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The Federal Reserve's New Framework: Context and Consequences

Remarks by

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at

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On August 27, 2020, the Federal Open Market Committee (FOMC) unanimously approved a revised Statement on Longer-Run Goals and Monetary Policy Strategy, which represents a robust evolution of its monetary policy framework.<sup>1</sup> At its September and December FOMC meetings, the Committee made material changes to its forward guidance to bring it into line with the new policy framework.<sup>2</sup> Before I discuss the new framework in detail and the policy implications that flow from it, please allow me to provide some background on the reasons the Committee felt that our framework needed to evolve.

### **Motivation for the Review**

As my FOMC colleagues and I indicated from the outset, the fact that the Federal Reserve System chose to conduct this review does not indicate that we believed we were poorly served by the framework in place since 2012.<sup>3</sup> Indeed, I would argue that over the past eight years, the framework served us well and supported the Federal Reserve's efforts after the Global Financial Crisis (GFC) first to achieve and then, for several years, to sustain—until cut short this spring by the COVID-19 pandemic—the operation of the economy at or close to both our statutorily assigned goals of maximum employment and price stability in what became the longest economic expansion in U.S. history. Nonetheless, both the U.S. economy—and, equally importantly, our understanding of the economy—have clearly evolved along several crucial dimensions since 2012, and we believed that in 2019 it made sense to step back and assess whether, and in what possible

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<sup>1</sup> The statement is available on the Board's website at <https://www.federalreserve.gov/monetarypolicy/review-of-monetary-policy-strategy-tools-and-communications-statement-on-longer-run-goals-monetary-policy-strategy.htm>.

<sup>2</sup> The views expressed are my own and not necessarily those of other Federal Reserve Board members or FOMC participants. I would like to thank Chiara Scotti for assistance in preparing these remarks.

<sup>3</sup> For studies and references on the elements that motivated the launch of the review, see Clarida (2020a).

ways, we might refine and rethink our strategy, tools, and communication practices to achieve and sustain our goals as consistently and robustly as possible in the global economy in which we operate today and for the foreseeable future.

Perhaps the most significant change since 2012 in our understanding of the economy is our reassessment of the neutral real interest rate,  $r^*$ , that, over the longer run, is consistent with our maximum-employment and price-stability mandates. In January 2012, the median FOMC participant projected a long-run  $r^*$  of 2.25 percent, which, in tandem with the inflation goal of 2 percent, indicated a neutral setting for the federal funds rate of 4.25 percent. However, in the eight years since 2012, members of the Committee—as well as outside forecasters and financial market participants—have repeatedly marked down their estimates of longer-run  $r^*$  and, thus, the neutral nominal policy rate. Indeed, as of the most recent Summary of Economic Projections (SEP) released in December, the median FOMC participant currently projects a longer-run  $r^*$  equal to just 0.5 percent, consistent with a neutral setting for the federal funds rate of 2.5 percent.<sup>4</sup> Moreover, as is well appreciated, the decline in neutral policy rates since the GFC is a global phenomenon that is widely expected by forecasters and financial markets to persist for years to come.

The substantial decline in the neutral policy rate since 2012 has critical implications for the design, implementation, and communication of Federal Reserve monetary policy because it leaves the FOMC with less conventional policy space to cut rates to offset adverse shocks to aggregate demand. With a diminished reservoir of conventional policy space, it is much more likely than was appreciated in 2012 that, in

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<sup>4</sup> The most recent SEP, released following the conclusion of the December 2020 FOMC meeting, is available on the Board's website at <https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm>.

economic downturns, the effective lower bound (ELB) will constrain the ability of the FOMC to rely solely on the federal funds rate instrument to offset adverse shocks. This development, in turn, makes it more likely that recessions will impart elevated risks of more persistent downward pressure on inflation and upward pressure on unemployment that the Federal Reserve's monetary policy should, in design and implementation, seek to offset throughout the business cycle and not just in downturns themselves.

