# "Substantial Progress," Transitory vs Persistent, and the Appropriate Calibration of Monetary Policy*

Peter N. Ireland
Boston College and
Shadow Open Market Committee

Mickey D. Levy
Berenberg Capital Markets and
Shadow Open Market Committee

September 2021

## Introduction

The recent data tell a consistent story. The US economy has recovered substantially faster from the Covid-19 shutdowns and inflation has risen far higher than earlier forecast by the Fed and most private-sector analysts. Inflationary expectations have also risen. The same data point to continued forward economic momentum amid ongoing supply shortages, and show no signs of moderating price pressures that would allow for convergence back to the Fed's longer-run 2 percent inflation target.

How does the Federal Reserve's highly accommodative monetary policy fit into this story? Do the recent data justify continued large-scale asset purchases at the rate of $120 billion per month? Are they consistent with settings for the federal funds rate target that, according to the Federal Open Market Committee's latest projections (FOMC 2021*d*), will most likely remain anchored to zero through most of 2022 and then rise only modestly, remaining below the natural rate of interest through 2024?

* Prepared for the Hoover Institution Economic Policy Working Group, September 29, 2021.

The FOMC's amended "Statement of Longer-Run Goals and Monetary Policy Strategy" (FOMC 2021*a*) allows these questions to be answered affirmatively, but also raises some deeper concerns. In implementing its new policy strategy, is the Fed unwisely ignoring key messages from modern macroeconomic theory? Has the Fed forgotten monetary policy lessons learned the hard way – from mistakes made in the past? Does the new strategic framework reintroduce into monetary policy biases similar to those that drove inflation higher and interrupted economic expansions in the past? If so, how might the new framework be fortified to better maintain the environment of price stability most conducive to a long-lasting expansion that achieves the Fed's employment mandate?

We begin with an assessment of labor market conditions and inflation trends. A broad array of data indicate clearly that substantial progress has been made toward the Fed's mandate of maximum inclusive employment and high inflation has fulfilled the Fed's make-up strategy. With labor market conditions now similar to prior mature stages of prior economic expansions and continuing to improve, and inflation decidedly above the Fed's target, the Fed's new strategic framework is being tested in a number of ways. Some aspects of the new strategic plan limit the Fed's ability to consider risks. In this context, the Fed's projections of transitory inflation seem more of a hope and understate the important role monetary policy plays in the inflation process. This is a risky strategy for policymaking. We conclude with suggestions for enhancing the new strategic framework in ways that will provide the Fed with stronger guidance for conducting monetary policy consistent with its dual mandates of stable low inflation and maximum sustainable employment.

**Labor Market Conditions: Strong Recovery**

Based on a wide array of data closely followed by the Fed and frequently cited in public statements by FOMC members, significant progress has been made toward the mandate of maximum inclusive employment (Levy 2021*b*). The unemployment rate has fallen to 5.2 percent from its pandemic spike to 14.8 percent, similar to levels achieved at mature stages of recent expansions (Figure 1). Total household unemployment has largely retraced its March-April 2020 surge and is only modestly above its pre-pandemic low. U-6, the broadest unemployment measure that includes marginally attached and part-time workers, has fallen to 8.8 percent from its 22.9 percent peak. The Bureau of Labor Statistics reports that unemployment rates of Black people and Hispanic people have fallen commensurately. In the BLS's Establishment survey, the recovery in payrolls, labor force participation rates, and the employment-to-population ratios have all been equally impressive, in the aggregate and for different groups of people. Figure 2 shows that employment has regained over 75 percent of the jobs lost in March-April 2020.

These vast improvements have occurred despite widespread labor supply shortages that have constrained business hiring and full recovery in the measured labor force. The BLS's JOLTs data reported that job opening rose to an all-time high 10.9 million in July, while monthly hires have risen sharply, but to only 6.7 million (Figure 3). The record-breaking gap of 4.2 million between openings and hires, which reflects the imbalance between labor supply and demand, represents a large portion of the remaining shortfalls of employment and unemployment from their pre-pandemic levels. This suggests clearly that aggregate demand is not the source of shortfalls from the Fed's maximum employment mandate. Whether the labor supply shortages are due to ongoing worries about health related to the pandemic, skills mismatches, or

government policies that provide financial incentives not to work, they *cannot* be attributable to monetary policy and insufficient demand.

Although the Fed prioritized and broadened its employment mandate in its new strategic plan, it did not provide any numeric guidance for its goals (Levy and Plosser 2020). The only reference point the Fed has made is the labor market data achieved just before the pandemic, at the end of the elongated expansion from the financial crisis of 2008-9. In any case, the rapid improvement in labor markets stands in sharp contrast to the Fed's projections. As shown in Table 1, the sharp decline in the unemployment rate has far exceeded the Fed's expectations, and in response, the Fed has lowered its unemployment rate forecast. The median FOMC member now projects the unemployment rate to reach 3.8 percent by year-end 2022 and 3.5 percent in 2023 and 2024, well below the 4.0 percent median FOMC member estimate of the natural rate of employment, so called "full employment".

**Inflation: Sharp Acceleration**

Consumer inflation has accelerated sharply following temporary minor declines in the price indexes in March-April 2020, far above forecasts made by the Fed or private forecasters. CPI inflation has picked up to 5.2 percent year-over-year through August 2021, and 4.2 percent excluding food and energy (Figure 4), while the PCE price index has risen 4.2 percent through July 2021, 3.6 percent on its core measure (Figure 5). By every measure, the 6-month annualized increase is above the year-over-year rise, indicating acceleration. Inflation has picked up materially for services, even though many services industries have not recovered to their pre-pandemic levels and slack remains. The PCE price index for goods, whose consumption has rebounded strongly, has risen 7 percent year-over-year, its first material rise since the mid-1990s.

Of note, the largest component of the consumer inflation measures, the cost of shelter, has accelerated only modestly to 2.8 percent year-over-year, a small fraction of the 9.5 percent rise in Zillow's Observed Rental Index or the 18.6 percent rise in the S&P CoreLogic Case-Shiller home price index. Costs of production have risen even faster than consumer inflation: the PPI for final demand has increased 8.3 percent year-over-year and 6.3 percent excluding food, energy and trade services (Figure 6). Similarly, its 6-month annualized increases indicate acceleration.

