

The Effect of the Rescue Plans and the Need for Policies to Increase Economic Growth

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Abstract: This paper evaluates the economic impact of discretionary fiscal and monetary actions taken in the United States during 2020 and 2021. The fiscal actions are The Coronavirus Aid, Relief, and Economic Security Act, or the “CARES” Act, passed in March 2020; The Consolidated Appropriations Act, passed in December 2020; and The American Rescue Plan Act, passed in March 2021. The paper focuses on the impact of the “economic impact payments” that underlie these fiscal actions. The paper also examines discretionary monetary policy actions taken during the same period. The overall implication is that there is a need to return to policies that increase economic growth and stability, including rules-based fiscal and monetary policy, rather than to continue with these one-time discretionary actions.

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 first 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. The term “Economic Impact Payments” was 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

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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.

There is no question that the Economic Impact Payments increased disposable personal income, as immediately reported in news outlets (see Cambon (2021)). The correlation between disposable personal income and the Economic Impact Payments was very high at .86 from January 2020 to November 2021. The increase in the Economic Impact Payments in April 2020, January 2021 and March 2021 was virtually all of the increase in disposable personal income.

But it is less clear that these payments increased consumption—as had been argued in advance of the legislation and continues to be argued today. Such an increase in consumption was needed according to many macroeconomic theories to stimulate the economy. Here I examine whether the payments actually impacted consumption.

The paper also examines the move to discretionary monetary policy following the pandemic, and raises questions about the impact of these policies on inflation and economic growth. The overall implication is that we need to return to rules-based policies that increase economic growth and stability rather than continue with these one-time discretionary actions. The empirical method is similar to that used by Gramlich (1979), Taylor (2009), and Cogan, Cwik, Taylor, and Wieland (2010) to examine fiscal packages and to that used by Cochrane, Taylor, and Wieland (2020) to evaluate monetary policy rules.

1. The Economic Impact of Discretionary Fiscal Policy 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. 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 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 December 23, 2021, and it

reported data through November 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 made some smaller additional payments later in the year as tax returns were 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 Economic Impact 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.

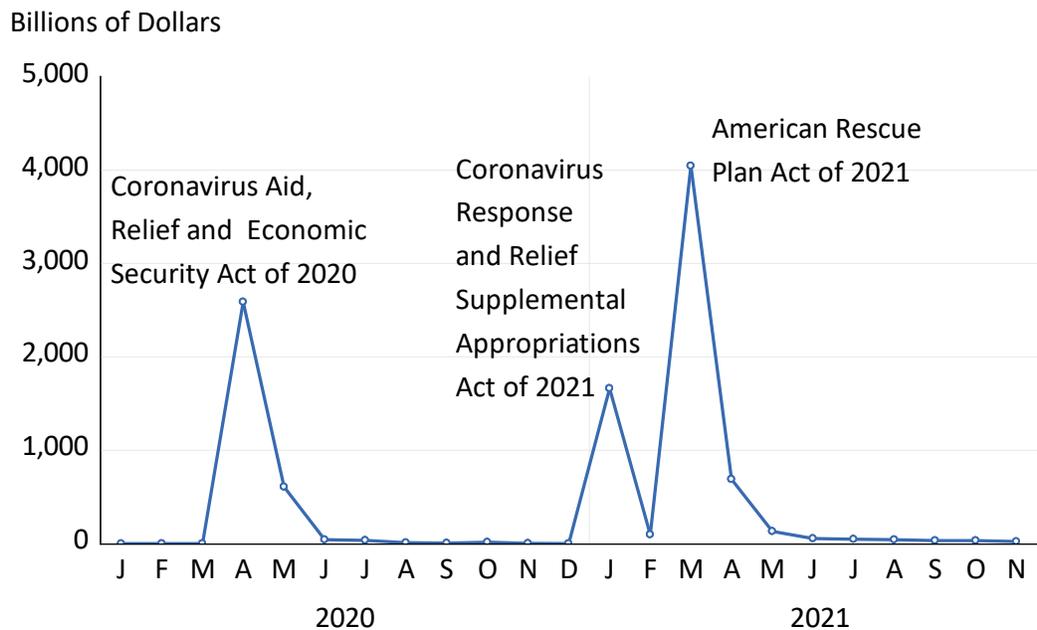


Figure 1. Economic Impact Payments (EIP) in Three Fiscal Packages: 2020-2021 (Billions of Dollars, Seasonally Adjusted Annual Rates, Monthly Data From "Effect of Selected Federal Pandemic Response Programs on Personal Income," various issues.)

