



## **The Economic Impact of the Economic Impact Payments**

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This paper examines the Economic Impact Payments—otherwise known as stimulus checks or recovery rebates—of the three major fiscal packages passed and signed into law in 2020 and 2021 in the United States. The statistical analysis shows that these large one-time temporary payments had a big impact on personal disposable income, but quarterly regressions and simple charts show that they led to little or no increase in consumption and thus did not stimulate the economy. The paper also shows that the findings are much the same as similar studies of other fiscal packages conducted one and two decades ago, and are consistent with the basic economic view of the permanent-income or life cycle hypotheses that temporary increases in income are largely saved in comparison to more permanent changes.

Keywords: Economic Impact Payments, Stimulus Checks, Permanent Income

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Abstract: This paper examines the Economic Impact Payments—otherwise known as stimulus checks or recovery rebates—of the three major fiscal packages passed and signed into law in 2020 and 2021 in the United States. The statistical analysis shows that these large one-time temporary payments had a big impact on personal disposable income, but quarterly regressions and simple charts show that they led to little or no increase in consumption and thus did not stimulate the economy. The paper also shows that the findings are much the same as similar studies of other fiscal packages conducted one and two decades ago, and are consistent with the basic economic view of the permanent-income or life cycle hypotheses that temporary increases in income are largely saved in comparison to more permanent changes.

During the period from March 2020 to March 2021 the United States government enacted three fiscal packages with a main purpose of stimulating the American economy during and after the pandemic that hit the world in 2020. In each case, an amount called the Economic Impact Payments (EIP) was distributed to people in the United States by various methods, including direct deposit, checks, or special prepaid debit cards. Economic Impact Payments is a term introduced in 2020 for what had previously been called “stimulus checks” or “recovery rebates” as explained by the Consumer Financial Protection Bureau (2021). The idea was that people would spend the Economic Impact Payments, increase their personal consumption expenditures and thereby increase aggregate demand and stimulate the economy. The stated purpose of the Economic Impact Payments was to stimulate the economy though some assistance in the overall fiscal packages was justified on humanitarian grounds.

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There is no question that the Economic Impact Payments increased disposable personal income by large amounts, as immediately reported in many news outlets (see Cambon (2021)). The correlation between disposable personal income and the Economic Impact Payments was very high at .93 from January 2020 to March 2021, and .97 between the quarterly changes in these two variables over the same period. The increase in the Economic Impact Payments in April 2020 was 100 percent of the increase in disposable personal income that month, and it was 82 percent of the increase in January 2021 and 94 percent of the increase in March 2021.

But it is less clear that these payments increased consumption—as had been argued in advance of the legislation and continues to be argued in many quarters today. Such an increase in consumption was needed according to many macroeconomic theories to increase aggregate spending and thus stimulate the economy.

The main purpose of this paper is to examine empirically whether these Economic Impact Payments actually impacted consumption and the economy. The empirical method is similar to that used by Taylor (2009) to examine the one-time payments in fiscal packages in July-October 2001 and April-August 2008, and that was used by Gramlich (1979) and Cogan, Cwik, Taylor, and Wieland (2010) to analyze fiscal packages in earlier or later years.

## **1. The Economic Impact Payments in 2020 and 2021**

The first of the three recent fiscal packages, called the Coronavirus Aid, Relief and Economic Security Act of 2020 or simply the CARES Act, was passed by the United States Congress and signed into law by President Donald Trump on March 27, 2020. It provided direct support through Economic Impact Payments to individuals, including advance tax rebate payments distributed in April 2020. The second package, called The Coronavirus Response and

Relief Supplemental Appropriations Act of 2021 was passed and signed into law by President Donald Trump on December 27, 2020. It provided a second round of Economic Impact Payments to individuals. The third package, called The American Rescue Plan Act of 2021 or the COVID-19 Stimulus Package, was passed by Congress and signed into law by President Joe Biden on March 11, 2021. It provided a third round of Economic Impact Payments.

