

# 21-19 Another Reason to Raise the Fed's Inflation Target: An Employment and Output Boom

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## INTRODUCTION

In 2012, the Federal Reserve formally adopted an inflation target and set it at 2 percent, in line with the level chosen by many other central banks. In hindsight, this setting left policymakers with too little room to cut interest rates when they want to fight recessions. Many researchers have noted that if central banks raised their inflation targets—either individually or in concert—they could do a better job in the long run of keeping inflation near its target and the workforce fully employed.<sup>1</sup>

This Policy Brief highlights an additional and less-noted consequence of raising the inflation target modestly: The economy could enjoy a temporary but substantial boom in employment and output as it adjusted to the increase in the target. Model simulations suggest that if the target were lifted to 3 percent, the unemployment rate could average  $\frac{3}{4}$  percentage point or more below its sustainable level during the first 15 years after the higher target is announced.

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<sup>1</sup> Blanchard, Dell'Ariccia, and Mauro (2010) put the issue of raising inflation targets on the table more than a decade ago. Ball (2013) unequivocally answered the question they posed in the affirmative and argued for a 4 percent inflation target. At a 2019 European Central Bank colloquium, [Adam S. Posen](#) argued that the 2 percent inflation target adopted by many central banks had “outlived its usefulness.” Because he anticipated that no single bank would be able to do so on its own, he proposed that major central banks should raise their targets in a coordinated way. Gagnon and Collins (2019a) also advanced the case for raising the inflation target, not only to provide the Federal Open Market Committee (FOMC) with more room to cut the federal funds rate but also to increase the effectiveness of large-scale asset purchases. Ubide (2017) recommended moving the inflation target up in a manner that would take advantage of inflation surges, essentially by using a mirror image of the “opportunistic disinflation” approach advocated by Alan Blinder and others in the 1990s. Opinion is hardly uniform in support of moving the inflation target up, however. At a [2018 event](#) hosted by the Hutchins Center at the Brookings Institution, Ben Bernanke argued in favor of leaving the inflation target at 2 percent and instead adopting a version of price-level targeting that would apply only when the federal funds rate was at the effective lower bound.

Critical to generating this favorable outcome would be decisive action by monetary policymakers to ensure that the higher inflation target is achieved in a reasonably timely manner.

In light of these substantial transition benefits, as well as the long-run improvement in economic performance, we recommend that the Federal Reserve raise its inflation target to 3 percent as part of its next framework review. An increase of that magnitude would be unlikely to cause inflation expectations to become persistently unmoored or cause other material adverse effects. Setting the target at 3 percent would also be advantageous if, contrary to current projections, trend inflation were to shift up to a level well above 2 percent, as it would reduce the need for tight monetary policy (and thus reduced employment) to push inflation back down.

## A WORLD OF LOW INTEREST RATES

Since the early 1990s, major central banks around the globe have managed to stabilize inflation at a low level—an important success. But another key development has taken place since then: The real short-term interest rate consistent with keeping the economy at full employment on average over time—often referred to as  $R^*$ —has declined sharply and now stands at an extremely low level. When central banks settled on their targets, monetary policymakers and economists did not anticipate this development.<sup>2</sup> With the benefit of hindsight, the decline in  $R^*$  implies that the targets were inadvertently set too low when they were fixed at 2 percent, because this rate left central banks with little room to cut their policy rates to fight recessions.

This predicament arises in the United States. The Federal Open Market Committee (FOMC) currently estimates that the neutral nominal federal funds rate—that is, the rate consistent in the longer run with employment running at its maximum level and inflation running at its 2 percent target rate—is 2.5 percent.<sup>3</sup> If a recession were to strike the US economy when it was operating at full employment and inflation was running at its target rate, the FOMC would therefore have only 250 basis points of room to cut the funds rate in order to fight back. By comparison, the FOMC cut the federal funds rate by an average of 550 basis points in response to the nine recessions that occurred from the mid-1950s through 2009—and it probably would have eased by much more than it did in response to the Great Recession (513 basis points) if it had not been

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2 Estimates of  $R^*$  are sufficiently imprecise and model dependent that it was far from clear that the real neutral rate had fallen to an extremely low level until just a few years ago. As late as 2015, for example, Hamilton et al. (2015) were able to marshal considerable econometric evidence that the equilibrium real interest rate had not fallen appreciably in the United States and other major economies, in contrast to the estimates of a substantial decline reported by Holsten, Laubach, and Williams (2017).

3 See the [economic projections released by the FOMC](#) in June 2021.

constrained by the effective lower bound (Reifschneider 2016). Other central banks face similarly tight constraints on their ability to ease in response to future economic downturns using their primary monetary policy tool.<sup>4</sup>

Central banks have compensated for their inability to cut their policy rates as much as they would like by introducing new tools, including purchases of longer-term securities (often called *quantitative easing*, or QE) and commitments about how they will move their policy rate in the future (often called *forward guidance*). Some central banks have also driven their policy rates somewhat below zero. These new tools have not given central banks all the running room they would like to have, however, as the experience of the past dozen years strongly suggests.<sup>5</sup> As a result, economic performance is likely to continue to suffer more than it would if central banks were free to cut their policy rates as much as they did in the past.