The acceleration of inflation has clearly caught the Fed by surprise, as suggested by the Fed's Summary of Economic Projections (SEPs), shown in Table 2 (see also Levy 2021*a*). In December 2020, with full knowledge that the base adjustment from the temporary declines in the PCE price index in March-April of 2020 would boost year-over-year measures of inflation, the median FOMC member forecast PCE inflation to be 1.8 percent in 2021 and then rise to the Fed's 2 percent target in 2022 and 2023. There was very little dispersion of forecasts among FOMC members, with the highest estimate in the range 2.3 percent. The median FOMC member forecast was raised to 2.4 percent in March, 3.4 percent in June, and 4.2 percent in this September's SEPs. Since December, the median member forecast of core PCE inflation has risen from 1.7 percent to 3.7 percent.

While the realities of mounting inflation pressures have forced the Fed to dramatically revise up its forecasts for 2021, the Fed has continued to forecast that inflation will decelerate back toward its longer-run 2 percent target in 2022 and 2023. However, Committee members do forecast inflation of 2.2 percent in 2022 and 2023 (and 2.3 percent PCE core inflation in 2022). Now that the Fed has stated that the higher "make up" inflation requirement has been met, it is noteworthy the Committee members are evenly split on whether it is appropriate to raise the Federal funds rate from zero by year-end 2022 or wait until 2023.

There are other seeming inconsistencies in the SEPs. The FOMC's inflation forecasts in 2022 and 2023 have been largely invariant to monetary policy, including the ongoing expansion of the Fed's balance sheet, rapid growth in money supply and projections of the Federal funds rate remaining below estimates of their natural rate. Moreover, the forecasts of lower inflation have remained intact despite forecasts of sustained real growth well above estimates of potential growth and forecasts of the unemployment rate well below estimates of its natural rate. The FOMC's inflation forecasts have also been seemingly unresponsive to fiscal legislation involving dramatic increases in stimulus. The Fed's inflation forecast seems to be driven by its hope to achieve its longer-run objectives, its assertion that the recent rise in inflation is temporary and its perceived ability to manage inflationary expectations.

The Fed correctly puts a significant emphasis on the critical role inflationary expectations play in inflation. But inflationary expectations are unobservable, which makes the difficulty of managing them tricky. Market-based measures of inflationary expectations, like break-evens on the TIPs, have risen from 1.6 at year end in 2019 to 2.5 percent currently. While such measures can be easily tracked every day and get a lot of attention, the sharp rise in inflation and higher inflationary expectations seem to be influencing price and wage-setting behavior in the non-financial sector, contributing to inflation pressures. Business executives in different industries remark that their customers "expect higher prices" and "are OK with them". At the same time, workers are asking for higher wages as a catch up to the unanticipated high inflation that has lowered their real wages and purchasing power, and are demanding higher wages based on the expectations of sustained higher inflation.

In the Federal Reserve Bank of New York's most recent Survey Consumer Expectations, one year ahead expected inflation is 5.2 percent and the three year expected inflation is 4 percent.

The University of Michigan survey also shows that high inflation is expected to persist. It would be surprising if such expectations were *not* being reflected in higher prices of goods and services as well as wage agreements. Unfortunately, unbiased and reliable measures of the influence of inflationary expectations in the non-financial sector are not available. Nevertheless, the Fed seems to be understating such expectations, and overstating its ability to manage them.

The significant acceleration of the PPI suggests that the inflation pipeline is filling rather than dissipating. If aggregate demand growth remains solid, the risks are higher consumer inflation will persist. There is widespread evidence of businesses rolling out a series of price increases to gradually offset their higher production costs and maintain margins, and strong product demand will provide flexibility to raise prices.

Wages have also accelerated even with the unemployment rate above its pre-pandemic rate and the Fed's estimate of 4 percent natural rate. Average hourly earnings of production and nonsupervisory workers have risen 4.7 percent year-over-year and 6.3 percent annualized in the last six months. This is not surprising in light of the strong demand for labor and supply constraints.

**From Data to Policy via the Fed's New Strategic Framework**

The data just reviewed show convincingly that the US economy has bounced back strongly from disruptions associated with the Covid-19 shutdowns and continues to possess considerable forward momentum. Measures of employment have already regained much of what they lost in early 2020. The shortfalls that remain appear to reflect constraints on the supply side rather than insufficient aggregate demand. Meanwhile, measures of inflation have jumped far above the Federal Reserve's long-run 2 percent target.

To be fair, the FOMC's amended "Statement of Longer-Run Goals and Monetary Policy Strategy" (FOMC 2021*a*) allows these data to be reconciled with highly accommodative monetary policy, including continued large-scale asset purchases and interest rate targets at or near zero through 2023. This reconciliation, however, is an uneasy one. It raises, rather than resolves, deeper concerns about the Committee's ability to respond to risks. And it obscures the Fed's own role in shaping outcomes for inflation. To see how, let's consider the Fed's new framework.

**Unemployment: Running the Labor Market Hot**

Three elements of the FOMC's new policy strategy explain the Committee's willingness to continue QE and hold interest rates close to zero, even as the unemployment rate has declined from its April 2020 peak of 14.8 percent to its present level of 5.2 percent.

First, the FOMC's Statement (FOMC 2021*a*), as amended in August 2020 and reaffirmed in January 2021, emphasizes that the concept of "maximum sustainable employment" is a "broad-based and inclusive goal" that cannot be summarized with reference to the unemployment rate alone and depends, instead, on a much wider range of labor market indicators. As noted above and in Levy and Plosser (2020), the Fed has not identified a clear set of quantitative guidelines that would allow an assessment of progress towards meeting its objective. Instead, Chair Powell has emphasized that "substantial progress" toward the Fed's objective is a requirement for the Fed to consider beginning to unwind its asset purchases. Various Fed members have provided their qualitative assessments of whether the subjective progress requirement has been met.

Outside observers must rely on such subjective assessments of Powell's "substantial progress" requirement. Minutes to the FOMC's July meeting (FOMC 2021*b*, p.10) state simply that

> Participants indicated the economy had not yet achieved the Committee's broad-based and inclusive maximum-employment goal. Several participants remarked that the labor market recovery continued to be uneven across demographic and income groups and across sectors.

And in his remarks at the Kansas City Fed's economic policy symposium in August, Powell (2021, p.9) noted, even more tersely, that there is "substantial slack remaining in the labor market." Thus, by this criterion alone, large-scale asset purchases and zero interest rates remain necessary, to support a full recovery of labor markets. In the Policy Statement of the September FOMC meeting (FOMC 2021*c*), the Fed stated "…the economy has made progress toward these goals. If progress continues broadly as expected, the Committee judges that a moderation in the lace of asset purchases may soon be warranted".

Second, the FOMC's amended Statement also makes clear that in pursuing its stabilization objectives, the Committee stands ready to adjust its monetary policy in response to *shortfalls* – not deviations – of employment from its maximum sustainable level. This adds a clear element of asymmetry to the Fed's pursuit of its maximum inclusive employment objective. Thus, continued improvement across the wide range of labor market indicators surveyed above will be necessary, but not sufficient, for the scaling back of monetary accommodation.

