

# Fiscal Relief during the COVID-19 Pandemic

*By Huixin Bi and Chaitri Gulati*

**T**he COVID-19 pandemic dealt a sudden shock to the U.S. economy as state and local governments implemented restrictions and individuals took preventative measures to slow the spread of the virus. In response to deteriorating economic conditions, Congress enacted unprecedented policy relief measures to support households, businesses, and the broader economy. To date, six federal relief bills—costing approximately \$6 trillion—have passed into law, implementing new programs as well as policies used in previous recessions. Compared with previous fiscal stimulus responses, these relief programs have been unmatched in size and scope, speed of response, and novelty of design.

In this article, we review recent empirical research on pandemic fiscal interventions to understand their effects on the broader economy as well as their effectiveness. We focus on three policy tools that comprised some of the largest fiscal responses to the pandemic and directly affected households and businesses: stimulus checks, augmented unemployment insurance (UI) benefits, and the Paycheck Protection Program (PPP). First, we find that stimulus checks provided direct income support to liquidity-constrained and lower-income households, who quickly spent the money on necessities, nondurable goods, and recurring payments.

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However, many households who did not suffer income losses during the pandemic put the money into personal savings, so the full boost to consumption has yet to be seen. Second, we find that augmented UI benefits fully replaced earnings for the majority of recipients who lost jobs. Empirical studies so far suggest a limited short-term effect on the labor market from these UI policies, at least through the third quarter of 2020, but as public health concerns fade, we may be better able to gauge the importance of augmented UI as a disincentive to work. Third, we find that the PPP aided the continuity of the small business sector and provided a modest boost to employment, though funds did not always flow to firms most at risk. Because the PPP's effects are still unfolding, it may be too early to judge the program's success.

Overall, we find that the fiscal policy response to the pandemic downturn largely benefitted segments of the economy most in need of relief funds, especially early in the pandemic, when epidemiological and economic uncertainty was greatest. However, the long-term effects from these policy interventions remain to be seen.

Section I provides an overview of fiscal relief measures during the COVID-19 pandemic. Section II surveys recent studies on stimulus checks. Section III reviews research on augmented UI programs. Section IV discusses the PPP.

## **I. Overview of Fiscal Relief Measures during the COVID-19 Pandemic**

The three largest pandemic relief bills passed by Congress were the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which authorized roughly \$2.2 trillion of relief spending in March 2020; the Coronavirus Response and Relief Supplemental Appropriations (CRRSA) Act of 2021, which allocated \$935 billion in December 2020; and the American Rescue Plan (ARP), which authorized \$1.9 trillion in March 2021.<sup>1</sup> Together, these relief bills constitute an unprecedented fiscal policy response to a recession in terms of their size, design, and speed of implementation.

Stimulus checks, UI benefits, and the PPP comprise the largest single programs of the fiscal response and thus have been the most studied by researchers and discussed by the public. Although stimulus checks and expanded UI benefits have been used in previous recessions, the

size and composition of these policy measures is unmatched, and the PPP is entirely new. Table 1 provides a timeline of implementation of the three types of policy measures, each extended through the major relief bills. All major relief bills included some form of stimulus checks, expanded UI, and PPP relief, though the funds allocated to the programs varied across the bills.

One of the first major policy measures Congress passed were stimulus checks to forestall dramatic declines in income. Table 1 shows that the CARES Act provided one-time payments of \$1,200 per adult and \$500 per child. The CRRSA Act issued a second round of stimulus checks of \$600 per person. Most recently, the ARP issued a third round of payments of \$1,400 per person.<sup>2</sup> These checks were significantly higher than those disbursed during the Great Recession. In addition, although eligibility for each of the checks was based on income limits, eligibility requirements were broad, and a large share of households received stimulus checks during the pandemic. In the Household Pulse Survey conducted by the Bureau of Labor Statistics in June 2020, 84 percent of respondents reported that they had received or expected to receive a stimulus check from the CARES Act.<sup>3</sup>