Economic Impact Payments are a specific amount of dollars ranging, over the three fiscal packages, from \$600 to \$1,400 for an individual, from \$1,200 to \$2,800 for married taxpayers jointly filing, and from \$500 to \$1,400 additional for dependents. In each of the three pieces of legislation, the Economic Impact Payments had an income threshold above which the payment was reduced, and it was eventually phased out completely for people with incomes above \$150,000 or \$160,000 for married taxpayers filing jointly. (See the Appendix for specific details about the legislation.) For those who filed tax returns, the payments were made automatically just as tax refunds. The majority of payments were made through direct deposit, check, or through a pre-paid debit card issued by the Department of Treasury. The card was sent in a white envelope from the “Economic Impact Payment Card” with the U.S. Department of the Treasury seal displayed.

A summary of the Economic Impact Payments over the months of 2020 and 2021 is shown graphically in Figure 1 using the calculations made by the Bureau of Economic Analysis of the Department of Commerce. These monthly data on the Economic Impact Payments are reported in various monthly publications of “Effects of Selected Federal Pandemic Response Programs on Personal Income.” The latest publication was dated Friday, April 30, and reports data through the month of March 2021. The three packages are labeled in Figure 1 by the names of the legislation. The majority of payments for the third act were distributed in March 2021,

though the Internal Revenue Service may make some additional payments in April or May 2021 as tax returns are processed.

In each case the Economic Impact Payments were meant to be temporary for the period shown in Figure 1. It was assumed that each of the payments would be phased out as shown in the graph. Moreover, there was no notice given in March 2020 that there would be more payments in January 2021 or March 2021.

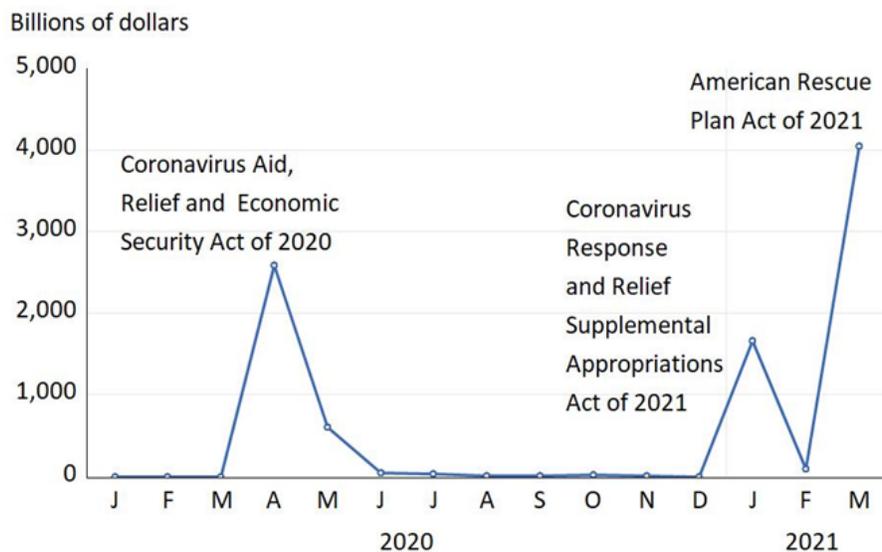


Figure 1. Economic Impact Payments (EIP) in Three Fiscal Packages (Billions of Dollars, Seasonally Adjusted Annual Rates From "Effect of Selected Federal Pandemic Response Programs on Personal Income," various issues.)

The rationale for such temporary payments is that they would increase disposable personal income and thereby increase the demand for consumption, aggregate demand and the whole economy. This rationale is based on the Keynesian consumption function in which an increase in income, increases consumption, which adds to total demand and increases GDP through the multiplier. An alternative view, the permanent income theory of Friedman (1957) or

life-cycle theory of consumption of Modigliani (1976), stresses that such temporary increases in income lead to very small increases in consumption in comparison with more permanent increases.

Figure 2 shows the impact of the Economic Impact Payments on disposable personal income. Again the data are monthly with the upper line showing disposable personal income for the months from January 2017 through March 2021. The data are seasonally adjusted and are stated at annual rates.