Third, the Fed's new strategy dramatically raises the hurdle for pre-emptive tightening. This change stems from the Fed's focus on shortfalls of employment from its objective, and its acknowledgement that the Phillips Curve is flat, and that stable inflation may be consistent with maximum inclusive employment. According to Fed Vice Chair Clarida (2020, p.12), "this is a robust evolution in the Federal Reserve's policy framework". Indeed, prior to these changes, the Fed's reliance on pre-emptive tightening was an important monetary policy tool.

These new features of monetary policy strategy are reflected in the September SEPs in which the unemployment rate is projected to fall to 3.8 percent in 2022 and 3.5 percent in 2023 and 2024 while the Committee members project that it will be appropriate to raise interest rates gradually but keep them below inflation and their natural rate. This signal clearly that guided by its new strategic framework, the Fed plans to allow the labor market to "run hot" for at least three years.

In fact, modern macroeconomic theory suggests that the unemployment rate may already have fallen below its natural rate. It does so by emphasizing the importance of supply as well as demand-side impulses in driving aggregate fluctuations. Kydland and Prescott (1982) and Long and Plosser (1983) first demonstrated that, in theory, business cycles generated by real (non-monetary) shocks alone resemble in many respects the historical cycles observed in the post-war US economy. Goodfriend and King's (1997) "New Neoclassical Synthesis" added to this real business cycle core Keynesian nominal price and wage rigidities that allow monetary policy to exert an important influence as well. One of the most striking implications of their "New Keynesian" analysis is that the natural, or efficient, rates of output and employment can vary substantially on a year-to-year or even a quarter-by-quarter basis. Within this framework, as Galí (2015, p.103) explains:

> … stabilizing output is not desirable in and of itself. Instead, output should vary one-for-one with the natural level of output …. There is no reason, in principle, why the natural level of output should be constant or take the form of a smooth trend, because all kinds of real shocks are a potential source of variation in its level. In that context, policies that stress output stability (possibly around a smooth trend) may generate potentially large deviations of output from its natural level and, thus, be suboptimal.

In the recent data, rising wages and record numbers of unfilled job postings point to a labor market that is already running hot, even with unemployment still above 5 percent. The

Fed's plan to keep it running hot for at least three more years is a gamble is that a flat Phillips Curve will allow it to skillfully produce "prosperity without inflation." Perhaps it will succeed. But historical experience, revealed through the evolution from optimism to despair in Burns (1957), Burns (1970), and Burns (1979), warns us that the risks of failure are high.

Presently, the Committee's broadened interpretation of its full-employment mandate, however well-intentioned, makes it more difficult to manage these risks and communicate them effectively to the public. Abandoning the gradual but pre-emptive removal of monetary accommodation as the labor market continues to strengthen works, counterproductively, to increase the chance that more vigorous corrective action will be needed later. A return to the "go-stop" policy pattern of the 1970s, according to which the Fed first held policy rates too low for too long, allowing the labor markets to overheat, but was then forced to clamp down hard, sending the economy back into recession, certainly will hurt not help American families – particularly the most vulnerable.

**Inflation: Transitory or Persistent?**

Meanwhile, a key feature of the FOMC's new strategy allows policy to remain fully accommodative even while inflation is on the rise. Flexible average inflation targeting (AIT) dictates (FOMC 2020*a*) that "following periods when inflation has been running persistently below 2 percent, appropriate monetary policy will likely aim to achieve inflation moderately above 2 percent for some time."

Levy and Plosser (2020) note once more that, in reinterpreting its objectives in this way, recent FOMC statements leave unstated important details – in this case, what exactly is meant by "moderate" and "some time" – that would help Fed members and outsiders alike track its

progress towards meeting those goals. And, as Ireland (2021) and Plosser (2021) observe, AIT as it has been described so far appears deliberately asymmetric, calling for higher inflation after periods of low inflation but not lower inflation after periods of high inflation. Nevertheless, the new AIT strategy does allow the FOMC to treat the recent rise in inflation as innocuous or perhaps even "welcome," so long as it appears to be transitory rather than persistent.

The July FOMC minutes (FOMC 2021*b*, p.11) record how

> In their discussion of inflation, participants observed that the inflation rate had increased notably and expected that it would likely remain elevated in coming months before moderating. Participants remarked that inflation had increased generally more than expected this year and attributed this increase to supply constraints in product and labor markets and a surge in consumer demand as the economy reopened. They noted that many of their District contacts had reported that higher input costs were also putting upward pressure on prices. Many participants pointed out that the largest contributors to recent increases in measures of inflation were a handful of sectors most affected by temporary supply bottlenecks or sectors in which price levels were rebounding from depressed levels as the economy continued to reopen. Looking ahead, while participants generally expected inflation pressures to ease as the effect of those transitory factors dissipated, several participants remarked that larger-than-anticipated supply chain disruptions and increases in input costs could sustain upward pressure on prices into 2022.

It is curious that, while downplaying the importance of supply-side factors in keeping the measured rate of unemployment above the long-run natural rate, Committee members emphasize heavily the role of supply-side factors in pushing the measured rate of inflation above their long-run target.

More troubling, however, is how the "transitory versus persistent" debate neglects the crucial role that monetary policy itself plays in shaping the dynamics of the price level and therefore in *determining* whether the recent rise in inflation will be short-lived, reflecting supply disruptions associated with Covid-19, or persistent, because interest rates are held too low for too long. While Chair Powell (2021, p.9) notes, correctly, that lags in the effects of monetary policy

imply there is little the Fed can do to offset month-to-month, quarter-to-quarter, or even year-to-year fluctuations in measured inflation, those same lags also imply that FOMC must *act now* in a way that preserves expectations of price stability one to three years out into the future.

Once again, lessons from the past can be useful in avoid mistakes in the future. Nelson (2020, pp.257-266) describes how "Officialdom's Nonmonetary Perspective on Inflation" helped Burns (1970), for example, blame rising inflation on persistent cost-push factors that the Fed could not by itself offset. Nelson (2004) outlines in more detail this "monetary policy neglect" explanation for the Great Inflation in both the US and UK. And in answering the question of "why monetary policy failed again in the 1970s," Meltzer (2009, p.843) observes that "although Federal Reserve officials may have distinguished 'the permanent from the temporary,' they did not act on that information." All of these studies strongly suggest that the "transitory versus persistent" question needs to be re-addressed within an alternative framework that depicts the Fed as an active player instead of a passive observer.