A second major policy measure, the expansion and augmentation of UI benefits, provided support to workers who lost jobs due to the pandemic. Business shutdowns at the start of the pandemic led the unemployment rate to rise as high as 14.8 percent in April 2020. In response, the CARES Act introduced Federal Pandemic Unemployment Compensation (FPUC), which provided a \$600 weekly supplement to state-provided UI payments; Pandemic Unemployment Assistance (PUA), which expanded UI benefits to a larger group of unemployed workers than would normally be eligible; and Pandemic Emergency Unemployment Compensation (PEUC), which extended the duration of UI benefits by 13 weeks. Chart 1 shows that the UI programs combined (in green) are the largest single component of the fiscal response under the CARES Act.

Since the FPUC was set to expire at the end of July 2020, President Trump signed an executive order, the Lost Wages Assistance (LWA) program, to extend the FPUC at a lower payment of \$300 per week, beginning in August 2020. As the funds were exhausted in September 2020, Congress reinstated the FPUC through the CRRSA Act in

*Table 1*  
**Timeline of Key Fiscal Relief Measures during  
the COVID-19 Pandemic**

Policy tool	Policy action	Effective date	Description	Expiration
Stimulus checks	CARES Act	March 27, 2020	Disbursed \$1,200 per adult and \$500 per child with income limits	One-time
Stimulus checks	CRRSA Act	December 27, 2020	Disbursed \$600 per person with income limits	One-time
Stimulus checks	ARP	March 11, 2021	Disbursed \$1,400 person with income limits	One-time
FPUC	CARES Act	April 4, 2020	Added \$600 weekly supplement to UI benefits	July 31, 2020
FPUC	LWA	August 1, 2020	Added \$300 weekly supplement to UI benefits	December 27, 2020, or until funds exhausted; funds exhausted in September 2020
FPUC	CRRSA Act	December 27, 2020	Added \$300 weekly supplement to UI benefits	March 14, 2021
FPUC	ARP	March 11, 2021	Added \$300 weekly supplement to UI benefits	September 6, 2021
PUA	CARES Act	March 27, 2020	Temporarily expanded UI eligibility to workers affected by the COVID-19 pandemic who would normally not qualify for benefits	December 26, 2020
PUA	CRRSA Act	December 27, 2020	Temporarily expanded UI eligibility to workers affected by the COVID-19 pandemic who would normally not qualify for benefits	March 14, 2021
PUA	ARP	March 11, 2021	Temporarily expanded UI eligibility to workers affected by the COVID-19 pandemic who would normally not qualify for benefits	September 6, 2021
PEUC	CARES Act	March 27, 2020	Extended duration of UI benefits by 13 weeks	December 26, 2020
PEUC	CRRSA Act	December 27, 2020	Extended duration of UI benefits by 24 weeks	March 14, 2021
PEUC	ARP	March 11, 2021	Extended duration of UI benefits by 29 weeks	September 6, 2021

Policy tool	Policy action	Effective date	Description	Expiration
PPP	CARES Act	April 3, 2020	Allocated \$349 billion in forgivable loans to eligible firms	Funds exhausted on April 16, 2020
PPP	PPPHCEA	April 24, 2020	Allocated \$310 billion in forgivable loans to eligible firms	August 8, 2020
PPP	CRRSA Act	January 11, 2021	Allocated \$284 billion in forgivable loans to eligible firms; requirements for second-time borrowers different from first-time borrowers	March 31, 2021, or until funds exhausted
PPP	ARP	March 11, 2021	Allocated \$7.25 billion in forgivable loans and expanded PPP eligibility	March 31, 2021
PPP	PPP Extension Act	March 30, 2021	Extended application and authorization date of PPP	May 31, 2021

Note: PPPHCEA stands for the Paycheck Protection Program and Health Care Enhancement Act.