Disposable personal income is the total amount of income after taxes and government transfers and it therefore includes the Economic Impact Payments. Subtracting the Economic Impact Payments from personal consumption expenditures shown in the upper line results in the lower line in Figure 2 labeled “Without Economic Impact Payments.” It shows what disposable personal income would have been without the Economic Impact Payments. Notice the sharp increase in disposable personal income when the Economic Impact Payments were made. Disposable personal income then comes down sharply as the Economic Impact Payments decline, and the amount then returns to its original level. Prior to the Economic Impact Payments, disposable personal income grew at a steady pace as shown in Figure 2.

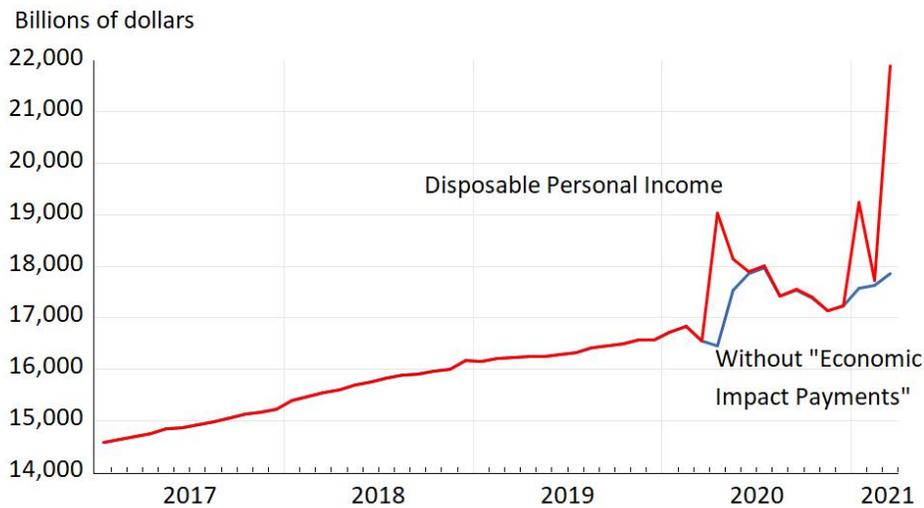


Figure 2

Disposable Personal Income with  
and without Economic Impact Payments

## 2. The Economic Impact on Consumption and Saving

Figure 3 brings data on monthly personal consumption expenditures into the picture. It shows the pattern of consumption along with disposable personal income and the Economic Impact Payments. Note that consumption shows no increase at the time of the Economic Impact Payments in March 2020. Consumption fell sharply as major parts of the economy were shut down or curtailed due to shelter-in-place restrictions and concern about the spread of the coronavirus. Similarly, there was little or no impact on consumption in January 2021 or March 2021 when there were huge increases in disposable personal income due to the Economic Impact Payments. Moreover, it is not plausible to say that consumption would have declined had these payments not been made, because the economy was not in a recession and there was nothing separately pulling consumption down in either January 2021 or March 2021. As Figure 3 suggests, these temporary payments seemed to do little or nothing to stimulate consumption demand, and thereby aggregate demand, or the economy.