In this context, a higher inflation target would have an obvious advantage: Once inflation expectations and trend inflation had fully adjusted to the new policy, a higher target would result in a one-for-one increase in the average level of nominal interest rates, thereby giving the FOMC that much more room to cut the funds rate during recessions. Research suggests that in the long run, the additional running room provided by even a modest increase in the target rate would materially reduce economic volatility.<sup>6</sup> Although a modest increase in the inflation target would almost certainly leave the funds rate still periodically pinned at the effective lower bound, the FOMC would nonetheless be better positioned to foster full employment and stable inflation in the future.

In addition to reducing economic volatility in the long run, an increase in the inflation target would generate a temporary but substantial benefit as the economy adjusts to the new higher level of trend inflation. These transitional benefits are the focus of this Policy Brief. As we illustrate using model simulations, the economy would likely experience a marked boom in employment and output during the transition period, provided the FOMC vigorously pursued attainment of the higher target rate.

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4 Andrade et al. (2019) argue that optimal conduct of monetary policy would call for moving the inflation target essentially one-for-one to offset changes in the neutral real interest rate. In 2012, when the FOMC first adopted a formal inflation target, the median of participants' longer-run projections was consistent with a neutral real interest rate equal to  $2\frac{1}{4}$  percent. In contrast, in the projections released in June 2021, the median FOMC participant put the neutral real rate at  $\frac{1}{2}$  percent. By the logic of Andrade et al., if 2 percent had been the optimal inflation target in 2012, the optimal target in 2021 would have been  $3\frac{3}{4}$  percent.

5 For example, empirical analyses carried out by Engen, Laubach, and Reifschneider (2015) and Eberly, Stock, and Wright (2019) suggest that the Fed's large-scale asset purchases and forward guidance from 2009 through 2015, while providing support to real activity and inflation, did not fully compensate for the FOMC's inability to cut the federal funds rate as much as it might have liked. This experience is supported by the model simulation results reported in Bernanke (2020), which suggest that threshold-based forward guidance and QE cannot fully compensate for the long-run adverse effects of the effective lower-bound constraint when the neutral nominal interest rate is less than 3 percent.

6 See, for example, Reifschneider and Williams (2000), Kiley and Roberts (2017), Chung et al. (2019), and Bernanke (2020).

## WHAT ARE THE TRANSITION EFFECTS OF RAISING THE INFLATION TARGET?

If the FOMC were to adopt a higher inflation target, real GDP and employment almost certainly would need to be elevated for a time relative to their sustainable levels in order to push the trend in actual inflation up to the new target. The magnitude of this temporary economic boom would depend on details of the inflation process, especially the response of long-run inflation expectations to the change in policy. A key factor for the latter would almost certainly be how vigorously policymakers moved to push trend inflation up to the new higher target.

To explore how big these temporary benefits might be, we use a modified version of FRB/US, a large-scale econometric model of the US economy maintained by staff at the Federal Reserve Board. In the model, current inflation depends on recent inflation, expectations for future inflation, and current labor market slack. (A variety of other factors—including movements in trend labor productivity and the relative prices of energy, food, and imports—also affect wage and price inflation.) In the simulations reported below, inflation depends importantly on where wage and price setters believe inflation will settle in the long run, a belief denoted as  $\pi_\ell$ . One implication of the model's specification is that the introduction of a higher inflation target will bring about a sustained increase in actual inflation only to the extent that  $\pi_\ell$  moves up. (See appendix A for information about our modifications to the model and other simulation details.)