Towards that end, let's eschew the use of forecasting models that, as Meltzer (1987) observes, have never been accurate enough to support successful monetary policy discretion and, as Ng (2021) points out, have been challenged still further by the highly unusual events surrounding Covid-19. Also, in light of the difficulties in accurately measuring the short-run natural rate of unemployment, it seems wise to avoid reference to the Phillips curve as well.

Let's look, instead, at the behavior of the M2 money stock, shown in Figures 7 and 8. M2 grew by 23 percent from the first quarter of 2021 through the first quarter of 2021. Since then, money growth appears to have declined to "only" 13.7 percent as the first months of the pandemic have rolled out of the year-over-year calculations. But the *level* of the money stock is now 30 percent (more than $5 trillion) higher than it was in early 2021. Nothing remotely like

this has ever been seen over the post-war period – not even during the high inflation years of the 1970s, nor following the 2008-2009 financial crisis when the Fed engaged in aggressive quantitative easing.

Of course, M2 velocity, shown in Figure 9, has fallen sharply over the same period, reflecting a combination of increased demand for liquid assets in the face of severe economic disruption, government shutdowns and uncertainty, falling interest rates and the build-up of funds from multiple rounds of fiscal stimulus. Thus, the dramatic increase in the money supply has not yet fueled uncontrolled inflation.

The quantity-theoretic view suggested by Figures 7-9 and outlined in more detail by Hetzel (2021) remains useful, however, because it forces us to ask what will happen next or, more precisely, how what happens next depends on what the *Fed actually does* next. If the FOMC raises interest rates as the economy continues to recover and expand, households and firms will have the incentive to use their cash balances to save and pay down debt. The enormous bulge in M2 will then dissipate and nominal GDP will moderate to a path without sustained inflation. If, on the other hand, the Fed holds interest rates low even as confidence continues to build, reversing flight-to-quality dynamics and increasing the natural rate of interest, households and firms instead will have the incentive to spend. The bulge in real M2 will still be worked off, but through generating a sizable increase in aggregate demand and a large increase in the nominal price level. This is, of course, the unwanted case in which the rise in inflation turns out to be persistent.

The Fed cannot neglect the unprecedented fiscal stimulus and how it may affect economic performance. It is clear that the government transfers have provided income support to individuals and small businesses that have boosted spending but a sizable portion has been

saved. Of note, of the $5.4 trillion in authorized fiscal deficit spending in response to the pandemic, the General Accounting Office estimates that $1 trillion has yet to be spent. These funds are still flowing into the economy. Congress is now poised to pass more fiscal legislation that will involve trillions of additional dollars in deficit spending in the form of the American Jobs and Infrastructure Act and the Build Back Better Act. Much of the infrastructure legislation will involve increases in government consumption and investment that will directly boost GDP and jobs. Although it is admittedly difficult to gauge the impact of fiscal policy on economic performance, it would be remiss of the Fed consider its conduct of monetary policy without taking into account such large doses of fiscal stimulus.

The key point, again, is that the FOMC should *decide, not guess*, whether the recent rise in inflation is transitory or persistent. Wishing and hoping are certainly not enough. The Fed's SEPs are the Committee members' best forecasts under the assumption that monetary policy is appropriate, and are also used by the Fed to provide forward guidance on monetary policy. Although the Fed has acknowledged the difficulties in forecasting inflation, there is little room for error. Currently, the risks on inflation seemingly are on the upside. References to the fact that Fed has the "tools" (see, for example, Powell 2021, p.10) to correct for an unwanted overshoot might work, but they put policymakers' credibility at risk: if they cannot bring themselves to say now that by "tools" they mean "higher interest rates," why should the public believe that they will actually raise interest rates, if necessary, especially as elections approach next year? The Fed needs to fortify its new strategic framework – but how?

**Fortifying the Fed's New Framework**

As Ireland (2021) and Plosser (2021) explain, the key changes the FOMC made to its long-run policy strategy in 2020 are clear reactions to the challenges monetary policymakers faced in the aftermath of the financial crisis and deep recession of 2008-2009. The sluggish recovery, with slowly-falling unemployment and stubbornly low inflation, focused the Committee's attention on how to provide adequate monetary accommodation in the face of the zero lower interest rate bound.

The problem is that the new strategy is being implemented now, within an economic and financial environment that is quite different in character. Unemployment is falling rapidly, inflation is back above its long-run target, and interest rates may have to rise sooner rather than later. The challenge now becomes: how to make necessary adjustments to the policy stance, without abandoning the new framework in its entirety?

Ireland (2021) provides the easy answer. The FOMC should augment its new strategy with reference to an explicit target path for the level of some aggregate nominal variable. Plosser (2021, pp.13-14) shows how this would work, using the PCE price index as the target. Figures 10 and 11 illustrate the same idea, using nominal GDP instead.

Sumner (2017, 2021), Beckworth (2019), and Ireland (2020) explain why nominal GDP stands out as an ideal intermediate target for monetary policy. It is a nominal variable, and therefore under the Fed's direct influence. Indeed, Belongia and Ireland (2017) present statistical results consistent with shorter and more stable lags between monetary policy actions and nominal GDP than those between monetary policy actions and the price level. At the same time, nominal GDP, as the product of real GDP and the nominal price level, can also be used to gauge the Fed's progress towards fulfilling both sides of its dual mandate. Finally, as the

product of the nominal money stock and monetary velocity, it provides an alternative to the unreliable Phillips curve, in which inflationary trends are determined by the interaction of money supply and money demand instead of potentially misperceived slack or tightness of the labor markets.

Figure 10 shows the actual path of nominal GDP in blue, along with a target path in red that calls for 4 percent annual growth starting from a base in the fourth quarter of 2019. This path is chosen to be consistent with average inflation at or slightly above 2 percent, given the Committee's (FOMC 2021*d*) median projection of 1.8 percent long-run growth in real GDP. The base in 2019Q4 is intended to emphasize what presumably has been and continues to be the FOMC's most basic objective since then: to prevent the economic disruptions associated with Covid-19 from being amplified by monetary policy that is insufficiently accommodative, perhaps because traditional interest rate policy has again been constrained by the zero lower bound.

Figure 11 conveys concisely with a single picture the basic message sent by all of the FOMC's recent policy statements, and provides a clear and unambiguous rationale for current QE and interest rates near zero. The reason is simple! It is because nominal GDP fell by 12.75 percent below its target path in the second quarter of 2020 and has yet to fully recover, even today.

At the same time, however, these figures accomplish what none of the FOMC's statements have adequately achieved, by providing clear and explicit guidance as to the circumstances under which the FOMC will have to begin the process of tapering its asset purchases and raising its policy rates. That will have to happen as, in Figure 10, the blue line for nominal GDP crosses the red line for the target.