The rationale for such temporary payments is that they 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. 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. The upper line shows disposable personal income for the months from January 2017 through November 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.

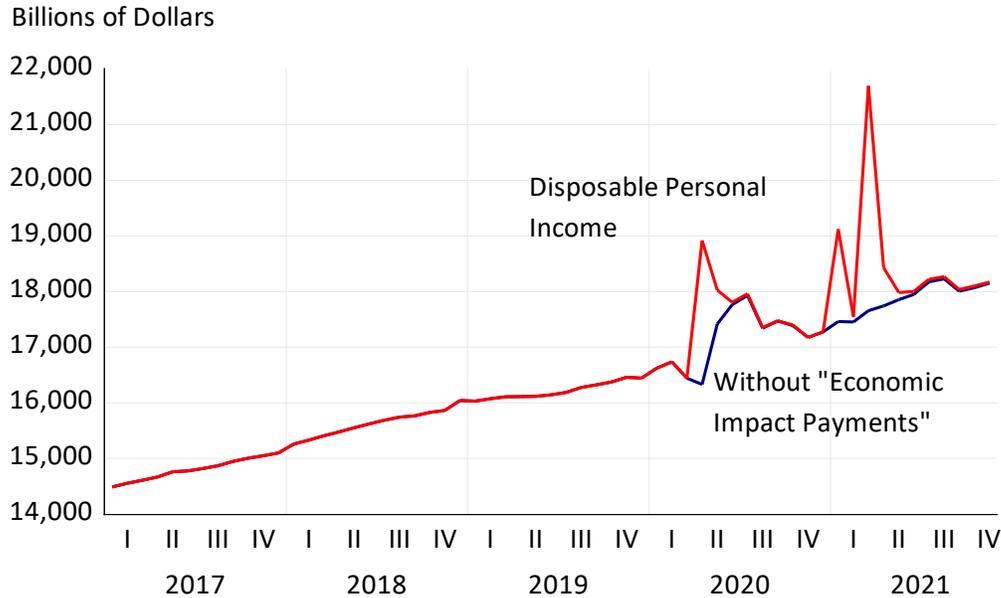


Figure 2
 Disposable Personal Income with
 and without Economic Impact Payments

Figure 3 shows the pattern of personal consumption expenditures 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 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 shows that the temporary payments did little to stimulate consumption.

