0.601 (0.257)	0.059 (0.036)	-0.030 (0.047)	-0.119 (0.112)

$\Rightarrow$ Small MPC for contemporaneous and lagged spending on non-durable goods

$\Rightarrow$ Higher MPC estimates and higher standard errors for total spending

MPCs for EIPs Lower than Previous Stimulus Rebates/Payments

| Policy | During 3-month period of receipt | | And also next 3 months |
	Full Sample	Recipients Only	Full Sample, long horizon
2020 EIP 1	0.102	-0.062	0.124
	(0.028)	(0.072)	(0.068)
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Households with Low Ex-Ante Liquid Wealth Had Higher MPCs

	Panel A: EIP1			Panel B: EIP2			Panel C: EIP3		
	Food and alcohol	Nondurables	All CE goods and services	Food and alcohol	Nondurables	All CE goods and services	Food and alcohol	Nondurables	All CE goods and services
	Bottom third: $\leq 2,000$ Top third: $\geq 12,667$			Bottom third: $\leq 2,000$ Top third: $\geq 12,000$			Bottom third: $\leq 2,000$ Top third: $\geq 10,000$		
$\widetilde{EIPn}_t$	0.039 (0.033)	0.087 (0.064)	0.178 (0.155)	-0.032 (0.071)	0.112 (0.111)	0.220 (0.326)	0.078 (0.035)	0.132 (0.062)	0.081 (0.197)
$\widetilde{EIPn}_t \times$ Bottom third	0.016 (0.051)	0.130 (0.095)	0.301 (0.210)	0.050 (0.084)	0.009 (0.157)	0.191 (0.403)	-0.018 (0.048)	-0.099 (0.087)	-0.065 (0.219)
$\widetilde{EIPn}_t \times$ Top third	0.013 (0.046)	-0.188 (0.102)	-0.275 (0.243)	-0.090 (0.085)	-0.255 (0.139)	-0.272 (0.449)	0.048 (0.101)	-0.129 (0.099)	-0.057 (0.267)
p-value for test of equality of responses	0.942	0.011	0.044	0.107	0.077	0.492	0.784	0.355	0.957
	Implied propensity to spend by group								
Least liquid third	0.055 (0.039)	0.217 (0.070)	0.479 (0.142)	0.018 (0.046)	0.121 (0.112)	0.411 (0.237)	0.060 (0.034)	0.033 (0.062)	0.016 (0.095)

Dependent variable: scaled dollar change in spending on

Weak, but EIP1 MPC Higher If Could Not Work Remotely

	Food and alcohol	Nondurables	All CE goods and services
	Dependent variable: scaled dollar change in spending on		
	Fraction of EIP1 spent over contemporaneous three-month period		
$\widetilde{EIP1}_t$	0.021	0.052	-0.049
	(0.022)	(0.055)	(0.119)
$\widetilde{EIP1}_t \times$ *Middle third*	0.030	0.176	0.258
	(0.043)	(0.089)	(0.232)
$\widetilde{EIP1}_t \times$ *Least able third*	0.036	0.064	0.367
	(0.038)	(0.083)	(0.188)
p-value for test of equality of responses	0.731	0.225	0.210
	Cumulative fraction of EIP1 spent over contemporaneous and next three-month period		
Most able third	-0.007	-0.135	-0.435
	(0.057)	(0.159)	(0.349)
Middle third	0.126	0.365	0.181
	(0.100)	(0.190)	(0.622)
Least able third	0.117	0.285	0.842
	(0.080)	(0.156)	(0.448)

V. Related Research

**1. We build on lots of research on spending response to previous tax rebates**

2. Previous analyses of MPCs out of EIPs mostly find high MPC in account-level data on low-income households or people using app to try to save

- ▶ Baker et al. (2020) MPC $\approx$ 25-35%; also JPMorganChase Institute in progress
- ▶ Karger and Rajan (2021) and Cooper and Olivei (2021): low inc MPC $\approx$ 46% and $\approx$ 66% ;
  - ▶ Credit card spending: Meyer and Zhou (2020) year-over-year spending increased by 50% for households with income $<$ \$50,000, by 3% for income $>$ \$125,000.
  - ▶ Zip codes card data: Misra et al. (2021) MPC of 50% in days after EIP arrived, Chetty et al. (2021) spending rose by 25% in zips in bottom 1/4 by avg income

3. Reported use of EIPs: Sahm et al. (2020): 18% will "mostly increase spending;" 1% lower than 2008; Coibion et al. (2021): 15% of households report mostly spend/spent; Armantier et al. (2020): avg spending rate of 29%; Garner et al. (2020), Boutros (2020): 59% in Household Pulse Survey report they "will mostly pay for expenses" with EIPs

VI. Conclusion

Figure: Change in Real Personal Consumption Expenditures Directly due to EIPs
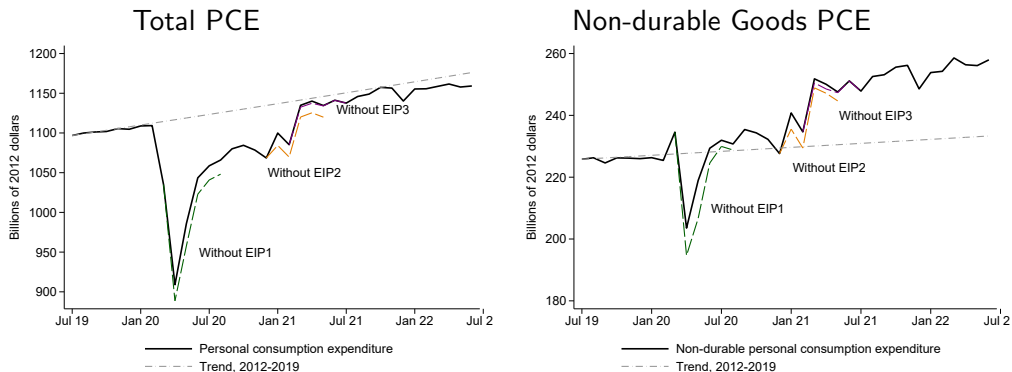
VI. Conclusion

- ▶ Spending out of pandemic EIPs appears lower than spending out of stimulus payments in 2001 and 2008 recessions
- ▶ But some households spent substantial amounts rapidly: those with little accumulated liquid wealth and those whose jobs were at risk
- ▶ Were the EIPs effective?
  - ▶ Goal of the 2001 and 2008 rebates were to increase demand
  - ▶ Goal of the 2020 EIPs was insurance
  - ▶ The average person did not need urgent pandemic support, but some did and appear to have used EIPs rapidly
  - ▶ Slow average spending response consistent with current high demand