The dashed green line in Figure 11 indicates that this goal will be met before year-end 2021, *if* nominal GDP continues to grow at rates similar to those recorded for the first two quarters of 2021. It will happen even sooner if nominal GDP growth remains strong, but later if nominal GDP growth decelerates. Importantly, the nominal GDP level target does *not* support reflexive or simple-minded monetary policy hawkishness. It serves, instead, as a device that helps the FOMC look through high-frequency noise in the data and remain focused on intermediate-term trends. It does so by providing a clear and unambiguous answer to the question of exactly what the Committee means by "substantial progress" and "transitory versus persistent." It thereby facilitates what Taylor (2021) aptly calls "reentry to a monetary policy strategy."

With reference to a nominal GDP level target, therefore, the FOMC will find it easier to describe itself as responding, systematically and appropriately, to unpredictable changes in the speed of the economic recovery, driven by factors entirely outside of its control. With reference to the level target path, the FOMC would emphasize its commitment to a monetary policy *strategy*, not to a set of specific policy actions that may or may not remain appropriate as circumstances change. The FOMC's commitment to this strategy will be credible because the plan is so simple – it allows outsiders to easily track the Fed's progress towards meeting its goals – and because it calls for what are, so obviously, appropriate policy responses in each and every contingency.

The choice between nominal GDP and any measure of the aggregate nominal price level or choice of base or growth rate of the target path are far less important than the decision to make policy with consistent reference to some level target path that is consistent with the FOMC's target of two percent average inflation. The target path plays its valuable role by placing what

Sumner (2017) aptly refers to as "guardrails" on the Committee's meeting-by-meeting decisions. The target fixes expectations that the Fed will act to prevent sustained deflation *and* inflation.

In setting these guardrails, the FOMC must emphasize to the public that preemptive actions taken to stabilize average inflation in no way jeopardize the successful pursuit of its goals for employment. To the contrary, the Fed's employment objectives are best achieved in an extended economic expansion with low and stable inflation. The Great Moderation proved this point. The significant gains achieved by all people in the last half of the elongated 2009-2019 expansion provide further confirmation of it. High inflation is already undercutting economic performance, and risks to be more persistent than the Fed projects. The Fed's current calibration of monetary policy is inconsistent with its objectives. We encourage the Fed to proceed toward tapering and eventually unwinding asset purchases and raising rates, and adopting systematic guidelines for conducting policy consistent with sustained economic expansion and stable prices.

**References**


Beckworth, David. "Facts, Fears, and Functionality of NGDP Level Targeting: A Guide to a Popular Framework for Monetary Policy." Special Study. Arlington, VA: George Mason University, Mercatus Center, October 2019. Available at https://www.mercatus.org/system/files/beckworth-ngdp-targeting-mercatus-special-study-v2.pdf.

Belongia, Michael T. and Peter N. Ireland. "Circumventing the Zero Lower Bound with Monetary Policy Rules Based on Money." *Journal of Macroeconomics* 54 (December 2017): 42-58.

Burns, Arthur F. *Prosperity without Inflation*. New York: Fordham University Press, 1957.

Burns, Arthur F. "Inflation: The Fundamental Challenge to Stabilization Policies." Speech before the Seventeenth Annual Monetary Conference of the American Bankers Association. Hot Springs, VA: 18 May 1970. Available at https://fraser.stlouisfed.org/files/docs/historical/burns/Burns_19700518.pdf.

Burns, Arthur F. "The Anguish of Central Banking." Per Jacobsson Lecture. Belgrade: 30 September 1979. Available at http://www.perjacobsson.org/lectures/1979.pdf.

Clarida, Richard H., "The Federal Reserve's New Monetary Policy Framework: A Robust Evolution." Speech at the Peterson Institute for International Economics, 31 August 2020. Available at https://www.federalreserve.gov/newsevents/speech/files/clarida20200831a.pdf.

Federal Open Market Committee. "Statement on Longer-Run Goals and Monetary Policy Strategy." Amended 24 January 2020; Reaffirmed 26 January 2021*a*. Available at https://www.federalreserve.gov/monetarypolicy/files/FOMC_LongerRunGoals.pdf.

Federal Open Market Committee. "Minutes of the Federal Open Market Committee." 27-28 July 2021*b*. Available at https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20210728.pdf.

Federal Open Market Committee. "FOMC Statement." 22 September 2021*c*. Available at https://www.federalreserve.gov/monetarypolicy/files/monetary20210922a1.pdf.

Federal Open Market Committee. "Summary of Economic Projections." 22 September 2021*d*. Available at https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20210922.pdf.

Galí, Jordi. *Monetary Policy, Inflation, and the Business Cycle* 2nd Ed. Princeton: Princeton University Press, 2015.

Goodfriend, Marvin and Robert G. King. "The New Neoclassical Synthesis and the Role of Monetary Policy." *NBER Macroeconomics Annual* 12 (1997): 231-283.

Hetzel, Robert L. "A Quantity Theory Framework for Thinking About Monetary Policy." Studies in Applied Economics 174. Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise, March 2021. Available at https://sites.krieger.jhu.edu/iae/files/2021/03/A-Quantity-Theory-Framework-for-Thinking-about-Monetary-Policy.pdf.

Ireland, Peter N. "The Time is Right for Nominal GDP Level Targeting." Position Paper. Shadow Open Market Committee, June 2020. Available at http://irelandp.com/papers/somc202006.pdf.

Ireland, Peter N. "Valse Hot? The Recovery and the Risks Ahead." Position Paper. Shadow Open Market Committee, June 2021. Available at http://irelandp.com/papers/somc202106.pdf.

Kydland, Finn E. and Edward C. Prescott. "Time to Build and Aggregate Fluctuations." *Econometrica* 50 (November 1982): 1345-1370.

Levy, Mickey D. "Inflation: Some Temporary Factors, but Underlying Pressures Mount." Shadow Open Market Committee, 19 June 2021*a*.

Levy, Mickey D. "Updated Expanded Labor Market Dashboard Indicates 'Substantial Progress' Has Been Made Toward the Fed's Employment Mandate." Berenberg Capital Markets, 12 August 2021*b*.

Levy, Mickey D. and Charles Plosser. "The Murky Future of Monetary Policy." Economics Working Paper 20119. Hoover Institution, October 2020. Available at https://www.hoover.org/sites/default/files/research/docs/20119-levy-plosser_1.pdf.

Long, John B., Jr. and Charles I. Plosser. "Real Business Cycles." *Journal of Political Economy* 91 (February 1983): 39-69.