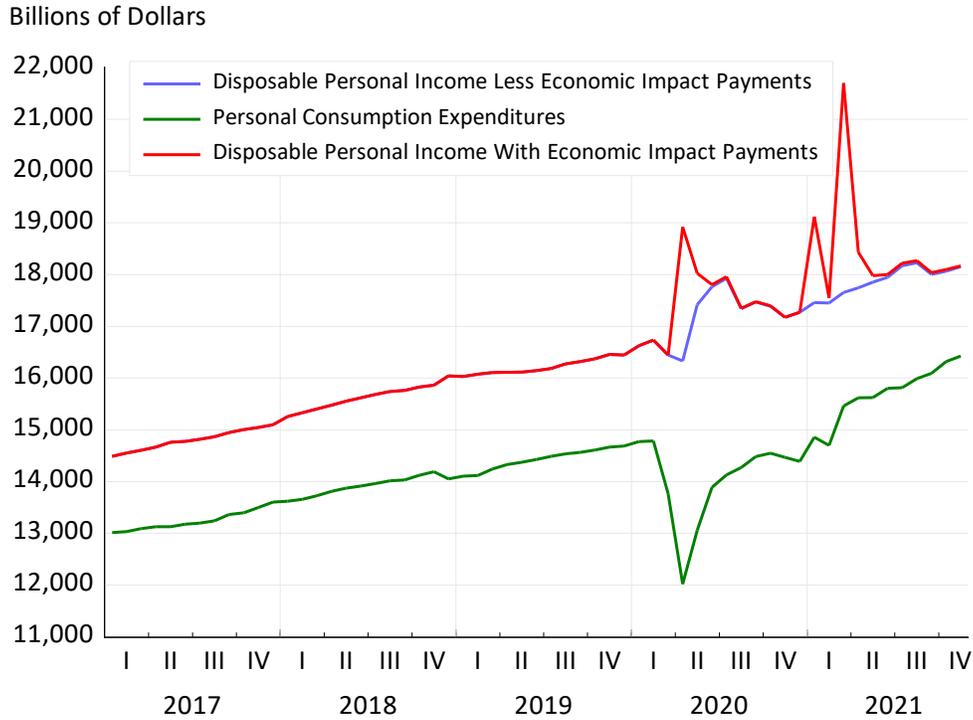


Figure 3. Economic Impact Payments and Consumption

We can also look at 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. 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 chart clearly demonstrates that a large amount of the Economic Impact Payments was actually saved rather than spent on consumption, as one would predict from the permanent income or life-cycle theories

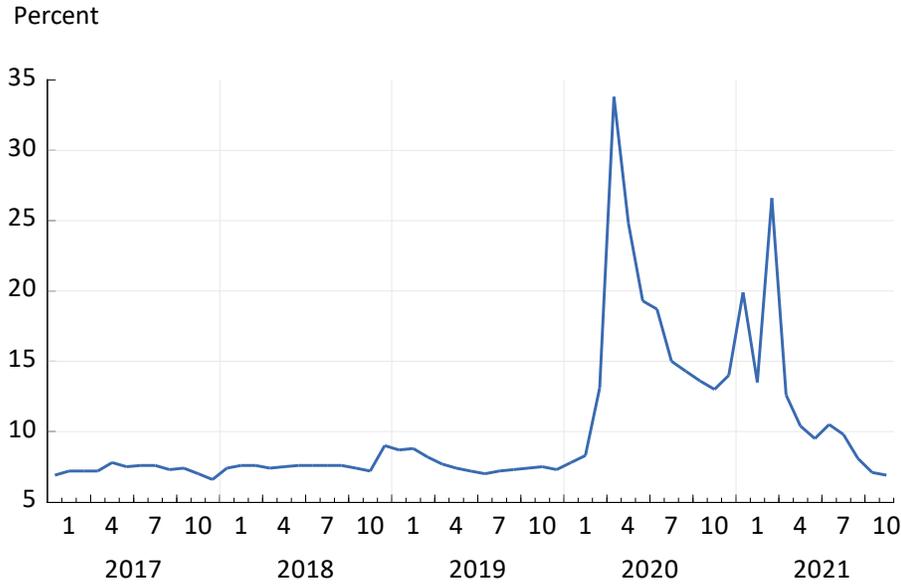


Figure 4. Personal Saving Rate: January 2017 to November 2021

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, as shown by regression estimates in Table 1, in which personal consumption expenditures is the dependent variable. The regression covers January 2017 through November 2021, and includes all payments as in Figures 1, 2, and 3.

To test whether the Economic Impact Payments have a significant effect on consumption, the regression includes: (1) personal disposable income without the Economic Impact Payments and (2) the actual Economic Impact Payments. To allow for partial adjustment of consumption to the changes in income, a lagged dependent variable is included.

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

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. 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. 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.

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

Dependent Variable: PCE

Sample: January 2017 to November 2021

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>
Lagged PCE	0.763	0.072
DPI without Economic Impact Payment	0.214	0.058
Economic Impact Payment	-0.088	0.067
Constant	-58.6	709.0

R²=0.88

Source: The regression uses ordinary least squares with monthly seasonally adjusted data on PCE and DPI, and the EIP data sources as reported in the paper.

The recent experiences with the Economic Impact Payments is not the first time that the government has endeavored to stimulate the economy with temporary increases in income, and it

is very informative to compare the difference over time. Figure 5 shows the impact of the one-time rebate in 2008. 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, 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. Personal consumption expenditures shows no increase at the time of the rebate. The temporary rebate did little or nothing to stimulate consumption demand, and thereby aggregate demand, or the economy. The graph is much the same as in 2020 and 2021.