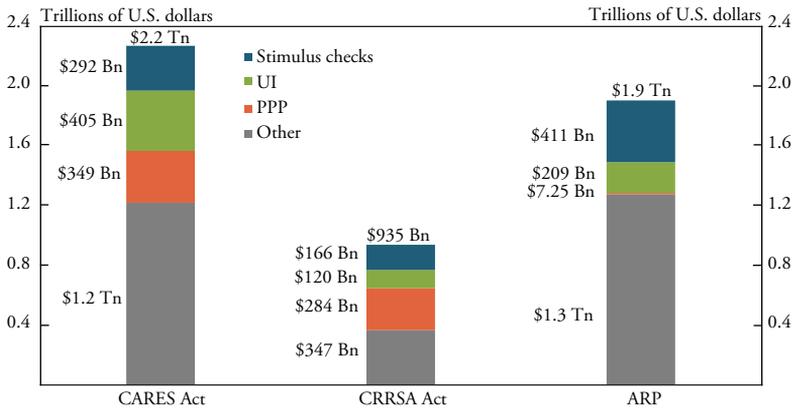
the form of a \$300 weekly supplement, while also extending the PUA and the PEUC until mid-March 2021. Most recently, the ARP further extended UI benefits through early September 2021. The expansion of UI programs during the pandemic has been broad compared with previous recessions. In 2008, for example, the fiscal response extended the duration of eligibility for benefits, but it neither increased the benefit amount nor expanded the pool of eligible recipients. In contrast, pandemic relief programs have provided an additional weekly income supplement to UI benefits, extended benefits to workers who were previously excluded, and provided benefits for a longer time horizon.

A third policy measure, the PPP, is a new program designed to provide a cushion to small businesses severely affected by the COVID-19 pandemic. To initiate the PPP, the CARES Act authorized \$349 billion in forgivable loans to small businesses and nonprofit organizations, as shown in Chart 1 (orange). Beginning on April 3, 2020, eligible firms—generally those with 500 or fewer employees—could apply through commercial banks.<sup>4</sup> Funding was quickly exhausted, and Congress authorized a second round of PPP funding totaling \$310 billion on April 24, 2020, as a part of the Paycheck Protection Program and Health Care Enhancement Act (PPPHCEA). In December 2020, Congress authorized another \$284 billion in funding as part of the CRRSA Act.<sup>5</sup>

Although the three major fiscal relief policies targeted different segments of the economy, all three programs introduced a set of broad eligibility criteria that prioritized the speed of implementation and reach

Chart 1

## Stimulus Checks, UI, and the PPP Are Key Components of the Fiscal Response to the COVID-19 Pandemic



Note: "Other" category includes measures such as grants for state and local governments; health-care spending on COVID-19 testing, tracing, and vaccines; and non-PPP loan programs.

Sources: Committee for a Responsible Federal Budget COVID Money Tracker and authors' calculations.

of these policies to prevent scarring from the recession. The goal of our analysis is to understand the effectiveness of this approach as well as the policies themselves. The full costs and benefits of these programs may not be measured for some years, but recent studies can provide insight into how these programs fared in delivering immediate fiscal relief to the United States during the early stages of the pandemic.

## II. Economic Effects of Stimulus Checks

Stimulus checks are a key fiscal policy tool often used to stimulate consumption in a recession, but they served an additional purpose during the COVID-19 pandemic. Unlike recoveries from previous recessions, the economic recovery from the pandemic has been contingent on the resolution of a public health crisis. Combating the health crisis required social distancing and stay-at-home orders, negatively affecting businesses and the household income of workers. Stimulus checks did more than boost household consumption: they helped families stay afloat. In the quarter following the passage of the CARES Act (2020:Q2), stimulus checks raised personal income by over 1 trillion U.S. dollars.<sup>6</sup>

To assess the effectiveness of stimulus checks and understand their effects on the broader economy, we use the following metrics: 1) the effects on consumption following receipt of stimulus checks, 2) the effects on consumption across different segments of the population, and 3) the implications for poverty. We also compare these effects to those of the stimulus checks disbursed during the 2008 recession.