Meltzer, Allan H. "Limits of Short-Run Stabilization Policy." *Economic Inquiry* 25 (January 1987): 1-14.

Meltzer, Allan H. *A History of the Federal Reserve*. Volume 2, Book 2, 1970-1986. Chicago: University of Chicago Press, 2009.

Nelson, Edward. "The Great Inflation of the Seventies: What Really Happened?" Working Paper 2004-001. Federal Reserve Bank of St. Louis, January 2004. Available at https://s3.amazonaws.com/real.stlouisfed.org/wp/2004/2004-001.pdf.

Nelson, Edward. *Milton Friedman and Economic Debate in the United States, 1932-1972*. Volume 2. Chicago: University of Chicago Press, 2020.

Ng, Serena. "Modeling Macroeconomic Variations After Covid-19." Working Paper 29060. National Bureau of Economic Research, July 2021.

Plosser, Charles. “The Fed’s Risky Experiment.” Economics Working Paper 21116. Hoover Institution, June 2021. Available at https://www.hoover.org/sites/default/files/research/docs/21116-plosser_1.pdf.

Powell, Jerome H. “Monetary Policy in the Time of Covid.” Speech at “Macroeconomic Policy in an Uneven Economy,” an Economic Policy Symposium Sponsored by the Federal Reserve Bank of Kansas City.” Jackson Hole, WY: 27 August 2021. Available at https://www.federalreserve.gov/newsevents/speech/files/powell20210827a.pdf.

Sumner, Scott. “Monetary Policy Rules in Light of the Great Recession.” 54 (December 2017): 90-99.

Sumner, Scott. *The Money Illusion: Market Monetarism, the Great Recession, and the Future of Monetary Policy*. Chicago: University of Chicago Press, 2021.

Taylor, John B. “The Optimal Reentry to a Monetary Policy Strategy.” Stanford University, 10 April 2021. Available at https://web.stanford.edu/~johntayl/2021_pdfs/The_Optimal_Reentry_to_a_Monetary_Policy_Strategy-4-10-21.pdf.

Figure 1.

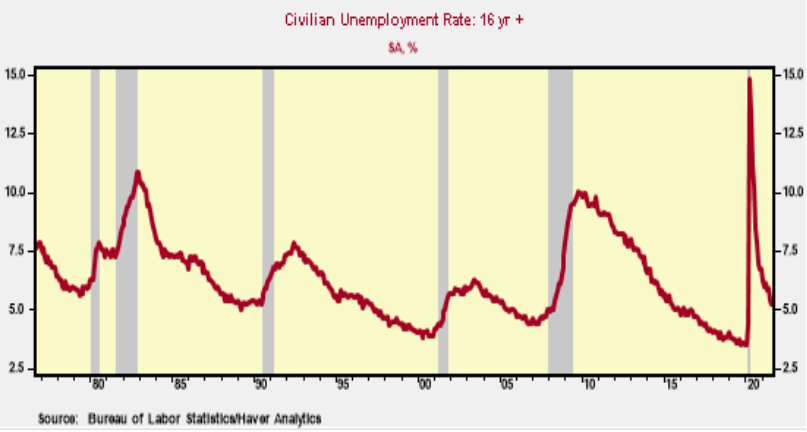



Figure 2.

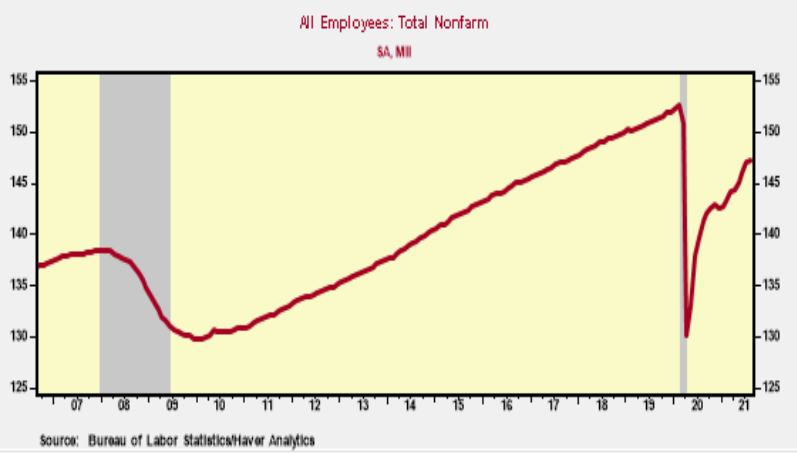



Figure 3.

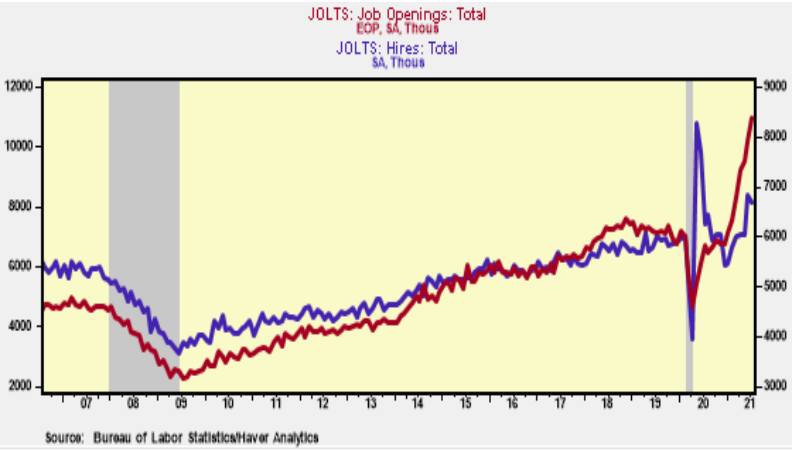


Figure 4.

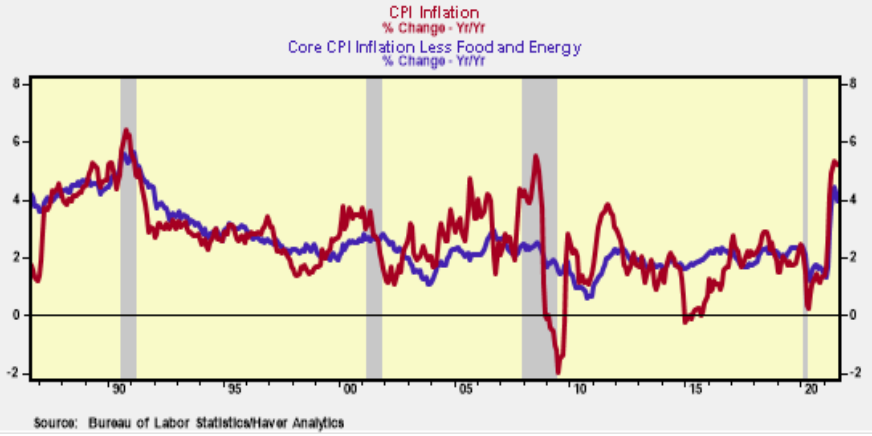



Figure 5.

