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Monetary Policymaking in Today's Environment: Finding "Policy Space" in a Low-Rate World

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The views expressed today are my own, not necessarily those of my colleagues on the Federal Reserve Board of Governors or the Federal Open Market Committee.

It is a pleasure to be at Davidson College and provide my perspective on the economy. Davidson is, of course, steeped in history and traditions. There is even a connection here to the Federal Reserve. As you likely know, Woodrow Wilson, who as president signed the Federal Reserve Act into law, was a student here for a time. And the Cornelson Lecture is another wonderful tradition. I feel honored to join the ranks of economists you have invited here for the lecture.[1]

Turning from history and tradition to the present, I would say that in many respects the economy is doing quite well, especially if you're going by the Fed's dual mandate: stable prices and maximum sustainable employment. Labor markets remain quite tight, which is great news for many – including this year's graduating senior class, who are about to enter the workforce. With the national unemployment rate at 3.8 percent, employers have to compete vigorously for workers, and as a consequence, wage increases have been trending up.

In addition, one broad measure of the economy's strength, real (or inflation-adjusted) GDP, increased roughly 3 percent in 2018 – although since the start of this year, the incoming data suggest that economic growth has slowed. As a result, first quarter GDP growth is likely to show a noticeable slowdown relative to the 3 percent pace seen last year.

Also, the inflation rate remains slightly below the Federal Reserve's 2 percent target. To be clear, the miss relative to our target is relatively modest; core inflation (measured using the Personal Consumption Expenditures or PCE price index, which is Fed policymakers' preferred measure), averaged 1.8 percent over the past year in the United States, just below the target. However, inflation has been below target for much of the past decade, in large part due to the

depth of the Great Recession and the considerable amount of time needed after to recoup the losses in activity and employment.[2]

And the Federal Reserve is not alone in this. The central banks of both Japan and Europe also have had difficulty bringing inflation back to target after significant recessions of their own, persistently undershooting their inflation targets by an even larger extent than the Fed.

Experiencing below-target inflation rates, of course, factors into Federal Reserve monetary policymaking decisions.[3] One reason for the policy committee's decision to be patient in determining future rate adjustments, despite tight labor markets, is waiting to see more convincing evidence that inflation will achieve and sustain the 2 percent inflation target.

It is important to note that the persistence of below-target inflation risks having inflation *expectations* decline in response.[4] As Japan's experience has shown, once inflation expectations reset to a level below target, it can be difficult to alter those expectations. And there are consequences throughout the economy.

A second potential problem is that the combination of low inflation rates and low real rates of interest provides the central bank very little room to implement its traditional policy response to an economic downturn: lowering short-term interest rates. Currently, the Fed has set the target for its policy interest rate, the federal funds rate, in a range from 2.25 to 2.50 percent, and the effective rate in the marketplace has recently hovered around 2.4 percent. In reaction to most recessions, the Federal Reserve's typical reduction of the federal funds rate has been in the range of roughly 5 to 6 percentage points. Therefore, the current low interest rate environment gives policymakers very little "room to maneuver" in a hypothetical next recession, at least in the traditional monetary policy mode of reducing short-term rates.

Today, I will discuss why achieving an inflation target is important, and, in particular, why it is important to have what I will call monetary policy "space" to react to economic downturns. Then I will discuss some ways that the Federal Reserve's inflation target can be more firmly ingrained.

By the way, this discussion is particularly relevant this year, because the Federal Reserve is conducting a review of its monetary policy "framework" – or the set of tools and processes that we use to define and attain high-level economic goals.[5] An important part of that discussion is how to better reinforce the 2 percent inflation target.

The Problem: Finding Adequate Monetary Policy "Space"

Figure 1 shows interest rates in the Euro Area, Japan, and the United States since January 2000. In the years since the financial crisis, interest rates have remained low. Compared to other recoveries, rates have stayed lower for longer throughout this now quite extended economic recovery.[6] Unfortunately, Japan and Europe's recoveries have not been strong enough to justify an increase in short-term rates to date in the current cycle. As a result, were these areas to experience economic downturns, the options of the associated central banks to cut short-term interest rates to stimulate their economies would be quite restricted. In the U.S., we have experienced a stronger recovery, and with the federal funds rate at 2.4 percent (well below the interest rates seen at the peaks of previous recoveries), monetary policymakers have more space to lower interest rates, if necessary, than our counterparts in Europe or Japan.

Figure 2 shows the size of peak-to-trough cuts in interest rates in the previous three recessions. In each of the past three episodes, including the relatively mild 2001 downturn, the

Federal Reserve has lowered short-term interest rates by more than 5 percentage points. As the previous figure and discussion highlighted, this implies that policymakers now have much less latitude to use short-term rates to counter a recession. The fact that other key economies would be able to respond even less aggressively adds to the concern.

Of course, cuts in short-term interest rates are not the only monetary policy tool that policymakers can use to combat economic downturns. Central banks have purchased longer-term assets to reduce the interest rates on those assets, rates that are arguably much more tightly connected to spending and employment decisions than their policy rates. **Figure 3** shows that as a result of such asset purchases, designed to make economic conditions more accommodative, balance sheets of central banks in the U.S., Euro Area, and Japan all increased significantly in the last recession and slow recovery – in an attempt to make monetary policy more accommodative.