Two other, related developments that have also become more evident than they appeared in 2012 are that price inflation seems less responsive to resource slack, and also, that estimates of resource slack based on historically estimated price Phillips curve relationships are less reliable and subject to more material revision than was once commonly believed. For example, in the face of declining unemployment rates that did not result in excessive cost-push pressure to price inflation, the median of the Committee's projections of  $u^*$ —the rate of unemployment consistent in the longer run with the 2 percent inflation objective—has been repeatedly revised lower, from 5.5 percent in January 2012 to 4.1 percent as of the December 2020 SEP. Projections of  $u^*$  by the Congressional Budget Office and professional forecasters show a similar decline during this same period and for the same reason. In the past several years of the previous expansion, declines in the unemployment rate occurred in tandem with a notable and, to me, welcome increase in real wages that was accompanied by an increase in labor's share of national income, but not a surge in price inflation to a pace inconsistent with our price-stability mandate and well-anchored inflation expectations. Indeed, this pattern of mid-cycle declines in unemployment coincident with noninflationary increases in real wages has been evident in the U.S. data since the 1990s.

With regard to inflation expectations, there is broad agreement among academics and policymakers that achieving price stability on a sustainable basis requires that inflation expectations be well anchored at the rate of inflation consistent with the price-stability goal. This is especially true in the world that prevails today, with flat Phillips curves in which the primary determinant of actual inflation is expected inflation. The pre-GFC academic literature derived the important result that a credible inflation-targeting monetary policy strategy that is not constrained by the ELB can deliver, under rational expectations, inflation expectations that themselves are well anchored at the inflation target. In other words, absent a binding ELB constraint, a policy that targets actual inflation in these models delivers long-run inflation expectations well anchored at the target “for free.” But this “copacetic coincidence” no longer holds in a world of low  $r^*$  in which adverse aggregate demand shocks are expected to drive the economy in at least some downturns to the ELB. In this case, which is obviously relevant today, economic analysis indicates that flexible inflation-targeting monetary policy cannot be relied on to deliver inflation expectations that are anchored at the target, but instead will tend to deliver inflation expectations that, in each business cycle, become anchored at a level below the target. This is the crucial insight in my colleague John Williams’s research with Thomas Mertens. This downward bias in inflation expectations under inflation targeting in an ELB world can in turn reduce already scarce policy space—because nominal interest rates reflect both real rates and expected inflation—and it can open up the risk of the downward spiral in both actual and expected inflation that has been observed in some other major economies.

## The New Framework and Price Stability

Six features of the new framework and fall 2020 FOMC statements define how the Committee will seek to achieve its price-stability and maximum-employment mandates over time. First, the Committee expects to delay liftoff from the ELB until PCE (personal consumption expenditures) inflation has risen to 2 percent and other complementary conditions, consistent with achieving this goal on a sustained basis, have also been met.<sup>5</sup>

Second, with inflation having run persistently below 2 percent, the Committee will aim to achieve inflation moderately above 2 percent for some time in the service of keeping longer-term inflation expectations well anchored at the 2 percent longer-run goal.<sup>6</sup>

Third, the Committee expects that appropriate monetary policy will remain accommodative for some time after the conditions to commence policy normalization have been met.<sup>7</sup>

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<sup>5</sup> The Statement on Longer-Run Goals and Monetary Policy Strategy articulates the inflation objective: “The Committee reaffirms its judgment that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve’s statutory mandate” (paragraph 4). The FOMC statements starting with September 2020 indicate the conditions for liftoff: “The Committee decided to keep the target range for the federal funds rate at 0 to 1/4 percent and expects it will be appropriate to maintain this target range until labor market conditions have reached levels consistent with the Committee’s assessments of maximum employment and inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time” (paragraph 4). The statements are available on the Board’s website at <https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm>.

<sup>6</sup> The FOMC statements starting with September 2020 read: “With inflation running persistently below this longer-run goal, the Committee will aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time and longer-term inflation expectations remain well anchored at 2 percent” (paragraph 4). A similar sentence appears in the Statement on Longer-Run Goals and Monetary Policy Strategy.