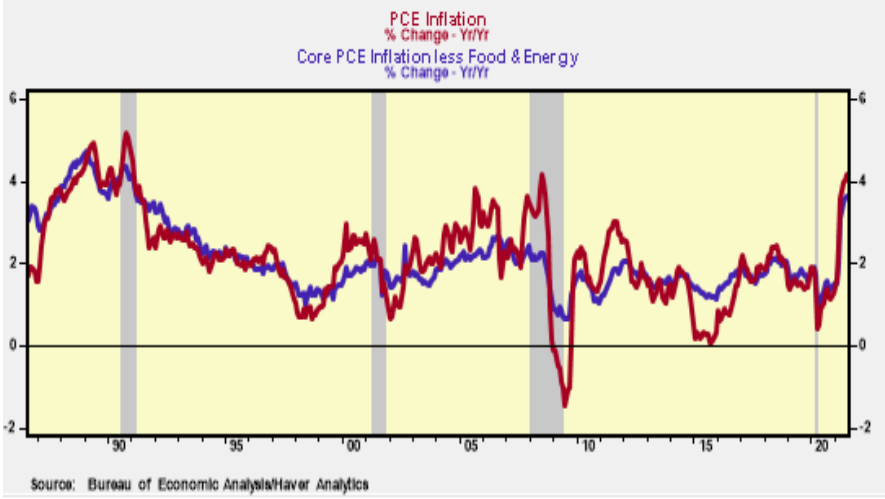



Figure 6.

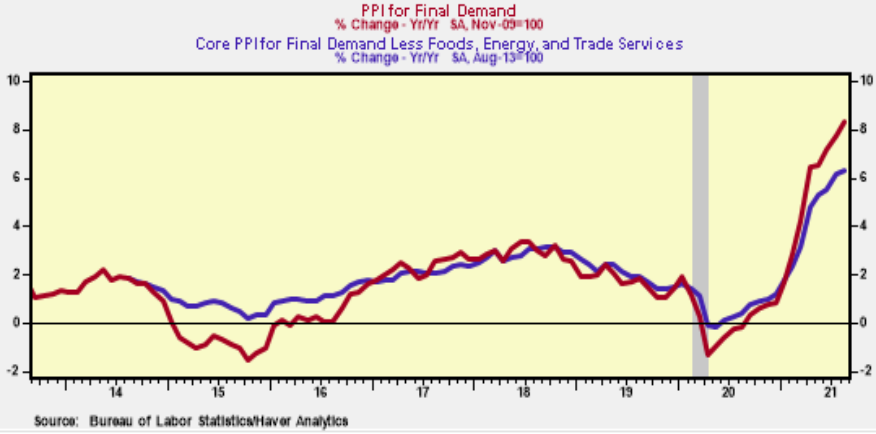


Table 1. The FOMC Member Median Unemployment Rate Projections*

| FOMC projection made in: | Actual** | 2020 | 2021 | 2022 | 2023 | LR |
|---|---|---|---|---|---|---|
| June 2020 | 13.3 | 9.3 | 6.5 | 5.5 | -- | 4.1 |
| Sept 2020 | 8.4 | 7.6 | 5.5 | 4.6 | 4.0 | 4.1 |
| December 2020 | 6.7 | 6.7 | 5.0 | 4.2 | 3.7 | 4.1 |
| March 2021 | 6.2 | | 4.5 | 3.9 | 3.5 | 4.0 |
| June 2021 | 5.8 | | 4.5 | 3.8 | 3.5 | 4.0 |
| Sept 2021 | 5.2 | | 4.8 | 3.8 | 3.5 | 4.0 |

Note: *Projection for December of year
**Last monthly observation available before Fed's quarterly SEP

Sources: Summary of Economic Projections, Board of Governors of Federal Reserve System

Table 2. The FOMC Member Median Inflation Forecasts*

| | 2021 | | 2022 | | 2023 | |
|---|---|---|---|---|---|---|
| Inflation forecast made in: | PCE | Core | PCE | Core | PCE | Core |
| September 2020 | 1.7 | 1.7 | 1.8 | 1.9 | 2.0 | 2.0 |
| December 2020 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 |
| March 2021 | 2.4 | 2.2 | 2.0 | 2.0 | 2.1 | 2.1 |
| June 2021 | 3.4 | 3.0 | 2.1 | 2.1 | 2.1 | 2.1 |
| September 2021 | 4.2 | 3.7 | 2.2 | 2.3 | 2.2 | 2.2 |

Note: *Measured Q4/Q4

Sources: Summary of Economic Projections, Board of Governors of Federal Reserve System

Figure 7.

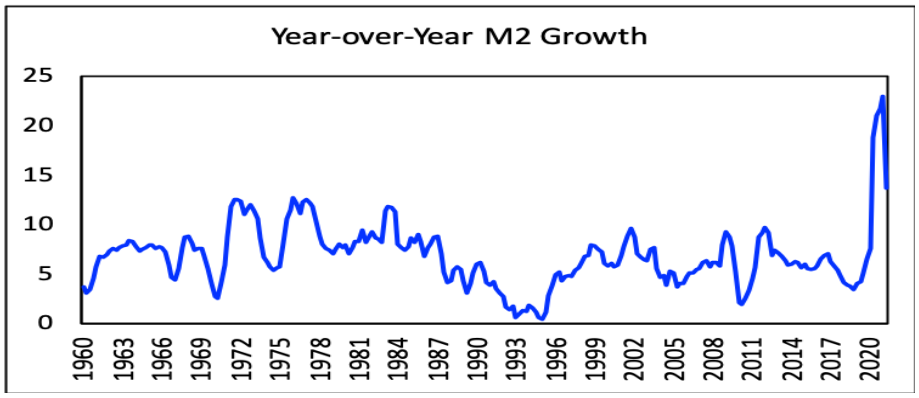



Figure 8.