Figure 4 shows that 10-year government bond yields in the U.S., Germany, and Japan declined significantly, in part as a result of central banks purchasing these assets. (Central bank purchases push up demand, and thus price – and yields move in the opposite direction as the price for debt securities). However, long-term yields in Japan and in Germany are very close to zero, giving the monetary authorities little space to push rates down further from current levels.[7] In the United States, the 10-year Treasury rate provides more space, but is still quite low by historical standards. So this other monetary policy tool – influencing long-term rates – would also have limited power to respond to a hypothetical economic downturn, similar to the case with low short-term interest rates.

The Importance of a Symmetric Inflation Goal

All in all, we live in a world where central banks in many developed countries have little, if any, traditional monetary policy space with which to operate, should an economic downturn occur. I expect that despite some deceleration from last year, the pace of growth in economic activity will be enough to bring further reductions in the unemployment rate in the near term, so a recession is not my modal forecast.[8] Nevertheless, the current low interest rate environment raises important issues about how to best conduct monetary policy. For this reason, I will now turn to some data to explore further the issue of policy space – and importantly the role of inflation and the inflation target.

As **Figure 5** illustrates, the nominal interest rate comprises two components. The first component is compensation for expected inflation, wherein one hopes to earn a rate of interest that increases one's accounts at least as fast as the rate of inflation, otherwise your investment will lose real purchasing power as prices rise. This component is shown on the chart as a forecast for core PCE inflation. The second component is the real interest rate. The real interest rate in the long run will depend on the return to investing in the real economy. As such, this rate will be determined by non-monetary factors, like the rate of productivity growth and demographic trends in labor force growth.

Both of these factors have been growing more slowly of late, reducing the real interest rate. A risk in current circumstances is that if inflation regularly undershoots the central bank's inflation target, inflation expectations may fall. In something of a snowball effect, a decline in inflation expectations could lead to further declines in nominal interest rates – ultimately providing even less policy space.

Figure 6 shows the core PCE inflation rate in each year since 1999, with the Federal Reserve's stated inflation target of 2 percent indicated by the horizontal line, although I should note that the Fed first announced a formal 2 percent target in 2012.[9] Most of the observations for U.S. inflation since 1999 have been below our current inflation target. In the last 10 years, there has only been one year – 2011 – in which inflation has exceeded the target, and then only barely.

Figure 7 shows the frequency distribution of quarterly inflation rates over the past 20 years. Each bar represents the number of quarters that the annualized inflation rate has been in that particular range. The distribution clearly skews to one side – the bars representing inflation below 2 percent have many more observations than the bars representing inflation above 2 percent. This is just another way of representing the below-2-percent inflation pattern in the previous chart.

In hindsight, it appears that the 2 percent inflation goal has essentially acted more like a *ceiling*, rather than a symmetric target around which inflation fluctuates. If the target were symmetric, we would expect to see a more balanced distribution, with a roughly equal number of observations above and below 2 percent. This frequency distribution and its skewing below 2 percent illustrates one of the key reasons to hold interest rates steady at present, as members of the Federal Open Market Committee (FOMC) await stronger evidence that we can consistently and symmetrically attain a 2 percent symmetric inflation target, a goal that has clearly been elusive over the past 20 years.

Monetary Framework Considerations

What are the implications of all this for monetary policy? And not just for current policy, but for the broader ways that monetary policymakers think about policy and the tools and targets that are used – in other words, the policy framework?

Looking forward, achieving a symmetric inflation target is likely to be that much more difficult in a world where interest rates are low, given the constraint on reducing rates enough to move inflation back towards (or above) the Fed policymakers' target. Low interest rates mean limited monetary policy space, with a greater likelihood of reaching the effective lower bound for interest rates during a downturn. This, in turn, means that inflation is more likely to underrun than overrun the inflation target.

One possible solution to this difficulty would be to offset the undershoot of inflation during recessions, when constrained by the effective lower bound on interest rates, with an overshoot of inflation during the economic recoveries, as shown in **Figure 8**. Put differently, the Fed could aim to achieve its inflation target *on average over the economic cycle*. This would allow the inflation rate to move within a range centered around its target. The figure highlights how this would work in practice.

Figure 8 shows an inflation range of 1.5 to 2.5 percent, averaging 2 percent (on average hitting the target). In contrast, if inflation slips during periods at the effective lower bound, but we only reach – but don't exceed – 2 percent inflation during economic recoveries, then inflation will average below 2 percent over the cycle, as it has recently.

Figure 9 shows that our below-2-percent average inflation rate is not an artifact of particularly bad outcomes during the Great Recession, or any other period. In fact, we have

averaged below 2 percent inflation, for both core and total PCE inflation measures, whether looking over the past 5, 10, 15, or 20 years.

A closely related alternative to focusing on an inflation *range* is to more deliberately try to hit an inflation *average* over a specified period of time. While the details of how inflation averaging is implemented can matter – for instance, *how many years go into the average? Does the average take into account the future or just past outcomes? When would we start the average in current circumstances?* – the bottom line is that policymakers would explicitly need more inflation outcomes above 2 percent than we have experienced over the recent past.