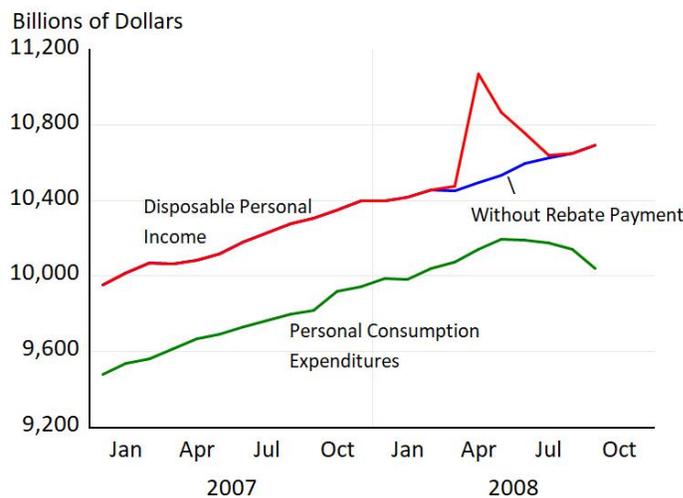


Figure 5. Income with and without Rebate and Consumption: 2007-08

While the data shown in Figure 5 tell a clear story, we can also look at the impact of the rebates payments on aggregate consumption using regression techniques as 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 6. Both rebates were temporary and 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.

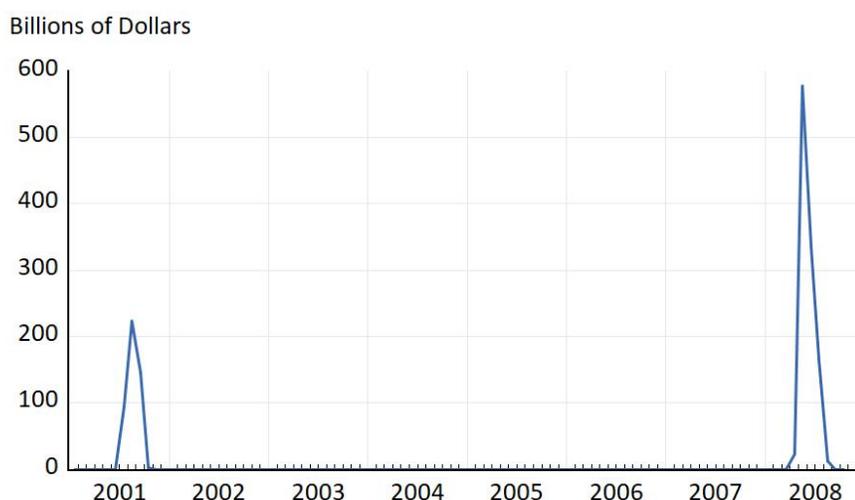


Figure 6. Rebate Payments in 2001 and 2008

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

The results 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. 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. 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.

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.

2. The Economic Impact of Discretionary Monetary Policy

The pandemic that started in the first quarter of 2020 with COVID-19 was a jolt to the economy. It interrupted a revival of rules-based policies as the Fed took special actions to deal with the effects of a health crisis on the economy. These actions included a rapid reduction in the target for the federal funds rate from 1.75 percent to .25 percent during the weeks of March 2020. Also included were large-scale purchases by the Fed of Treasury and mortgage backed securities causing a large expansion of the Fed’s balance sheet, from \$3.8 trillion before the pandemic to \$8.8 trillion. Both M1 and M2 measures of the money supply grew rapidly. These actions were discretionary and were not consistent with rules-based policies. The Fed also stopped reporting on rules-based policy in its Monetary Policy Report in the July 2020.

However, the Federal Reserve’s departure from reporting on rules-based policy was short-lived. The Monetary Policy Reports that were released on February 19, 2021 and July 9, 2021, again included a section on monetary policy rules. That policy rules reentered the Report was a welcome development. It re-initiated helpful reporting that began in the July 2017 Monetary Policy Report, but was dropped in July 2020.

Five rules were discussed in the February and July 2021 Monetary Policy Reports. To quote the Reports, these include “the well-known Taylor (1993) rule, the ‘balanced approach’ rule, the ‘adjusted Taylor (1993)’ rule, and the ‘first difference’ rule. In addition to these rules,” and this is very important, there is a new “‘balanced approach (shortfalls) rule,’ which represents one simple way to illustrate the Committee’s focus on shortfalls from maximum employment.”