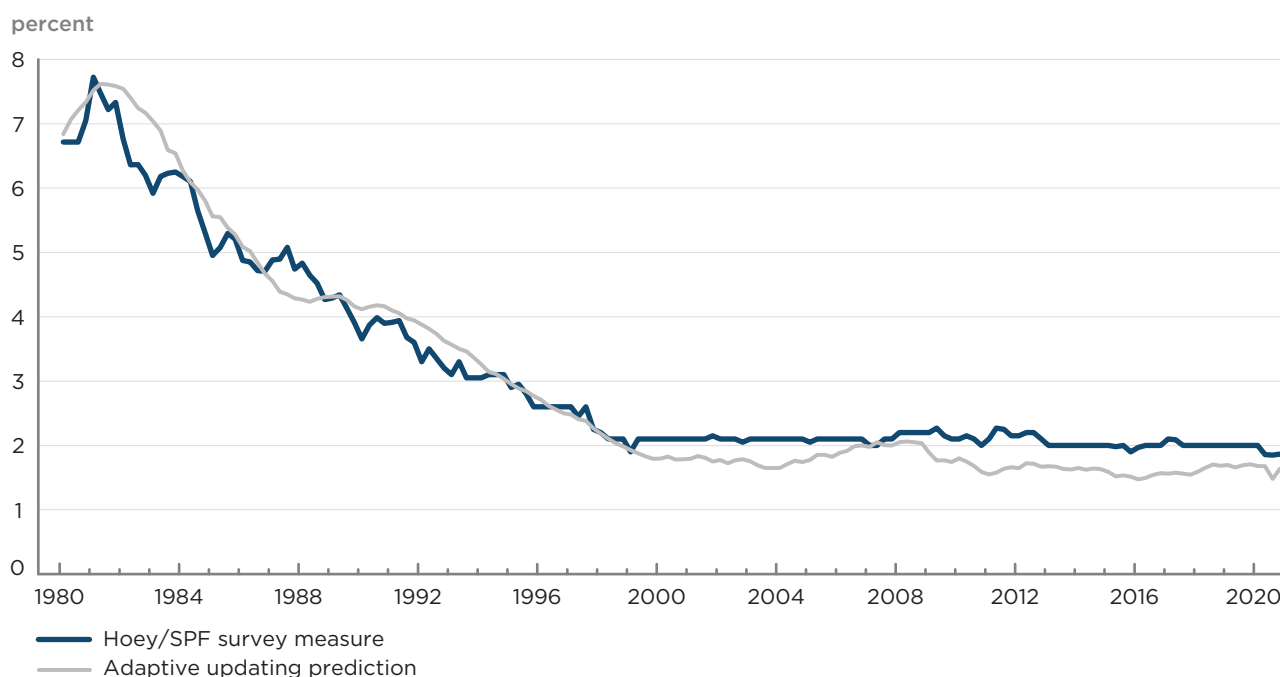
To estimate the FRB/US model,  $\pi_\ell$  is measured over history using survey data on long-run inflation expectations, as reported in the Hoey survey of financial market participants in the 1980s and the Survey of Professional Forecasters thereafter. To simulate FRB/US, however, we need to make some assumption about how these expectations respond to changes in simulated economic conditions. This requirement poses a challenge, because economists have a limited understanding—both theoretically and empirically—of the forces that shape long-run inflation expectations. History provides little guidance about the response of these expectations to an increase in a central bank's inflation target, as only a few have ever raised it—and those that did did so under markedly different circumstances from those prevailing in the United States today.<sup>7</sup>

That said, the experience of the Volcker disinflation episode is presumably somewhat informative about the likely expectational response. As illustrated by the dark blue line in figure 1, long-run inflation expectations declined markedly from 1980 to the mid-1990s, before eventually stabilizing at about 2 percent. If we assume that during the adjustment period the public gradually updated its

7 The Reserve Bank of New Zealand (RBNZ) raised the top of its target range from 2 to 3 percent in 1996; in 2002, it raised the bottom of the range from 0 to 1 percent. New Zealand had experienced a lengthy period of very high inflation in the 1970s and 1980s; as recently as the fourth quarter of 1995, the four-quarter rate of increase in the consumer price index was 4.6 percent. The predominant challenge confronting the RBNZ at that time was therefore to ensure that inflation remained sufficiently low. The Bank of Japan adopted an explicit inflation target of 1 percent in 2012, which it raised to 2 percent in January 2013. The Bank of Japan had not successfully centered inflation on the old 1 percent target before raising the target to 2 percent (Nakata 2020). In the United States, in contrast, the FOMC currently projects that inflation should be running closely in line with the current 2 percent target in 2022 and 2023, providing a more auspicious launching pad for an increase in the inflation target. As Nakata notes, the central banks of Brazil and Hungary also raised their inflation targets, but their examples also seem less relevant for the current situation in the United States.

long-run expectations in response to movements in actual inflation, the observed decline in expectations can be closely approximated by the simple updating formula  $\pi_t^e = 0.92\pi_{t-1}^e + 0.08\pi_{t-1}$ , where  $\pi_{t-1}$  is the lagged quarterly percent change in core personal consumption expenditure (PCE) prices, expressed at an annual rate.

Figure 1  
**Actual and adaptive updating predictions of long-run inflation expectations, 1980–2020**



Note: Hoey/SPF survey measure refers to the Hoey survey of financial market participants in the 1980s and the Survey of Professional Forecasters (SPF) thereafter.

Source: Federal Reserve Board, FRB/US database, [www.federalreserve.gov/econres/us-models-about.htm](http://www.federalreserve.gov/econres/us-models-about.htm); authors' calculations.

Using this simple updating formula for  $\pi_t^e$ , we simulate the effect of permanently raising the inflation target to 3 percent under two assumptions about how actively policymakers ease in support of the new target. These simulations start with the economy in its steady state, with actual and expected inflation at 2 percent, the nominal federal funds rate at 2.5 percent, and employment at its maximum sustainable level. (These assumptions are consistent with the most recent longer-run projections released by the FOMC.) At the beginning of year 1, the FOMC announces the change in the inflation target; thereafter, it adopts either an activist or a more traditional strategy for adjusting the stance of monetary policy in response to the new inflation target and economic conditions more generally. Under the activist strategy, the federal funds rate follows the prescriptions of the asymmetric average inflation targeting (AAIT) rule discussed by Arias and others (2020) in a recent FOMC briefing document. Among other things, this rule calls for monetary policy to respond to deviations of inflation from the target level in both directions but to do so much more aggressively whenever the trend rate of inflation falls below the target rate. In contrast, the more traditional strategy follows the prescriptions of the inertial Taylor rule, which

responds symmetrically and relatively mildly to deviations of inflation from its target level. Both rules respond symmetrically to deviations of output from its potential and are subject to a zero lower bound on the nominal federal funds rate.<sup>8</sup>

Under the activist AAIT rule (the solid dark blue lines in figure 2), the FOMC quickly lowers the federal funds rate to zero and holds it there for several years. In response to this persistent policy easing, long-term interest rates fall, stock market values rise, and the real exchange rate depreciates. This improvement in financial conditions causes employment and output to boom, with the result that expected and actual inflation gradually rise in an environment of persistently tight labor and product markets. Over time, however, the favorable financial conditions and stronger real activity fade away as monetary policy gradually becomes less accommodative in response to trend inflation slowly converging to the new target. In the longer run (beyond the 15-year window shown in figure 2), inflation and the nominal federal funds rate eventually settle down at 3 percent and 3½ percent, respectively, and employment and output return to their longer-run sustainable levels.