The desirability of such a policy is that if recession lowers inflation, public expectation that the Federal Reserve will generate higher-than-target inflation in the future should keep inflation expectations stable. This, in turn, will provide more policy space to offset the next recession. In sum, the benefit of inflation averaging would be to make the extent of recessions less severe.

This strategy of increasing the policy buffer is closely related to another alternative, which is referred to as "price level targeting." Price level targeting attempts to keep the general level of prices close to an imaginary price line that grows at a fixed rate – say 2 percent. **Figure 10** shows that if FOMC members had committed to such a policy starting in 1999, actual prices over the next 20 years would have been consistently below that imaginary price line – which is the same thing as saying inflation has averaged below 2 percent over that period. In order to return to the 2 percent target line, periods of below-2-percent inflation would need to be offset by periods of above-2-percent inflation. In that manner, successful price level targeting generally

will engender inflation rates that vary symmetrically around the 2 percent target, somewhat like the pattern depicted in Figure 8.

My own preference is for the Federal Reserve to adopt an inflation range that explicitly recognizes the challenge of the effective lower bound. We might be forced to accept below-2-percent inflation during recessions, but we would commit to achieving above-2-percent inflation in good times, so as to provide more policy space to counteract the next recession. As an approach, it is easier to explain than price level targeting, is consistent with the Federal Reserve's current 2 percent inflation target, and recognizes that there are limits on policymakers' ability to be quite so precise in hitting an inflation target.

Regardless of my preferences, I am very happy to note that over the course of this year, the Fed will be gathering input on whether we should change the way we think about our 2 percent inflation target – in a way that would allow us to more effectively stabilize the economy, given the constraints I have discussed today. Given the history of one-sided misses on inflation, and the likelihood of being constrained on the downside in interest rates moves, now is a good time to be having the discussion about the Fed's monetary policy framework.

I would note that there are other ways to create more monetary policy space, including considering how the central bank should allocate its balance sheet assets, as shown in **Figure 11**. I recently discussed a number of central bank balance sheet issues in some detail.[10] The topic is somewhat technical, but very important – given that central banks may need to turn to balance sheet tools to stimulate the economy during the hypothetical next recession, given a low-rate environment with limited room to reduce rates before they reach zero.

Here, I focus on one aspect that is germane to today's discussion. By holding mostly long-term securities, the Federal Reserve is lowering the long-term rate. This flattening of the yield curve may provide more short-term interest rate space, but at a cost – if the Fed's balance sheet had more short-term securities, there would be the ability to change the maturity composition in a downturn where we reach the effective lower bound, moving from short- to long-term securities in order to push down long-term rates and stimulate the economy.

If we want to have more capacity to lower long-term rates in recessions without increasing the size of the Fed's balance sheet, policymakers may wish to hold more short-term securities in good times. Figure 11 shows that the Federal Reserve's balance sheet currently contains no Treasury bills and more long-term securities than were held prior to the financial crisis. I am pleased that the appropriate asset allocation of the Federal Reserve balance sheet will be a topic in future FOMC discussions.

Concluding Observations

Now is a good time to reflect on the Federal Reserve's monetary policy framework. The U.S. and many developed economies are likely to be challenged by the implications of a low interest rate environment for their ability to offset recessions. The reality of limited monetary policy space provides important context for why the Federal Reserve should broadly consider its current policies and their likely outcomes.

While I would currently prefer moving to an inflation range, I look forward to future discussions. A key matter for me will be considering whether the possible changes to the Fed's

monetary policy framework could provide policy space for action in a hypothetical future economic downturn.

Thank you again for inviting me to Davidson and for the opportunity to present this year's Cornelson lecture.

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[1] For more about the Cornelson Lecture series, see: https://www.davidson.edu/academics/economics/cornelson-lecture.

[2] For additional discussion, see Oct. 14, 2016 remarks at Federal Reserve Bank of Boston annual economic conference, by Eric S. Rosengren, After the Great Recession, a Not-So-Great Recovery.

[3] The Federal Open Market Committee, or FOMC, is the U.S. monetary policy decision-making body.

[4] Of course, if inflation rises above 2 percent we should be just as worried on the upside.

[5] See https://www.federalreserve.gov/monetarypolicy/review-of-monetary-policy-strategy-tools-and-communications-fed-listens-events.htm

[6] For example, consider the experience in the wake of the, albeit milder, 2001 recession: The Federal Reserve kept rates at their low point for just under a year, and then raised them quite regularly from 2004 to 2006.

[7] In fact, long-term yields in Germany and Japan have recently fallen below zero.

[8] The modal forecast is the most likely outcome forecasters see for the economy.

[9] Saying "The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee judges 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. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances."
https://www.federalreserve.gov/newsevents/pressreleases/monetary20120125c.htm

[10] For additional discussion, see March 26, 2019 remarks at the Credit Suisse Asian Investment Conference, by Eric S. Rosengren, Central Bank Balance Sheets: Misconceptions and Realities.