Studies focused on our first metric reveal that households spent 35 to 50 percent of their stimulus checks following receipt, with spending concentrated in necessities (such as food), other nondurable categories, and recurring payments. Baker and others (2020) find that households in their sample spent approximately 35 cents of each dollar received from the CARES Act stimulus in the month following disbursal, a bit over one-third of their stimulus checks. The authors observe the largest increases in expenditure on food, nondurable goods, and recurring payments such as rent, mortgages, and student loans. Coibion, Gorodnichenko, and Weber (2020) find that households spent approximately 40 percent of their checks on average on goods and services, with about 30 percent of the average check being saved and the remaining 30 percent used to pay down debt. They observe that consumers favored food, health and beauty aids, and other nondurable goods rather than large durables. Finally, Karger and Rajan (2020) find that households spent 50 percent of their stimulus payments, one of the highest estimates of the consumption effect among the studies. All three papers find that consumer expenditure was more concentrated in food and other nondurable categories rather than large durables.

Studies also show that household consumption responded very quickly to stimulus payments. Karger and Rajan (2020) find that households spent half of their stimulus payments within two weeks following receipt, with the notable jumps in spending on food, utilities, and other nondurable categories. Importantly, consumer spending fell back to normal levels after two weeks. Similarly, Baker and others (2020) find that households in their sample spent more than one-fifth of their stimulus checks within 10 days of receipt.

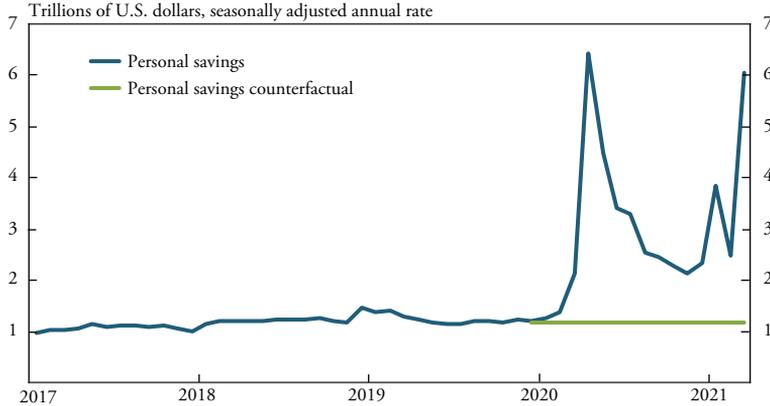
Compared with the stimulus checks from the Great Recession, the pandemic stimulus checks had a slightly smaller, more front-loaded effect on consumption.<sup>7</sup> Broda and Parker (2014) find that in 2008, households' spending on goods increased by only about 10 percent the

week they received the stimulus payment; however, in the following quarter, households spent 50 to 75 percent of their stimulus checks. Parker and others (2013) estimate that on average, households spent 50 to 90 percent of their checks in the three-month period following receipt in 2008.

The distinct nature of the COVID-19 pandemic may explain the quicker but somewhat smaller effect of stimulus checks on consumption. With unemployment at record levels, households in need seem to have responded immediately with spending on necessities. But social distancing and lockdown measures significantly restricted spending on services such as restaurants and travel. Furthermore, great uncertainty around the trajectory of the economic recovery, which is linked to epidemiological concerns, may also have resulted in a preference for precautionary savings over consumption. Chart 2 shows that personal savings (blue line) increased substantially throughout 2020 and into 2021 following the passage of fiscal relief bills. The green line shows that personal savings would have been \$5 trillion lower by March 2021 had they grown at their average rate from January 2017 to February 2020. These excess savings likely reflect pent-up demand from limited ability to spend on services: when the spread of the virus is under control, households may increase their spending.