<sup>7</sup> The FOMC statements starting with September 2020 read: “The Committee seeks to achieve maximum employment and inflation at the rate of 2 percent over the longer run. With inflation running persistently below this longer-run goal, the Committee will aim to achieve inflation moderately above 2 percent for some time so that inflation averages 2 percent over time and longer-term inflation expectations remain well anchored at 2 percent. The Committee expects to maintain an accommodative stance of monetary policy until these outcomes are achieved” (paragraph 4).

Fourth, policy will aim over time to return inflation to its longer-run goal, which remains 2 percent, but not below, once the conditions to commence policy normalization have been met.<sup>8</sup>

Fifth, inflation that averages 2 percent over time represents an *ex ante* aspiration of the FOMC, but not a time-inconsistent *ex post* commitment.<sup>9</sup>

As I highlighted in a speech at the Brookings Institution in November, I believe that a useful way to summarize the framework defined by these five features is *temporary price-level targeting (TPLT, at the ELB) that reverts to flexible inflation targeting (once the conditions for liftoff have been reached)*.<sup>10</sup> Just such a framework has been analyzed by Bernanke, Kiley, and Roberts (2019) and Bernanke (2020), who in turn build on earlier work by Evans (2012), Reifschneider and Williams (2000), and Eggertsson and Woodford (2003). Each of these five elements of the new framework is consequential. I now discuss each in turn and provide some context for how I understand them to relate to the monetary economics literature on TPLT.

A policy that delays liftoff from the ELB until a threshold for average inflation has been reached is one element of a TPLT strategy. Starting with our September FOMC statement, we communicated that inflation reaching 2 percent is a necessary condition for liftoff from the ELB. This condition refers to inflation on an annual basis. TPLT with such a one-year memory has been studied by Bernanke, Kiley, and Roberts (2019). The

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<sup>8</sup> The Statement on Longer-Run Goals and Monetary Policy Strategy articulates the inflation objective (see note 5).

<sup>9</sup> The Statement on Longer-Run Goals and Monetary Policy Strategy says: “In order to anchor longer-term inflation expectations at this level, the Committee seeks to achieve inflation that averages 2 percent over time, and therefore judges 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” (paragraph 4).

<sup>10</sup> See Clarida (2020b).

FOMC also indicated in these statements that the Committee expects to delay liftoff until inflation is “on track to moderately exceed 2 percent for some time.” What “moderately” and “for some time” mean will depend on the initial conditions at liftoff (just as they do under other versions of TPLT), and the Committee’s judgment on the projected duration and magnitude of the deviation from the 2 percent inflation goal will be communicated in the quarterly SEP for inflation.

In the TPLT studies I cited earlier, policy is assumed to revert to an inertial Taylor rule after liftoff, and therefore policy remains accommodative for some time thereafter, which depends on the degree of policy inertia in the reaction function. Our three most recent FOMC statements also call for policy to remain accommodative for some time after liftoff, and, once the conditions to commence policy normalization have been met, the SEP “dot plot” will convey the Committee’s projections for the pace of liftoff as well as the ultimate destination for the policy rate.

Our new framework is asymmetric. That is, as in the previously cited TPLT studies, the goal of monetary policy after lifting off from the ELB is to return inflation to its 2 percent longer-run goal, but not to push inflation below 2 percent. In the case of the Federal Reserve, we have highlighted that making sure that inflation expectations remain anchored at our 2 percent objective is just such a consideration. Speaking for myself, I follow closely the Fed staff’s index of common inflation expectations (CIE) as a relevant indicator that this goal is being met (see the figure).<sup>11</sup> Other things being equal, my desired pace of policy normalization post-liftoff to return inflation to 2 percent—as well as the projected pace of return to 2 percent inflation—would be somewhat slower than

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<sup>11</sup> See Ahn and Fulton (2020) for a discussion of the CIE index.



otherwise if the CIE index is, at time of liftoff, below the pre-ELB level. Another factor I will consider in calibrating the pace of policy normalization post-liftoff is the average rate of PCE inflation since the new framework was adopted in August 2020—a time, as it happened, when the federal funds rate was constrained at the ELB.