Table 3 shows the five rules from the 2021 Reports: There were also five rules in the earlier Reports, but one was left out, and a new one—the Balanced-approach (shortfalls) rule—was added. As stated in the document, this modified simple rule “would not call for increasing the policy rate as employment moves higher and unemployment drops below its estimated longer-run level.”

Table 3. Five Policy Rules in the February 2021 Monetary Policy Report

A. Monetary policy rules

Taylor (1993) rule	$R_t^{T93} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t)$
Balanced-approach rule	$R_t^{BA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2(u_t^{LR} - u_t)$
Balanced-approach (shortfalls) rule	$R_t^{BAS} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2\min\{(u_t^{LR} - u_t), 0\}$
Adjusted Taylor (1993) rule	$R_t^{T93adj} = \max\{R_t^{T93} - Z_t, \text{ELB}\}$
First-difference rule	$R_t^{FD} = R_{t-1} + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t) - (u_{t-4}^{LR} - u_{t-4})$

NOTE: R_t^{T93} , R_t^{BA} , R_t^{BAS} , R_t^{T93adj} , and R_t^{FD} represent the values of the nominal federal funds rate prescribed by the Taylor (1993), balanced-approach, balanced-approach (shortfalls), adjusted Taylor (1993), and first-difference rules, respectively.

It is good that rules were put back in the Fed’s Monetary Policy Report, but it would be much more helpful if the Fed also incorporated rules into its actual decisions. Apparently this has not yet happened, as a comparison of the interest rate path and policy rules for the interest rate in Figure 7 suggests. Figure 7 compares an FOMC projection of the federal funds rate for the quarters out to 2023Q4 and three different rules-based paths for the federal funds rate to 2023.

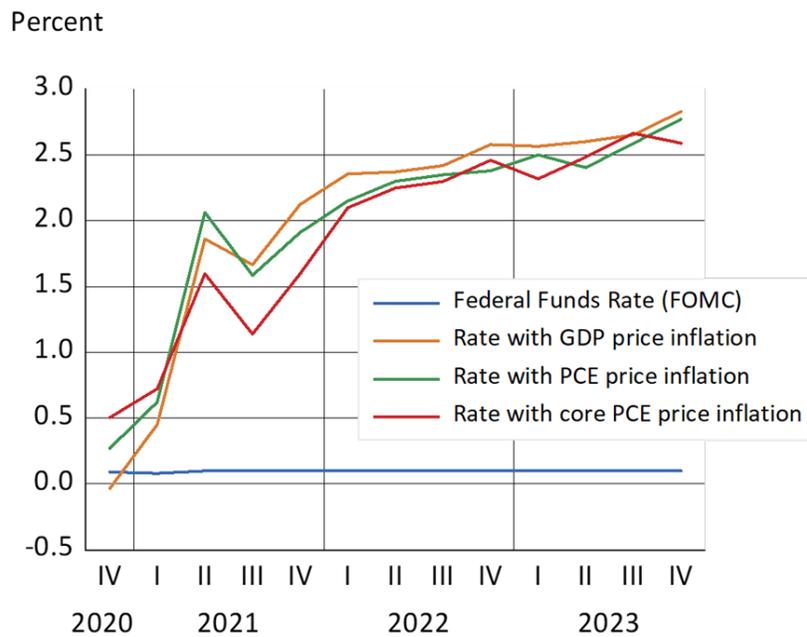


Figure 7. FOMC Projection of Federal Funds and Monetary Policy Rules with Three Inflation Rates

The three lines in Figure 7 show the federal funds rates from three policy rules using the same parameters as those in the Taylor rule which is discussed in the February 2021 Monetary Policy Report. The so-called equilibrium interest rate has been reduced from 2 percent to 1 percent in the calculations in Figure 7. Such a reduction has been suggested at the Fed. The three policy rules use the four-quarter inflation rates of the GDP price index, the PCE price index, or the core

PCE price index, based on the February 2021 Congressional Budget Office (CBO) projections. They use the same percentage deviation of real GDP and from potential GDP as the CBO report.