Our second metric reveals that the effect of stimulus checks was uneven across different segments of the population. Studies find that not everyone who received a stimulus check spent it. Karger and Rajan (2020) identify a diverging pattern in their data: in the two weeks following a stimulus payment, 11 percent of recipients decreased their spending, 12 percent did not change their spending from the prior two weeks, and 17 percent of recipients spent the entire stimulus payment. The remaining 60 percent spent some portion of their stimulus payment. Similarly, Coibion, Gorodnichenko, and Weber (2020) find in their data that 40 percent of households did not spend any of the stimulus payments, while 30 percent spent almost all of their stimulus checks. Although papers examining previous recessions also find diverging patterns in spending, the difference in spending patterns during the pandemic recession is more pronounced.<sup>8</sup>

Despite the varied response, studies identify one commonality among households and individuals who were more likely to spend the stimulus checks: lower liquidity. Baker and others (2020) find that individuals with less than \$100 in their checking accounts spent over 40

*Chart 2***Personal Savings Increased Substantially following the Passage of Fiscal Relief Programs**

Note: The counterfactual assumes personal savings continued to grow at the average rate between January 2017 and February 2020.

Sources: Bureau of Economic Analysis (Haver Analytics) and authors' calculations.

percent of their stimulus payments within the first month, which amounts to roughly \$680 for the median stimulus payment amount. In contrast, individuals with more than \$4,000 in their checking accounts spent only 11 cents. Although liquidity-constrained households are often lower-income, Coibion, Gorodnichenko, and Weber (2020) find that liquidity-constrained households across the income spectrum were more likely to have spent the stimulus check. In addition, Misra, Singh, and Zhang (2020) use geographic, zip-code level data to show that spending out of stimulus checks was higher in more densely populated urban areas with higher costs of living and thus greater need for liquidity.

Finally, our third metric shows that by providing direct support to liquidity-constrained and lower-income households, stimulus checks helped reduce poverty. Han, Meyer, and Sullivan (2020) find that family incomes in the bottom quartile rose more than 10 percent between the start of the year and the few months following the onset of the pandemic, boosted by the increase in government assistance.<sup>9</sup> As income increased, the authors' measure of poverty declined, decreasing from an average of 10.9 percent in January and February, the months leading up to the pandemic, to an average of 9.4 percent in the three months following the passage of the CARES Act in March 2020.

Overall, spending out of the stimulus payments was frontloaded, primarily driven by liquidity-constrained households' spending on necessities and recurring payments. Consumer responses show that stimulus checks supported households in need during a time of crisis. But stimulus funds did not only target low-income households; a majority of U.S. households received stimulus checks, which has significantly increased personal savings during the pandemic. The effects of stimulus payments on overall consumption will continue to unfold as the U.S. economy fully reopens.

### **III. Economic Effects of Augmented UI Benefits**

Another important policy response to the pandemic recession has been the expansion and augmentation of UI benefits to mitigate the effects on the unemployed. During the pandemic, UI programs have expanded to cover previously ineligible workers, increase the duration of eligibility for benefits, and add a supplement to weekly benefits. The generosity of the programs is novel to the pandemic recession, especially the FPUC (the weekly supplement), which has been the focus of recent studies. Although the large increases in benefits may provide much needed financial support for the unemployed at a time of crisis, there is some fear they may discourage workers from returning to work and have a negative effect on the overall economy. We assess the effects of the FPUC through the following metrics: 1) the effect on earnings of unemployed workers, 2) the effect on the labor market, and 3) the effect on economic activity.

Studies focused on our first metric find that the FPUC program significantly increased the incomes of unemployed workers, more than compensating for their lost wages. The FPUC program, introduced by the CARES Act, was designed to replace 100 percent of mean U.S. wages. However, Ganong, Noel, and Vavra (2020) find that 76 percent of the unemployed have a replacement rate—the ratio of an unemployed worker's UI benefit to their previous wages—above 100 percent, with a median rate of 145 percent.<sup>10</sup> The authors also find differences in replacement rates across the income spectrum, as the \$600 weekly supplement boosted income for low-wage earners more than high-wage earners. Dube (2021) evaluates the effect of the FPUC on replacement rates

and finds that the expiration of the FPUC in July 2020 led to a dramatic reduction in the replacement rate of 98 percentage points on average.