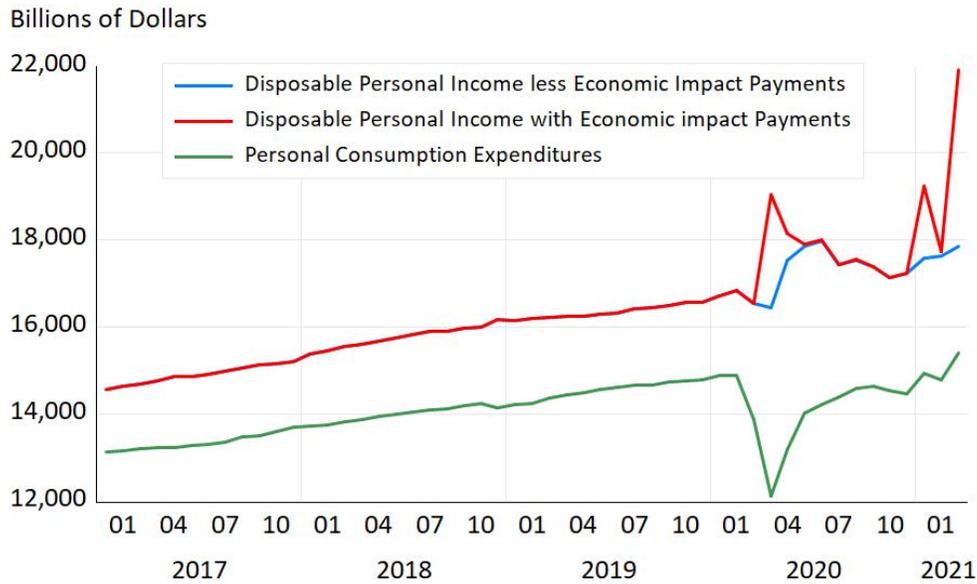


Figure 3. Economic Impact Payments and Consumption

We can also look at the personal saving, defined as disposable personal income less personal consumption expenditures, interest payments, and current transfer payments to government and the rest of the world. The personal saving rate is shown in Figure 4. You can see that the saving rate rises sharply and temporarily each time that Economic Impact Payments are made. It then falls back again after the payment is over. The saving rate increases by large amounts, jumping to a peak of 33 percent, of 20 percent and of 27 percent at the times the payments were made from the three fiscal packages. The chart clearly demonstrates that a large amount of the Economic Impact Payments was actually being saved rather than spent on consumption and stimulating the economy. Again this is what one would predict from the permanent income or life-cycle theories because the payments were temporary not permanent.

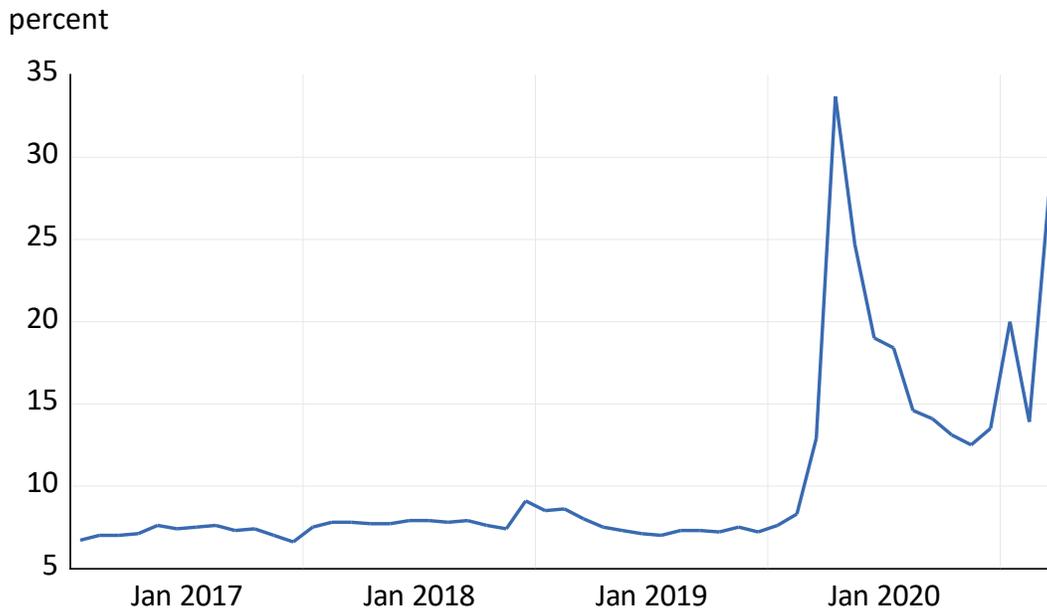


Figure 4 Personal Saving Rate: 2017-2021

While the graphs in Figure 3 and Figure 4 are clear about the small impacts of the Economic Impact Payments on consumption, testing for the impact on aggregate consumption using statistical techniques provides clearer evidence. We show this with the regression estimates in Table 1, in which personal consumption expenditures is the dependent variable. As with the graphs, the regression in Table 1 is for the period from January 2017 through March 2021, and thus includes all three payments as in Figures 1, 2, and 3.