The solid gray lines in figure 2 show what happens when monetary policy instead follows the prescriptions of the inertial Taylor rule. Under this strategy, monetary policy does not ease aggressively in support of the new target; as a result, real activity is little changed and inflation rises at only a glacial pace. This result illustrates an important lesson: In a “show-me” world in which long-run inflation expectations move up only if actual inflation is seen to be persistently rising following an increase in the target rate, achieving the potential long-run benefits of a higher inflation target in a reasonable time—let alone the transitional benefit of a temporarily stronger economy—would require policymakers to take concrete steps in support of the new inflation objective.

The FOMC is much more transparent about its policy objectives and strategy today than it was during the Volcker disinflation period (and for some time thereafter). For this reason, long-run inflation expectations today might respond not only to actual inflation developments but also directly to FOMC pronouncements, at least if backed by concrete action. The blue dashed lines show the predicted outcomes under the AAIT rule when  $\pi_t^e$  is assumed to adjust gradually not only in response to actual inflation but also in response to the announced inflation target itself.<sup>9</sup> Such a response seems quite plausible in this case (but not under the inertial Taylor rule), because the credibility of the new target would likely rise over time as it continued to be aggressively supported by persistently easy monetary policy. With long-run inflation expectations adjusting more quickly as a result of this credibility effect, actual inflation converges to its new higher level in only a few years. As a result, policymakers begin removing accommodation earlier, thereby reducing the transitional gains in output and employment.

8 Formally, the AAIT rule is  $i_t = 0.85i_{t-1} + 0.15\{R^* + \pi_t^4 + 0.5(\pi_t^4 - \pi_t^*) + y_t + z_t\}$ ,  $z_t = 8.0(\pi_t^{32} - \pi_t^*) - 0.5(\pi_t^4 - \pi_t^*)$  if  $\pi_t^{32} < \pi_t^*$ , 0 otherwise, where  $i_t$  is the federal funds rate;  $R^*$  is the (assumed constant) equilibrium real interest rate;  $\pi_t^4$  and  $\pi_t^{32}$  are the annualized 4-quarter and 32-quarter rates of core PCE inflation, respectively;  $\pi_t^*$  is the FOMC's inflation target; and  $y_t$  is the output gap. When the  $z_t$  term in this expression is dropped, the rule simplifies to the “balanced-approach” version of the inertial Taylor rule recommended by Yellen (2012).

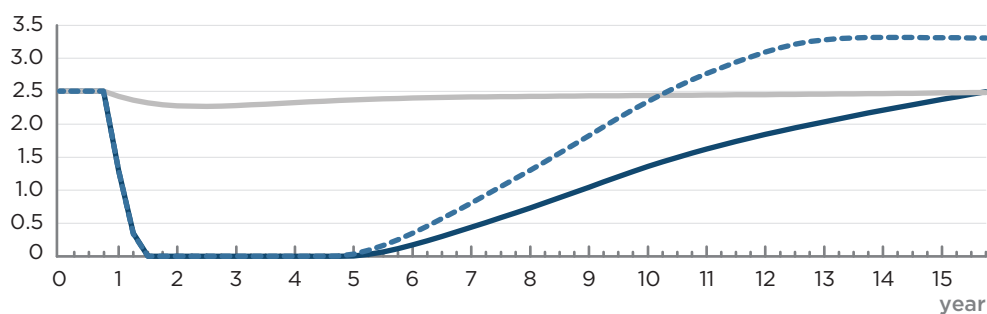
9 Specifically, we assume that  $\pi_t^e = 0.92\pi_{t-1}^e + 0.08\pi_{t-1} + 0.05(\pi_t^* - \pi_{t-1}^e)$ , where  $\pi_t^*$  is the announced inflation target.