Our framework aims *ex ante* for inflation to average 2 percent over time, but it does not make a (time-inconsistent) commitment to achieve *ex post* inflation outcomes that average 2 percent under any and all circumstances. The same is true for the TPLT studies I cited earlier. In these studies, the only way in which average inflation enters the policy rule is through the timing of liftoff itself. Yet in stochastic simulations of the FRB/US model under TPLT with a one-year memory that reverts to flexible inflation targeting after liftoff, inflation does average very close to 2 percent (see the table). The model of Mertens and Williams (2019) delivers a similar outcome: Even though the policy reaction function in their model does not incorporate an *ex post* makeup element, it delivers a long-run (unconditional) average rate of inflation equal to target by aiming for a moderate inflation overshoot away from the ELB that is calibrated to offset the inflation shortfall caused by the ELB.

### **The New Framework and Maximum Employment**

Regarding our maximum-employment mandate—a sixth element—an important evolution in our new framework is that the Committee now defines maximum employment as the highest level of employment that does not generate sustained pressures that put the price-stability mandate at risk.<sup>12</sup> As a practical matter, this

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<sup>12</sup> The Statement on Longer-Run Goals and Monetary Policy Strategy articulates this concept with the following: “The maximum level of employment is a broad-based and inclusive goal that is not directly measurable and changes over time owing largely to nonmonetary factors that affect the structure and dynamics of the labor market. Consequently, it would not be appropriate to specify a fixed goal for

definition means to me that when the unemployment rate is elevated relative to my SEP forecast of its long-run natural level, monetary policy should, as before, continue to be calibrated to eliminate such employment shortfalls so long as doing so does not put the price-stability mandate at risk. Indeed, in our September and subsequent FOMC statements, we indicated that we expect it will be appropriate to keep the federal funds rate in the current 0 to 25 basis point target range until inflation has reached 2 percent (on an annual basis) *and* labor market conditions have reached levels consistent with the Committee's assessment of maximum employment. In our new framework, when in a business cycle expansion labor market indicators return to a range that, in the Committee's judgment, is broadly consistent with its maximum-employment mandate, it will be data on inflation itself that policy will react to, but going forward, policy will not tighten solely because the unemployment rate has fallen below any particular econometric estimate of its long-run natural level. This guidance has an important implication for the Taylor-type policy reaction function I will consult. Consistent with our new framework, the relevant policy rule benchmark I will consult once the conditions for liftoff have been met is an inertial Taylor-type rule with a coefficient of zero on the unemployment gap, a coefficient of 1.5 on the gap between core PCE inflation and the 2 percent longer-run goal, and a neutral real policy rate equal to my SEP forecast of long-run  $r^*$ . Such a reference rule, which becomes relevant once the conditions for policy normalization have been met, is similar to the forward-looking Taylor-type rule for optimal monetary policy derived in Clarida, Galí, and Gertler (1999).

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employment; rather, the Committee's policy decisions must be informed by assessments of the shortfalls of employment from its maximum level, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments" (paragraph 3).

### **Concluding Remarks**

In closing, I think of our new flexible average inflation-targeting framework as a combination of TPLT at the ELB with flexible inflation targeting, to which TPLT reverts once the conditions to commence policy normalization articulated in our most recent FOMC statement have been met. In this sense, our new framework indeed represents an *evolution, not a revolution*. Thank you very much, and I now look forward—as always—to the discussion with the participants in this virtual Hoover event.