To test whether the Economic Impact Payments have a significant effect on consumption, the regression includes two different variables: (1) personal disposable income without the Economic Impact Payments and (2) the actual Economic Impact Payments. To allow for the possibility of partial adjustment of consumption to the changes in income, we include the lagged dependent variable which is personal consumption expenditures in the previous month.

As one can see from Figure 3, the actual Economic Impact Payments are far more volatile than the personal disposable income without the payments. Each increase is followed by a decrease. According to permanent income or life-cycle theories, the effect on consumption of these temporary effects should be small compared to the more permanent changes in disposable personal income.

Table 1 shows that the consumption impact of the Economic Impact Payments is statistically insignificant. In contrast, the coefficient on disposable personal income excluding the rebate is significant. This confirms the results illustrated in Figure 3. In these regressions a temporary increase in income—represented by the Economic Impact Payments variable—has a small and statistically insignificant effect. In contrast, when the increase in income is more permanent—as represented here by the personal disposable income variable without the Economic Impact Payment— then the change in consumption is larger and statistically significant.

We note that the coefficient on the Economic Impact Payments, though statistically insignificant, is negative, which may reflect a missing third variable. It could be that some forces, perhaps indirectly related to the pandemic, caused the decline in consumption and also an increase in payments. We have kept the regression in a simple form to compare with earlier results as explained in the next section.

**Table 1. Personal Consumption Expenditures (PCE), Economic Impact Payments (EIP) and Disposable Personal Income (DPI)**

Dependent Variable: PCE

Sample: January 2017 to March 2021

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>
Lagged PCE	0.675	0.089
DPI without Economic Impact Payment	0.219	0.061
Economic Impact Payment	-0.110	0.070
Constant	1076	1074

$R^2=0.76$

Source: The regression was performed using ordinary least squares in the E-views program with the monthly seasonally adjusted data on PCE and DPI, and the EIP data reported in the paper.

### **3. Similarities with Earlier One-Time Payments**

The recent experiences with the Economic Impact Payments is of course not the first time that the Federal government has endeavored to stimulate the economy with temporary infusions of income, and it is very informative to compare the difference over time. Figure 5 shows the impact of the one-time rebate in 2008 using the same approach as Figure 3. The upper line shows monthly disposable personal income, seasonally adjusted at an annual rate. Disposable personal income includes the rebate payments in 2008 just as personal disposable income includes the Economic Impact Payments in 2020 and 2021. Subtracting the rebate payments from disposable personal income results in disposable personal income without the rebate which is also shown in Figure 5.

Notice that there is a sharp increase in disposable personal income when rebates were distributed. Disposable personal income then declines as the rebate declines, and eventually returns to the previous trend. The lower line in Figure 5 is personal consumption expenditures over the same period. Observe that consumption shows no noticeable increase at the time of the rebate. As the picture illustrates, the temporary rebate did little or nothing to stimulate consumption demand, and thereby aggregate demand, or the economy. The graphical characterization is much the same as in 2020 and 2021.