Figure 2

**FRB/US model predicted effects of raising the inflation target to 3 percent under the asymmetric average inflation targeting (AAIT) policy rule (with and without credibility effects) and the inertial Taylor rule**

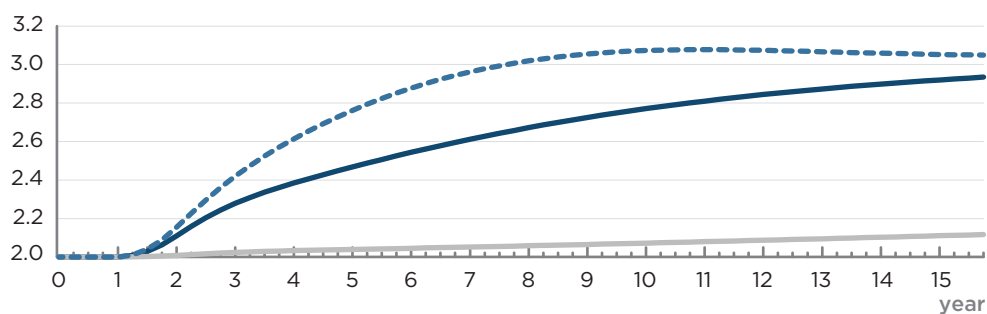
**a. Federal funds rate**

percent



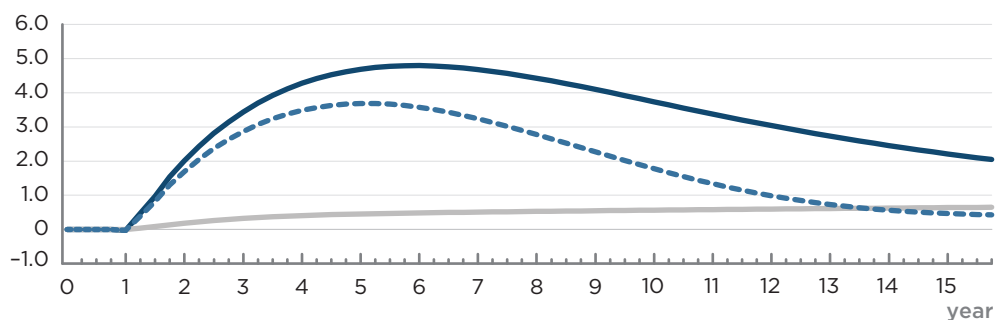
**b. Personal consumption expenditure (PCE) inflation (four-quarter)**

percent



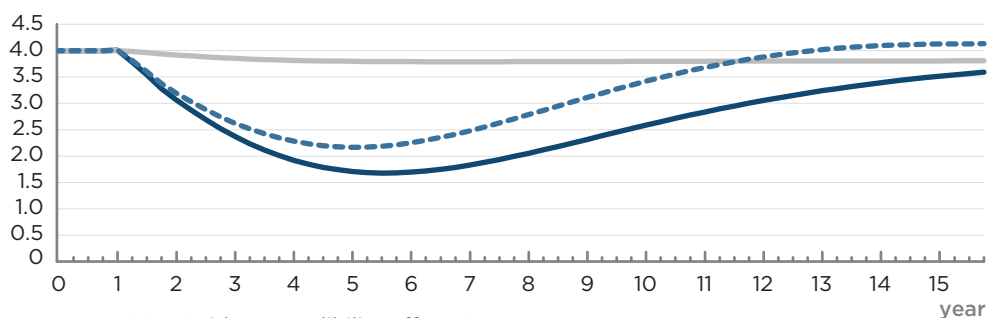
**c. Real GDP (percent change from baseline)**

percent



**d. Unemployment rate**

percent



— AAIT (without credibility effects)

- - - AAIT (with credibility effects)

— Taylor rule

Source: Authors' calculations.



Table 1 summarizes the magnitudes of the predicted transitional gains in real activity that occur during the first 15 years after the announcement of the higher inflation target. Under the AAIT rule, and assuming no gradually increasing credibility influence on long-run inflation expectations, the gains during the transition period are extremely large: Raising the inflation target to 3 percent boosts the level of real GDP by an average of 3.4 percent relative to baseline. Cumulated over the 15-year period, the transitional dividend amounts to 50.8 percent—or half a year’s real GDP. The effect on unemployment is also large: During the first 15 years after the new target is announced, the unemployment rate is reduced by 1.4 percentage points a year on average relative to baseline. Gains are smaller under the assumption we think more plausible—that credibility effects would cause long-run inflation expectations to adjust more rapidly—but they remain substantial: The average reduction in the unemployment rate during the first 15 years is 0.8 percentage point. In contrast, when monetary policy follows the prescriptions of the inertial Taylor rule and so does not actively support the new target, the gains in real activity are much smaller.

Table 1

**Economic effects of raising the inflation target from 2 to 3 percent under different assumptions about monetary policy and credibility effects in the formation of long-run inflation expectations**

Item	Monetary policy	
	<i>Asymmetric average inflation targeting (AAIT) rule</i>	<i>Inertial Taylor rule</i>
<b>Without credibility effects</b> ( $\pi_t^e = 0.92\pi_{t-1}^e + 0.08\pi_{t-1}$ )		
Quarters for core personal consumption expenditure (PCE) inflation to reach 2.9 percent (four-quarter rate)	54	>240
Peak inflation within first 15 years (four-quarter rate, percent)	2.9	2.1
Average output effect during first 15 years (percent)	3.4	0.5
Average unemployment effect during first 15 years (percentage points)	-1.4	-0.2
<b>With credibility effects</b> ( $\pi_t^e = 0.92\pi_{t-1}^e + 0.08\pi_{t-1} + 0.05(\pi_t^* - \pi_{t-1}^e)$ )		
Quarters for core PCE inflation to reach 2.9 percent (four-quarter rate)	22	69
Peak inflation within first 15 years (four-quarter rate, percent)	3.1	2.9
Average output effect during first 15 years (percent)	2.0	0.2
Average unemployment effect during first 15 years (percentage points)	-0.8	-0.1

Note: Results based on FRB/US simulations; see appendix A for details.  $\pi_t^e$  denotes long-run inflation expectations,  $\pi_{t-1}$  is lagged quarterly core PCE inflation expressed at an annual rate, and  $\pi_t^*$  is the Federal Open Market Committee’s (FOMC) inflation target.