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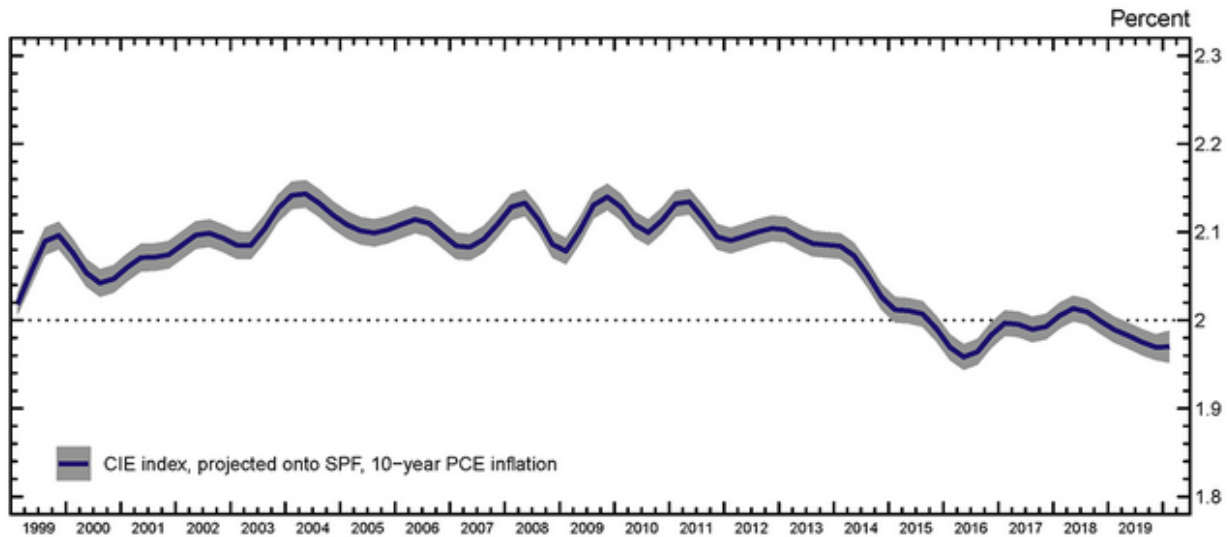
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### Stochastic Simulation Result of FRB/US Model under Model-Consistent Expectations

	ELB frequency (percent)	Mean duration of ELB (quarters)	Mean output gap	Mean inflation rate	RMSD of output gap	RMSD of inflation rate	Loss
1. Taylor	38.3	10.9	-1.1	1.2	3.5	2.2	17.2
2. Taylor (inertial)	33.6	20.7	-1.4	1.0	3.9	2.4	20.7
3. Flexible price-level target	32.6	8.5	-4	2.0	3.6	1.5	15.2
4. Flexible price-level target (inertial)	24.6	13.8	-6	2.0	4.4	1.5	21.8
5. Flexible temporary price-level target	17.6	12.9	.3	2.4	3.4	1.6	14.5
6. Temporary price-level target	16.3	12.5	.0	2.3	3.1	1.7	12.6
7. Temporary price-level target (3-yr. memory)	15.6	11.2	.3	2.4	2.7	1.6	9.6
8. Temporary price-level target (1-yr. memory)	15.1	9.4	.2	2.3	2.5	1.5	8.5
9. Reifschneider-Williams	28.1	10.1	.2	2.1	2.4	1.6	8.0
10. Kiley-Roberts change rule	37.0	16.9	-1	2.1	1.9	1.4	5.7

Note: Results based on 500 simulations of 100 quarters each.  $Loss = \frac{1}{N} \frac{1}{K} \sum_{j=1}^K \sum_{t=1}^N [(\pi_{t,j} - \pi^*)^2 + \mathcal{Y}_{t,j}^2]$  for  $t, j$  period-simulations.  
FRB/US is the Federal Reserve's principal simulation model; ELB is effective lower bound; RMSD is root mean square deviation.  
Source: Bernanke, Kiley, and Roberts (2019).

### Estimated Index of Common Inflation Expectations (projected onto SPF 10-year-ahead PCE inflation expectations)



Note: The shaded area denotes a 95% confidence interval. The horizontal dotted line is marked at 2%. SPF is Survey of Professional Forecasters; PCE is personal consumption expenditures; CIE is common inflation expectations.  
Source: Ahn and Fulton (2020).