Studies focused on our second metric have found limited effects on employment outcomes from these augmented UI policies, at least through the summer of 2020. Dube (2021) finds little effect on job gains from the reduction in benefits in July 2020. He concludes that the cost of a high replacement rate during a deep recession may be small in general, and even smaller for noncollege graduates and members of low-income households in particular. Using weekly data from Homebase, Altonji and others (2020) arrive at a similar conclusion, finding no evidence that more generous benefits disincentivized work following the introduction of the FPUC in the summer of 2020. In addition, Bartik and others (2020a) find that high UI replacement rates did not drive job losses or slow rehiring from May to early July 2020. Similarly, Petrosky-Nadeau and Valletta (2021) find that the FPUC did not deter most workers between April and June 2020 from accepting a job offer, and that disincentive effects were present for only a small fraction of UI recipients, primarily those with less than a high school education. Finally, Marinescu, Skandalis, and Zhao (2020) suggest that employers did not experience greater difficulty finding applicants for vacancies between March and June 2020 despite the large increases in UI benefits over this period.

However, the long-term effects of augmented UI benefits on the labor market remain to be seen. During the pandemic, public health concerns may have played a greater role in discouraging people from returning to work than the size of UI programs. Indeed, studies find that augmented UI policies reduced COVID-19 infections at the workplace and saved lives (see Fang, Nie, and Xie 2021). But as the economy reopens, augmented UI programs may provide more of a disincentive. The fiscal response to the 2008 recession could provide some insight into potential longer-term effects, but studies show mixed results. Multiple studies find extended UI had a limited influence on the labor market during the Great Recession (see Chodorow-Reich, Coglianesi, and Karabarbounis 2019; Boone and others 2016; Rothstein 2011; Farber and Valletta 2015). Others, however, find that UI extensions led employment to contract and unemployment to rise (see Hagedorn, Manovskii, and Mitman 2016; Hagedorn and others 2016).

Studies focused on our third metric suggest the FPUC had a positive effect on economic activity, particularly consumer spending. Casado and others (2021) find that the higher replacement rates of UI benefits led to significantly more consumer spending despite the increases in the unemployment rate. They argue that eliminating the FPUC would lead to a 44 percent decline in local spending. In a parallel study, Bachas and others (2020) find that UI policies likely helped mitigate the effects of labor market disruptions on spending for lower-income and vulnerable households during the pandemic. In contrast, Chodorow-Reich, Coglianese, and Karabarbounis (2019) find that UI benefits extensions following the 2008 recession had a limited influence on state-level macroeconomic outcomes.

Overall, despite the increase in replacement rates, the short-term effects of the FPUC on the labor market appear limited at least through July 2020; moreover, economic activity experienced a boost through September 2020. As the economy recovers and the pandemic subsides, however, the long-term effects of UI benefits may emerge.

#### **IV. Economic Effects of the PPP**

A third key policy response, the PPP, was designed to cushion shocks associated with the pandemic recession. According to the House Committee on Small Business (2020), the primary goal of the PPP was to support employment and maintain worker-firm relationships (see also Chetty and others 2020; Bartik and others 2020b). Hubbard and Strain (2020) discuss another intended goal: to ensure small business continuity and preserve this sector's productive capacity by providing an immediate infusion of liquidity. We assess the effectiveness of the PPP in achieving its intended goals through the following metrics: 1) the distribution of PPP funds, 2) the effect on the labor market, 3) and the effect on the small business sector.