A cautionary note about these simulation results is in order. No one can predict with certainty how expectations about monetary policy and long-run inflation would respond to the adoption of a higher target—and thus how financial conditions, real activity, and actual inflation would evolve. For example, the slope of the Phillips curve might turn out to be steeper than assumed in the foregoing simulations.<sup>10</sup> If it is, the transition boom would be smaller than shown earlier. To explore that possibility, we carried out additional analyses to estimate how big the transitional boom might be if inflation dynamics reverted to those that prevailed from 1970 to 1994, when the Phillips curve was steeper than it generally is believed to be now and long-run inflation expectations were not well anchored.<sup>11</sup> Even under these conditions, real activity gains would be substantial, albeit not as large as shown earlier. Alternatively, inflation expectations might adjust immediately in response to the mere announcement of a higher target, regardless of the FOMC's demonstrated determination to, and success in, raising inflation. Such a response of inflation expectations would be contrary to historical experience, however, and accordingly strikes us as farfetched.<sup>12</sup>

Based on these results, we strongly recommend that if the FOMC announces a higher target, it take sufficiently aggressive action to attain it within a reasonable period of time. Doing so would both reinforce the committee's credibility with respect to its seriousness in attaining the inflation objective and give the economy a much better shot at reaping a substantial transitional dividend.

### **WHAT RISKS ARE ASSOCIATED WITH ATTEMPTING TO RAISE THE TARGET TO 3 PERCENT?**

As economists have long noted, high inflation can be burdensome because it creates tax distortions; forces firms to more frequently adjust their prices, which is costly; may for a time reduce the real incomes of workers whose wages are sticky; and exacerbates saving-related and other planning losses arising from

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10 The parameters of the Phillips curve used in the simulation are taken from the latest publicly available version of FRB/US and are based on a linear specification of the Phillips curve estimated using data from 1988 to 2017. Gagnon and Collins (2019b) argue that the Phillips curve may be nonlinear, with the portion of the curve that is relevant at low unemployment rates being considerably steeper than the remainder of the curve.

11 This additional analysis is carried out using a small model estimated over several alternative sample periods. When its Phillips curve is estimated over the 1995–2019 period, it yields results that are similar to the ones generated using the FRB/US model. For more information, see the background notes in the underlying data file posted on the PII website.

12 Even under this extreme perfect-credibility assumption, FRB/US predicts nontrivial output and employment gains during the transition period. These gains reflect the fact that in FRB/US there are costs of adjusting wages and prices that slow the convergence of inflation to the new target even when long-run inflation expectations adjust immediately to the announcement of a new target.

nominal illusion on the part of households.<sup>13</sup> Nevertheless, the increased burden associated with an increase in average inflation from 2 to 3 percent strikes us as likely to be quite small.

Ben Bernanke, among others, has expressed concern that raising the target might cause inflation expectations to become unanchored.<sup>14</sup> If it does, economic performance might suffer for a long time as the Fed works to repair whatever damage may have been done to its credibility. This possibility strikes us as remote as long as the FOMC makes it clear from the outset that it will act forcefully to keep actual and expected inflation from rising persistently above 3 percent and follows through on that pledge. After all, the experience of inflation in the United States during the 1970s was a result of many years of persistently bad policy.<sup>15</sup> That said, assessments of future inflation uncertainty by financial market participants and others might rise somewhat initially, until the Fed demonstrates its continued commitment to keeping inflation low and stable.

Another potential cost is that financial stability might be impaired if the FOMC, in an effort to support the new target and speed the adjustment of long-run inflation expectations, were to keep interest rates low during the transition period even as the economy booms. In such an environment, firms might be tempted to take on too much debt and investors might behave imprudently in a reach for higher yields. This risk cannot be dismissed, even if it is a temporary one. But it is also true that raising the target could reduce the risk of financial instability in the longer run. After all, once the economy fully adjusts to the new policy, the frequency of the federal funds rate being trapped at the effective

13 The literature that considers the costs and benefits of inflation is vast. Among the classics in this area, Fischer and Modigliani (1978) assessed the costs of inflation with two key conditioning factors in mind: the extent to which the economy had adapted to inflation and the extent to which inflation was anticipated. Feldstein (1999) emphasized distortions induced by the imperfect indexation of the tax code. Fischer (1981) considered the argument that households and businesses operating in higher-inflation environments will go to greater lengths (incurring so-called “shoe-leather” costs) to avoid the use of cash but judged such costs to be not very important empirically. Akerlof, Dickens, and Perry (1996) emphasized the therapeutic value of a modest level of inflation in facilitating adjustment in the labor market and, in particular, helping overcome the sclerotic effects of downward nominal wage rigidity. Shiller (1997) asked ordinary people about their attitudes toward inflation and found that they overwhelmingly believed that it erodes their standard of living. Elmendorf et al. (2005) and Kiley, Mauskopf, and Wilcox (2007) attempted to summarize relevant aspects of this literature for the benefit of the FOMC during their consideration of whether to establish a specific numerical objective for inflation.