Even with this smaller equilibrium real interest rate (1 percent rather than 2 percent in the original Taylor rule), the FOMC's path for the federal funds rate is well below any of these policy rules. There was already a difference in the first quarter of 2021, and the difference has grown over time. Consider for simplicity the average of the interest rates for the three different inflation rates in the final quarter of each year. If we average the three values, we get 1.9 percent in 2021Q4, 2.5 percent in 2022Q4 and 2.7 percent in 2023Q4.

There has been little mention of why the discrepancy exists between the Fed's actual decisions reported here and the rules. Does this mean that the Fed will actually keep the rate this low under these circumstances regarding real GDP and inflation? The rate is exceptionally low compared to similar periods in recent history. Higher possible levels for the federal funds rate were largely being ignored in the Fed's reported discussions. Members of the FOMC argue that the higher inflation is transitory due to pandemic's effect which brought inflation down in 2020.

Those who defend its current stance point out that market interest rates on longer-term bonds remain very low. On safe Treasury assets, in August, the five-year yield was only 0.81%, and the ten-year yield was only 1.35% – well below the rates suggested by rules such as the Taylor rule when averaged over these maturities. Considering these factors, commentators say not to worry: the markets are probably being rational when they forecast low rates.

The problem with this line of reasoning is that the low longer-term rates are likely being caused by the Fed's own insistence on keeping low rates. Effectively, the policy rule for longer-maturity bonds depends on the policy rule for the much shorter-term federal funds rate, as

perceived by people in the market. If the Fed convinces the market that it will stay low, the term structure of interest rates will imply lower longer-term rates.

Today's situation is similar to that of 2004, when then-Fed Chair Alan Greenspan noticed that ten-year Treasury yields did not seem connected to moves in the federal funds rate.

Again to understand why it is exceptional, one need look no further than the Fed's own July 9, 2021, Monetary Policy Report, which includes long-studied policy rules that would prescribe a policy rate higher than the current actual rate. In any case inflation has clearly picked up, but the Fed argues that the high inflation reflects the bounce back from the low inflation of last year.

3. Conclusion: The Need for Rule-Like Policies to Increase Economic Growth

This paper has examined the reasons to return to a rules-based fiscal and monetary policy in the United States and has outlined a method to do so. By reviewing the ineffectiveness of deficit-financed discretionary fiscal policy and inflation-inducing effects of a discretionary monetary policy in the past few years, the paper provides the background needed for analyzing current and future fiscal and monetary policy decisions.

The results indicate that policy should now be strategic or rule-like in which people and markets understand that the fiscal authorities aim for a steadiness in policy without large discretionary deficit-expanding actions and the monetary authorities raise the policy interest rate as inflation rises. It would of course be a contingency plan, as all rules and strategies should be. By having clearly discussed policy rules in its February 2021 and July 2021 Monetary Policy Reports, the Fed has prepared for such a strategy in practice. Explaining how its policy rule or strategy would be consistent with its flexible average inflation targeting statements would further clarify the Fed's monetary policy and facilitate the market adjustment when it takes place. It would remove uncertainty and remaining inconsistencies.

These implications are the logical conclusion of many years of macroeconomic experience. 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...”

Despite this widespread agreement, there was a dramatic revival of interest in discretionary fiscal policy in 2008, including temporary rebates and stimulus checks designed to stimulate the economy. I examined these policies in detail and found in Taylor (2009) and then summarized in Taylor (2011) that “once again these temporary discretionary one-time countercyclical payments did nothing to stimulate the economy” and “raise considerable doubts about the efficacy of temporary discretionary countercyclical fiscal policy in practice’ which “adds more weight to the position reached... by Lucas and Sargent (1978) and Gramlich (1978, 1979).” Cogan, Taylor, and Wieland (2009) published an article in the *Wall Street Journal* summarizing the evidence and concluding, as the article’s title said, that “The Stimulus Didn’t Work.” As a result, if this research and that of others, monetary and fiscal policy began to turn toward a rule like approach in the years from 2017 to 2019, but the pandemic that began in 2020 brought back another wave of discretionary fiscal and monetary policy.

The purpose of this paper has been to review carefully—using econometrics, simple charts and data—the empirical evidence on this return to discretion fiscal and monetary policy 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 programs---whether fiscal or monetary—do not stimulate the overall economy and have their own negative effects.

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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