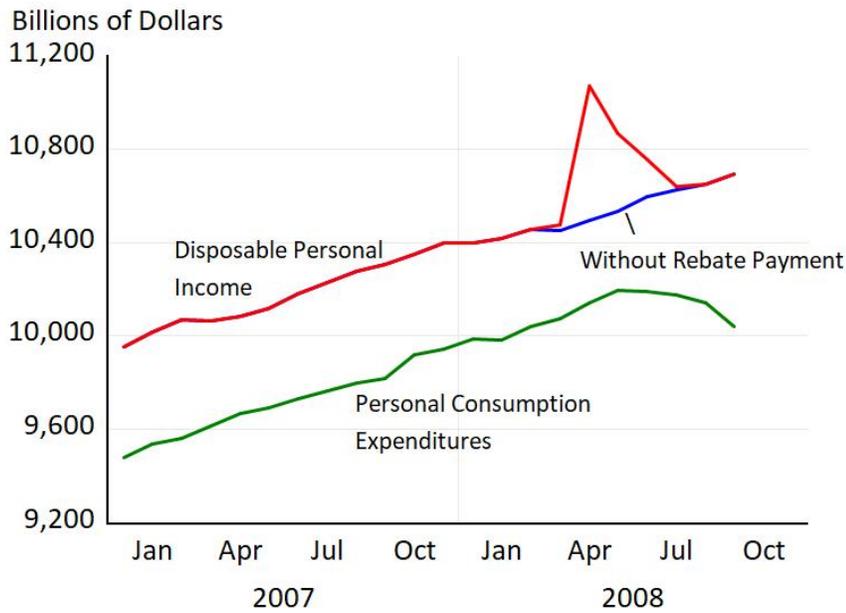


Figure 5. Income with and without Rebate and Consumption: 2007-08

While the data shown in Figure 4 tell a clear story, we can also look at the impact of the rebates payments on aggregate consumption using regression techniques as was done above in Table 1. Here it is useful to include also a rebate payment made in 2001, which is shown along with the 2008 rebate payment in Figure 5. Note that both rebates are temporary and, according to the permanent-income theory or the life-cycle theory, the effect on consumption should be

relatively small. We thus start the sample period in January 2000 and go through October 2008, and thereby include both the rebate payment in 2008 and a similar rebate payment in 2001.

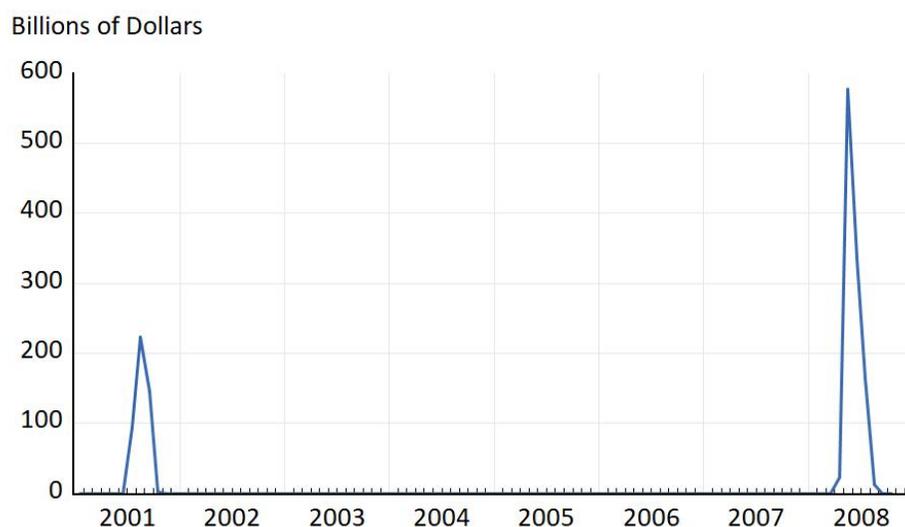


Figure 6. Rebate Payments in 2001 and 2008

Source: Monthly data from BEA Publication "Personal Income and Outlays," September 2001, October 2001, August 2008

The results, using the same regression technique, are shown in Table 2. To test whether the rebates had a positive and significant effect on consumption, both personal disposable income without the rebates and the rebate payments are two separate variables in the regressions. To allow for partial adjustment of consumption to changes in income, a lagged dependent variable is again included. Table 2 shows that the impact of the rebate is statistically insignificant while there is a significant impact of the more permanent disposable personal income excluding the rebate. This confirms the results illustrated in Figure 5. Indeed, the results are remarkably similar to Table 1.

The earlier packages differed in size, duration, and the mechanism for distribution of the payments compared with the 2020 and 2021 packages, but they were quite similar from a

macroeconomic perspective. They were widely viewed as temporary and were justified mostly on the grounds of jump-starting consumption and stimulating the economy. In fact, a major principle underlying the 2001 and 2008 stimulus packages was that they should be temporary, as well as targeted and timely. This temporary feature distinguishes these actions from more permanent changes such as the personal income tax rate cuts in the 1960s and 1980s and, so far, those in 2017. I have argued that we should avoid such temporary changes and focus more on permanent changes. That view was informed by the experiences of 2001 and 2008. It is reinforced by the experiences of 2020 and 2021.