14 [Bernanke discussed his views](#) on the advisability of changing the 2 percent target in remarks given at an IMF conference on April 15, 2015. Summers, Wessel, and Murray (2018) review the views of other policymakers and economists.

15 The Reserve Bank of New Zealand suffered no impairment of its ability to control inflation when it raised the upper end of its original 0–2 percent inflation target range to 3 percent in 1996 or when it raised the bottom end of the range to 1 percent in 2002. CPI inflation in New Zealand (calculated on a four-quarter basis) remained below the 3 percent upper end of the target range until 2006. After the lower end of the range was raised to 1 percent, CPI inflation remained above the new lower end until 2012. [John McDermott](#), deputy governor and chief economist of the Reserve Bank of New Zealand, discussed these policy changes and related macroeconomic developments in a speech in December 2018. The Bank of Japan certainly did not lose control of inflation to the upside when, in January 2013, it raised its inflation target from 1 to 2 percent. On the contrary, aside from a brief period around the 2014 increase in the consumption tax, the CPI for all items less fresh food never exceeded 1 percent—let alone 2 percent—during the period when the 2 percent inflation target has been in force. Nakata (2020) provides a useful review of the Japanese experience in raising its inflation target and draws some lessons for other central banks contemplating raising their targets.

lower bound would thereafter be lower and the economy would be less volatile. Any consideration of financial stability risks would have to take account of the possibility of both short-run and long-run effects.

In weighing the benefits of a higher target against these potential costs, policymakers should bear in mind that there could be potential benefits beyond improved long-run economic performance and a transitory boom in employment and output. The temporary boom associated with the transition to higher trend inflation could have positive longer-term effects if it increases the skills and labor force attachment of the additional people drawn into the workforce—an effect sometimes referred to as *positive hysteresis*. To the extent that people drawn into the labor market when it is tightest come from marginalized groups, these positive longer-term effects could also help reduce racial and other inequities.

This discussion of costs and benefits raises the question: Why not raise the inflation target even more? In the model simulations, after all, the transitory benefits of increased output and employment during the adjustment period would have been correspondingly larger if the simulations had been run with a 4 percent or even higher target. However, research suggests that the permanent improvement in macroeconomic stabilization becomes incrementally smaller for each additional increase in trend inflation; see Kiley and Roberts (2017) and Bernanke (2020). Moreover, the permanent costs from higher trend inflation probably would become incrementally larger for each additional increase in the target. Finally, and perhaps most importantly, past some point, an increase in the inflation target would make it implausible to claim that the FOMC is acting in accord with the statutory directive to seek “price stability.” Where that point might be is not brightly drawn, but we think it would be a stretch to claim that 4 percent would conform to the statutory directive. Reopening the Federal Reserve Act to permit a target this high (or higher) would be an extremely messy proposition and we would not advocate doing so.

A pair of risks related to inflation control is worth considering. On the one hand, one might ask what confidence one should have that the Fed will be capable of raising trend inflation to 3 percent given the difficulty it has had in hitting the 2 percent target that has been in place since 2012. After all, inflation as measured by the PCE price index—the Fed’s preferred measure—has averaged 1½ percent over the past nine and a half years. One response is that inflation will almost certainly be markedly above 2 percent this year—and by enough that trend inflation (as measured, for example, by the five-year average) may well likewise end 2021 above 2 percent.<sup>16</sup> Another is that history provides ample evidence across many economies that persistently easy monetary policy will eventually cause long-run inflation expectations, and hence actual inflation, to rise. That said, the model simulations illustrate that boosting trend inflation to the new target could take quite a while even if the FOMC aggressively supports the change in the price objective.

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16 For example, the [International Monetary Fund currently projects](#) overall PCE inflation to reach 4.3 percent this year, implying average inflation for 2017–21 of 2¼ percent. On the other hand, the median participant at the June 2021 FOMC meeting forecasted PCE inflation this year at 3.4 percent; if that forecast is borne out, the five-year average will come to 2 percent.

On the other hand, one might be concerned that inflation will hit 3 percent or more this year and just stay there rather than receding as the Fed itself and many other forecasters expect.<sup>17</sup> In that case, there would indeed be no dividend from boosting inflation from 2 to 3 percent. Nonetheless, the simulations we report would be informative (at least qualitatively) about the economic pain that could almost certainly be avoided by declaring the inflation target henceforth to be 3 percent rather than throwing the economy into what would presumably be a protracted period of underemployment for the purpose of driving inflation back down to 2 percent.

## OUR RECOMMENDATION TO THE FOMC

Based on earlier research demonstrating the steady-state benefits of a higher inflation target and fortified by the preceding analysis demonstrating the likelihood of a substantial economic boom during the transition to a higher target, we recommend that the FOMC raise its inflation target from 2 to 3 percent. The context in which that action should be undertaken bears some careful thought.