Studies focused on our first metric highlight that the PPP was not well targeted, as funds did not flow to the sectors or firms most at risk. Bartik and others (2020b) suggest that banks seemed to have favored firms with whom they had existing relationships rather than those in greater distress. Specifically, they find that firms that faced greater financial distress from COVID-19 were associated with a lower likelihood of PPP loan approval.<sup>11</sup> Focusing on geographic regions, Granja

and others (2020) find no evidence that PPP funds flowed to areas that were more adversely affected by the pandemic. Specifically, they find that loan receipt in a given zip code was correlated with the efficiency of local banks in distributing PPP loans, rather than the severity of the pandemic shock.

These findings highlight the trade-off between getting funds to where they are most needed and distributing funds at a rapid pace. At the start of the pandemic, the priority for policymakers was to disburse needed funds as quickly as possible. To be eligible for the first two rounds of PPP funding, firms did not need to demonstrate hardship or an ability to repay the loan but had only to certify in good faith that current economic conditions made the loan necessary (in addition to qualifying by payroll size). To achieve rapid disbursement, banks were tasked with approving loan applications. Hubbard and Strain (2020) acknowledge that though desirable, targeting businesses based on need would not have been feasible at the time of the program's creation. Subsequently, the CRRSA Act introduced requirements for firms to demonstrate need to qualify for a second loan, which may be an attempt to avoid funds going mostly to less vulnerable firms with more resources.

Studies focused on our second metric find modest effects of the PPP on employment. Hubbard and Strain (2020) find that PPP applications were associated with a 0.9 percent increase in employment among businesses that applied for PPP loans above \$150,000. Chetty and others (2020) estimate that the PPP boosted employment at small businesses by 2 percent, which implies that the program saved 1.3 million jobs from April through August 2020. Autor and others (2020) find that PPP funds boosted employment at eligible firms by 2 to 4.5 percent, which implies that the PPP increased aggregate U.S. employment by 1.4 to 3.2 million jobs through the first week of June 2020. Focusing on sectors most effected by the pandemic, Granja and others (2020) estimate that the PPP increased aggregate employment by 3.2 to 4.8 million jobs.

Overall, researchers' estimates of the PPP's associated employment effects appear modest when compared with the program's substantial size. Given the estimated range of 1.3 to 4.8 million jobs saved between April and August 2020, the cost per job saved varies from \$109,000 to as high as \$377,000 (Granja and others 2020; Chetty and others

2020). In addition, the total number of jobs saved by the PPP is small compared with the massive job loss of 22.2 million between March and April 2020. Both Chetty and others (2020) and Granja and others (2020) point out that the lack of significant employment effects earlier in the pandemic may be a result of inframarginal firms—those that were not planning to lay off workers—receiving loans.

However, the employment effects are continuing to unfold. For instance, Bartik and others (2020b) find that the PPP had a positive but statistically insignificant effect on employment at the end of April 2020. They hypothesize that the effects may be ongoing and not yet observed, as more firms received funding in subsequent rounds. Hubbard and Strain (2020) find larger employment effects in August than in April or May. Similarly, Granja and others (2020) find that the PPP did not immediately raise employment but induced modest employment responses in the months following PPP loan receipt. Both Chetty and others (2020) and Granja and others (2020) caution that the employment effects could be larger in the longer run, as many firms used the loans to build up savings buffers and strengthen their balance sheets during stay-at-home orders.

Finally, studies focused on our third metric offer mixed evidence on the effectiveness of the PPP in supporting the survival of the small business sector. Some researchers find that PPP funds increased the survival probabilities of small business. For example, Hubbard and Strain (2020) find that the PPP has improved businesses' survival rate and financial health. Using survey data, Bartlett and Morse (2020) find similar results. Bartik and others (2020b) find that the first round of PPP loans led to a 14 to 30 percentage point increase in a business's expected probability of being open during December 2020, though the effects varied across firms given the lack of targeting. In contrast, Granja and others (2020) do not find evidence that the PPP had a substantial effect on local economic outcomes or business shutdowns during the first round of the program. The conflicting evidence may indicate that it is too early to judge the overall success of the program.