**Table 2. Personal Consumption Expenditures (PCE), Rebates and Disposable Personal Income (DPI)**

Dependent Variable: PCE

Sample: January 2000 to October 2008

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>
Lagged PCE	0.794	0.057
DPI (without Rebate)	0.206	0.056
Rebate Payments	0.048	0.055
Constant	-66.13	39.08

$R^2 = 0.99$

Source: Retrieved from an E-views File with the name “Data-Taylor-AEA Fiscal Stimulus-Monthly” located in the “Final Data Documentation” file within the “AEA Fiscal Policy Paper” file, within the “Papers2009” file, within the “All Papers 2005-2015” file. The regression is also reported in Table 2 of Taylor (2009).

#### 4. Conclusion

Two decades ago, Eichenbaum (1997) wrote, “There is now widespread agreement that countercyclical discretionary fiscal policy is neither desirable nor politically feasible.” Feldstein (2002) likewise argued “There is now widespread agreement in the economics that deliberate ‘countercyclical’ discretionary policy has not contributed to economic stability and may have actually been destabilizing in the past.” And in Taylor (2000), in a paper, entitled “Reassessing Discretionary Fiscal Policy,” I concluded similarly that “in the current context of the US economy, it seems best to let fiscal policy have its main countercyclical impact through the automatic stabilizers...”

One decade ago, however, despite this widespread agreement, there was a dramatic revival of interest in discretionary fiscal policy, including temporary rebates and stimulus checks designed to stimulate the economy in 2008. I examined these policies in detail and found in Taylor (2009) that once again these temporary discretionary one-time countercyclical payments did nothing to stimulate the economy. Cogan, Taylor, and Wieland (2009) published an article in the *Wall Street Journal* summarizing all the evidence and concluding, as the article’s title said, that “The Stimulus Didn’t Work.”

Now, within the past year and ongoing, we have again seen a return to rebate payments and stimulus checks with a new name of Economic Impact Payments. The purpose of this paper has been to review carefully—using econometrics, simple charts and monthly data—the empirical evidence on this return in the years 2020 and 2021. The review confirms the view put forth two decades ago, and one decade ago, and at many other times and places in the United States and elsewhere that these temporary stimulus programs do not increase consumption or

stimulate the overall economy. As Cogan and Taylor (2021) recently wrote in the *Wall Street Journal*, the Economic Impact Payments, or the rebate payments, or the stimulus “Checks Won’t Boost the Economy.”

**Appendix:** Description of the Three Rounds of Economic Impact Payments (EIP)

Source: Consumer Financial Protection Bureau, CFPB (2021) “Your Guide to Economic Impact Payments,” in section called EIP round differences based on your income and dependents.

Third round of EIPs (issued starting in March 2021)

PAYMENT AMOUNT

\$1,400 per eligible individual

\$2,800 for married *joint* filers

Additional \$1,400 for each dependent of all ages, including children under 19, college-age students, and adults with disabilities.

INCOME THRESHOLD

Total payment phases out between following income levels:

\$75,000-\$80,000 singles

\$112,500-\$120,000 heads of households

\$150,000-\$160,000 married filing jointly

Second round of EIPs (issued starting in December 2020)

PAYMENT AMOUNT

\$600 per eligible individual

\$1,200 for married joint filers

Additional \$600 for each qualifying child or dependent child under 17 years old

INCOME THRESHOLD

Total payment amount will be phased out by \$5 per \$100 of income above these thresholds:

\$75,000 singles

\$112,500 heads of households

\$150,000 married filing jointly

First round of EIPs (issued starting in March 2020)

PAYMENT AMOUNT

\$1,200 per eligible individual

\$2,400 for married joint filers

Additional \$500 for each qualifying child or dependent under 17 years old

INCOME THRESHOLD

Total payment amount will be phased out by \$5 per \$100 of income above these thresholds:

\$75,000 singles

\$112,500 heads of households

\$150,000 married filing jointly

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