The Fed recently concluded its first-ever review of the framework it had been using since 2012 to conduct monetary policy.<sup>18</sup> From the outset of that review, it made clear that it had no intention of revisiting either the fundamental objectives of monetary policy given to the Fed by Congress or the level of the inflation target.<sup>19</sup> In the event, the revised framework unveiled in August 2020 left in place these two key aspects of the preexisting framework.

Given that the framework review was completed only last year, that the relevant aspects of the structure of the economy have not changed materially since then, and that the key policymakers who guided the FOMC through the last framework review will remain in place at least through the end of 2021, it is extremely difficult to imagine the Fed revisiting the setting of the inflation target before the next framework review. According to the timetable laid out by the FOMC at the conclusion of the last review, the next review could be launched as soon as late 2023—only a little more than two years from now—and internal discussions about the scope of the next framework review could begin at least several months before that.<sup>20</sup>

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17 In the June 2021 FOMC projections, the median committee participant expected inflation to average 3.4 percent in 2021 and then to drop back to 2.1 percent in 2022 and 2.2 percent in 2023.

18 The framework review was announced in November 2018. In August 2020, the FOMC released an [updated version](#) of its *Statement on Longer-Run Goals*.

19 On February 22, 2019, [Vice Chair Richard Clarida stated](#) these exclusions: “In the Federal Reserve Act, the Congress assigned the Federal Reserve the responsibility to conduct monetary policy ‘so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates.’ Our review this year will take this statutory mandate as given and will also take as given that inflation at a rate of 2 percent is most consistent over the longer run with the congressional mandate.” The rationale for taking the dual mandate as given was clear: The mandate is spelled out in the Federal Reserve Act, and the Fed has consistently taken the view that its role is limited to operating inside the boundaries set by Congress while interpreting the statutory language as necessary to make it operational. No rationale was given for not reviewing the inflation target.

20 On the homepage for the framework review, the [FOMC states](#) that it “intends to conduct a regular review of its monetary policy strategy, tools, and communication practices roughly every five years.”

We recommend that when the next review is announced publicly, the issue of the inflation target be left within the scope of the review. If the Fed again wants to rule out reconsideration of its core monetary policy objectives, it could do so while leaving the door open to reconsideration of the inflation target by stating that “we will not reconsider the instructions given to us by the Congress. Those instructions are the purview of the Congress; our job is to implement them to the best of our ability. Accordingly, we will take the goals of maximum employment and price stability as given. All other aspects of the way we conduct monetary policy will be on the table for review.” Remaining silent on the question of the inflation target will be enough to leave it in scope for the second review.

A collateral benefit of acceding to the reality that the inflation target will not be revised before the next framework review is that by the time the results of the second review are announced, the macroeconomic recovery from the pandemic-induced collapse should be much further advanced and may have been substantially accomplished. If the most recent FOMC projections are borne out, the federal funds rate will have lifted off from zero, net purchases of longer-term securities will have ceased (and in all likelihood the FOMC will be allowing the balance sheet to run off), the current surge of inflation will have long since subsided, and the unemployment rate will already be a little below its sustainable level. If the federal funds rate is no longer at its effective lower bound, the FOMC could back up the announcement of a higher inflation target with actions by cutting the funds rate to promote quicker attainment of the new higher objective.

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## APPENDIX A

### FRB/US SIMULATION ASSUMPTIONS

In our simulation analysis, we use a modified version of the FRB/US equations that were posted on the Federal Reserve’s website in March 2021. In the posted version of the model, an increase in the inflation target boosts the steady-state level of output and lowers the equilibrium level of the real federal funds rate. Because the robustness of these predicted nonneutral effects is unclear, we modified selected equations of the model to make the steady-state levels of real GDP and real interest rates invariant with respect to the inflation target. Among other things, these modifications ensure that movements in trend inflation do not alter the real tax-adjusted cost of business capital or the composition of aggregate income.

In addition to these neutrality modifications, we also modified the Treasury term premium equations by eliminating their cyclical components, which cause term premiums to fall markedly when financial market participants project significantly stronger real activity in the future. Although the cyclical effects incorporated into the standard model are consistent with results reported in the empirical finance literature, they may reflect regularities that arise from other sources than would be relevant in the case of a change in the inflation target. For example, the standard interpretation of countercyclical term premiums is that they reflect changes in investors’ assessments of inflation uncertainty, which are thought to rise when the economic outlook worsens. An increase in the announced inflation target, however, could potentially increase inflation uncertainty, not reduce it, even if accompanied by a stronger economic outlook. Given this ambiguity, it seemed best to neutralize the effect. (Doing so has little effect on the simulated paths of inflation and real activity but does alter the simulated paths of the federal funds rate.)

The structure of FRB/US allows for different assumptions about how expectations are formed in different sectors in the economy. We assume that financial market participants have a full understanding of the dynamics of the FRB/US economy and how those dynamics are influenced by monetary policy. In contrast, other agents—wage and price setters, households, and nonfinancial businesses—have a more limited understanding of the economy’s dynamics, with their expectations based on the predictions of small-scale estimated vector autoregression (VAR) models. In these limited-information VAR models, the path of future inflation expected at time  $t$  always gradually converges to  $\pi_t^e$ , the public’s belief at time  $t$  of where inflation will settle in the long run.

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