Overall, at a time when businesses were forced to shut down or reduce capacity, the PPP provided an avenue for small businesses to receive much needed funds and keep payrolls intact. Although the

program did not fully succeed in disbursing funds to those firms and sectors most at risk from the effects of the pandemic recession, it was modestly effective in supporting overall employment and the continuity of the small business sector.

## Conclusion

The COVID-19 pandemic is unparalleled in modern history, and the fiscal policy response to the pandemic recession, too, has been unprecedented. We survey recent empirical studies to assess the effectiveness of three key policy measures. We find that these fiscal policies largely benefitted segments of the economy most in need of relief funds at a time of great economic and public health uncertainty.

Recent research finds that stimulus checks provided much needed financial support to vulnerable populations, such as liquidity-constrained and low-income households, particularly by supporting spending on necessities and recurring payments. Augmented UI benefits resulted in high replacement rates but appear to have had limited negative effects on employment in the short run, with significant positive effects on consumption. And despite the implementation challenges associated with the PPP, the program likely boosted employment and preserved small business capacity, as intended, though the effects appear to have been modest. However, the long-run effects from each of the policies have yet to unfold.

## Endnotes

<sup>1</sup>Congress has allocated more than \$6 trillion of relief through six stimulus bills, but the net outlay effect is smaller for two reasons. First, some funding in the CRRSA Act was offset by funds authorized but unspent in previous stimulus bills. Second, funding for liquidity facilities and Economic Injury Disaster Loans is expected to have a very small deficit effect.

<sup>2</sup>The CARES Act and the CRRSA Act define a qualifying child or dependent to be under the age of 17, consistent with the Child Tax Credit. In contrast, the ARP includes children and dependents of all ages.

<sup>3</sup>The Household Pulse Survey sample design is nationally representative. See Garner, Safir, and Schild (2020) for further discussion.

<sup>4</sup>To be eligible for loan forgiveness, borrowers were required to use at least 60 percent of the loan for payroll expenses—a means to prevent rampant unemployment. However, the CARES Act did not require applicants to demonstrate need for the loan.

<sup>5</sup>The CRRSA Act required second-time borrowers to demonstrate revenue losses to qualify for PPP funding but did not change the requirements for first-time borrowers from the CARES Act. The CRRSA Act also changed maximum loan allotments. We focus on evaluating the PPP program as experienced by first-time borrowers before the CRRSA Act was signed into law. As the empirical studies become available to reflect data on second-time borrowers and new first-time borrowers post-December, we will update our analysis.

<sup>6</sup>The Bureau of Economic Analysis provides annualized, seasonally adjusted data on personal income at a quarterly frequency.

<sup>7</sup>The marginal propensities to consume (MPC) estimated during the pandemic are close to estimates following the 2001 recession. Johnson, Parker, and Souleles (2006) estimate an MPC slightly above 0.30, whereas Agarwal, Liu, and Souleles (2007) estimate an MPC of 0.40. However, unlike the 2008 and 2020 economic stimulus payments, the 2001 payments were an advance payment of a reduction in tax rates, which are often associated with smaller MPCs.

<sup>8</sup>See Johnson, Parker, and Souleles (2006), Broda and Parker (2014), and Parker and Souleles (2019) for estimates for previous recessions.

<sup>9</sup>The authors construct their own measures of income distribution and income-based poverty using high-frequency data from the Basic Monthly Current Population Survey. Authors calculate the monthly poverty rate by comparing family incomes for the past 12 months to the official poverty thresholds from the U.S. Census Bureau. Official poverty estimates for 2020 will not be available until September 2021.

<sup>10</sup>Accounting for post-payroll tax wages and non-wage compensation, the authors find that 69 percent of the unemployed have a replacement rate above 100 percent with a median rate of 134 percent.

<sup>11</sup>Small bank lenders did a slightly better job of targeting the funds toward firms most in need, but overall, approval odds were lower than average for firms in need of funds for survival.

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