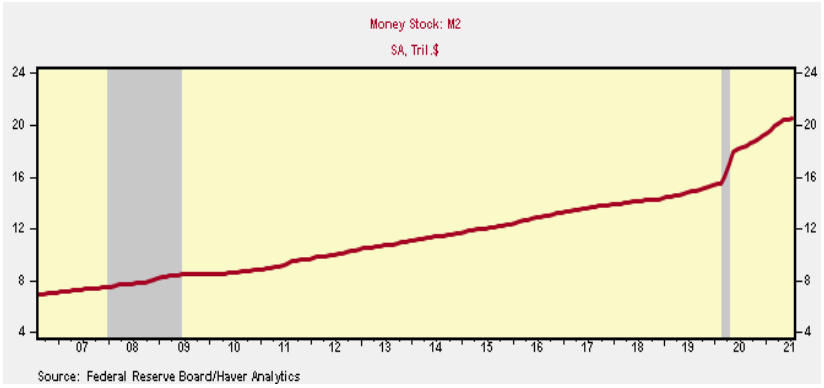
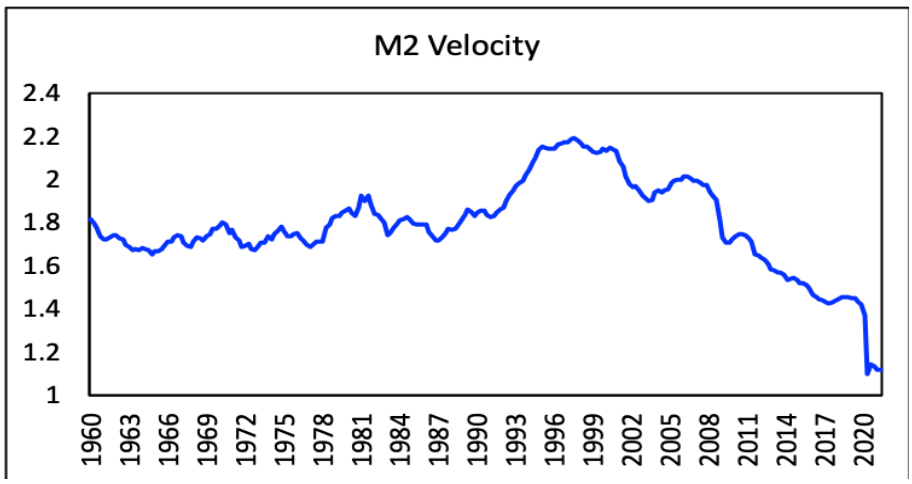



Figure 9.




Note: M2 velocity is M2/Nominal GDP.
Source: Federal Reserve Bank of St. Louis' Federal Reserve Economic Data (FRED).

Figure 10.

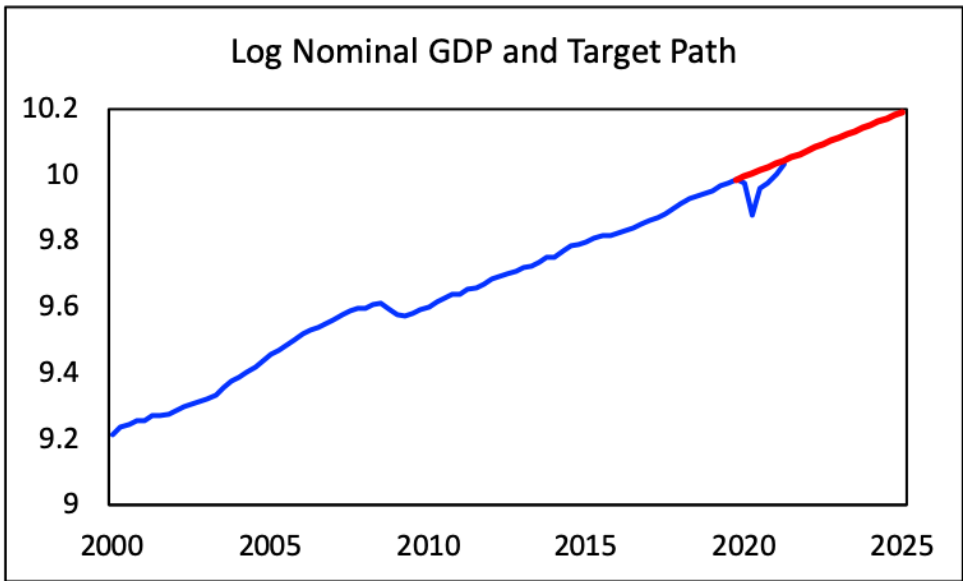
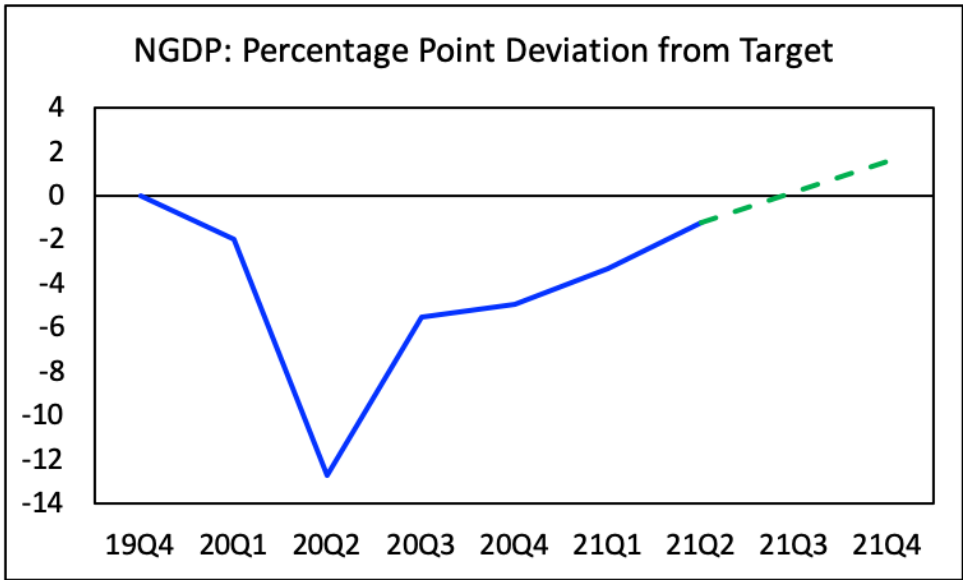



Figure 11.




Nominal Income and Target Path. In the Figure 10, nominal GDP data (blue line) are quarterly, 2000Q1-2020Q2, and the target path (red line) calls for 4 percent annual growth from a base set by the actual level of nominal GDP in 2019Q4. In the Figure 11, the solid blue line shows the percentage-point deviation of nominal GDP from the target path, 2019Q1-2021Q2, and the dashed green line shows how the gap will be closed if nominal GDP grows at a 10 percent annual rate in both 2021Q3 and 2021Q4, approximately equal to but still below, the 11 and 13 percent growth rates recorded in 2021Q1 and 2021Q2. Data source: FRED.