

## **Balance-Sheet Normalization in the United States**

**Raphael Bostic**  
**President and Chief Executive Officer**  
**Federal Reserve Bank of Atlanta**

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- Atlanta Fed President and CEO Raphael Bostic speaks October 12 on Federal Reserve balance-sheet normalization at the Unconventional Monetary Policy: Lessons Learned Conference in Hong Kong.
- Explaining why the Fed is embarking on balance-sheet normalization now, Bostic says the U.S. economy appears to be on solid footing.
- He believes the Fed's asset-purchase programs during the financial crisis and in the early phases of the recovery had meaningful macroeconomic effects.
- Bostic says there are good reasons to think that the effects of a gradual and predictable ramping down of the balance sheet will be smaller than the effects measured as the balance sheet expanded.
- Bostic believes the FOMC's advance communication regarding the size of coming balance-sheet reductions was a great success, as much of their impact is likely already built into market interest rates.
- Bostic has not yet made up his mind on the question of what the normalized size of the balance sheet should be.
- Bostic says communications about the FOMC's plans are key to the success of full exit from the extraordinary policy interventions of the financial crisis and Great Recession.

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Good morning. It is an honor to be here and to participate in this conference with our colleagues from the Hong Kong Monetary Authority and the Federal Reserve Board of Governors.

This morning, I'd like to kick off the first day of the conference with some reflections on Federal Reserve balance-sheet normalization. This policy represents an unwinding of quantitative easing, which was quite an unconventional policy when it was first implemented in the midst of unprecedented turbulent times. If expanding the balance sheet was unconventional, then the steps we take to normalize it will take us through uncharted territory as well.

I'll begin by trying to answer the question "Why now?" with an overview of the current state of the U.S. economy. Then I will move to the expected effects of unwinding the Fed's balance sheet. Finally, I will present some longer-run questions for consideration.

Please take note that I am speaking only for myself. I do not speak for the Federal Open Market Committee (FOMC) or for any other official in the Federal Reserve System.

### **Why now? Current state of the U.S. economy**

So why is the Fed embarking on balance-sheet normalization now? The short answer is that the U.S. economy appears to be on solid footing, and there are several signs that this performance is likely to continue. This year, the U.S. economy is expanding at roughly a 2 percent pace.

Moreover, household incomes continue to rise, reflecting ongoing improvement in the labor market. These trends should provide support for increased consumer spending.

Over the past few years, business investment in the United States has been tepid, partly reflecting a decline in the energy and mining sectors. However, investment growth has picked up over the past few quarters, and I expect it to continue to expand at a pace more consistent with a typical expansion.

Exports have also rebounded over the past few quarters, which should help boost the U.S. factory sector. This improvement reflects a stronger global growth profile and a slight depreciation in the dollar this year.

Now, as you know, a few hurricanes have recently battered some of our nation's southern coastal areas. The result was widespread flooding, damage to homes and businesses, and a disruption in economic activity—not to mention the human toll

and emotional trauma left in the wake of these storms.

These disruptions slowed economic growth in the third quarter—likely by up to a percentage point. As the rebuilding and recovery efforts move forward in the fourth quarter, growth should rebound by at least enough to offset the third-quarter loss.

Quarter-to-quarter fluctuations due to the storms have already begun to distort the incoming data, as evidenced in the latest employment report. However, I do not think the storms were enough to knock the economy off track.

Notwithstanding the weak, hurricane-affected September jobs figure, the underlying strength in the labor market has been somewhat of an upside surprise.

The unemployment rate is already down to 4.2 percent, a level modestly below the Fed's consensus on where it will settle out in the long run. Regardless of where one stands on the question of what unemployment rate we should observe at full employment, I think it is safe to say that we are very close to this, if not there already.

Moreover, the pace of jobs gains is still running well above what is required to maintain the unemployment rate at its current level. In other words, net job creation in the United States remains strong.

Standard measures of labor underutilization appear to be back to or slightly below their precrisis levels, worker confidence is up (as evidenced by increased quit rates), and measures of the number of available workers in the labor pool per job opening are low.

Now, it is true that there are few signs that wage growth in the United States is accelerating.

Combined with a prime-age labor force participation rate that, while rising, is still below its precrisis level, low wage growth may suggest that some residual slack may yet remain in labor markets. But I would judge the shortfall to be relatively small, and getting smaller.

Retail price pressures, like wage growth, appear to be muted.

The year-over-year growth rate in the Fed's preferred index of inflation—the personal consumption expenditures, or PCE, price index—was at 1.4 percent in August. This is noticeably lower than the inflation rate we had entering into the year, which was near the FOMC's 2 percent longer-run target. Importantly, the weak inflation numbers are not just in the headline statistics. We have also witnessed a slowing in some measures of underlying inflation, such as the core PCE and the Dallas Fed's trimmed-mean PCE measure.

Some of this recent falloff in inflation can be tied to a handful of one-off declines in just a few price categories. But abstracting from those transitory factors still leaves the inflation trend running a bit below the FOMC's target.

That said, with a relatively strong and still-improving labor market and stable inflation expectations, I am looking for inflation to drift up to 2 percent over the next year or so.

All told, I think the U.S. economy is in a pretty good place right now after a long period of subdued recovery.

### **Expected effects of unwinding the Fed's balance sheet**

It is with this background of the economy being in a relatively good place that I'd like to discuss the recent FOMC decision to begin the process of unwinding the Fed's balance sheet. Let me start by noting that I believe the asset-purchase programs the Fed implemented during the financial crisis and in the early phase of the recovery had meaningful macroeconomic effects.

Recent work by Board of Governors staff estimates that, overall, the three major asset-purchase programs resulted in something on the order of a 100-basis-point decline in the 10-year Treasury yield. This result is primarily attributed to the Fed's acting as a consistent buyer of longer-dated securities, which removed some of the risk to private buyers of these securities and hence reduced the interest rate required by market participants to hold them. Other estimates of the effects of the Fed's asset-purchase programs are in the ballpark of the Board staff estimates.

As we embark on balance-sheet reductions, there is a natural question: Will these effects be felt in reverse? That is, will the reduction of reinvestments increase 10-year yields and tighten financial conditions as we proceed with winding down the balance sheet?

While much is uncertain about this unprecedented policy unwinding, there are good reasons to think that the effects of a gradual and predictable ramping down of the balance sheet will be smaller than the effects measured as the balance sheet expanded.

First, it is plausible to think that the effects of large-scale asset-purchase programs are more powerful in times of instability and significant market disruption. Reductions in risk during times of heightened sensitivity to risk should induce stronger market reactions than during times when risks are considered largely manageable or low.

Second, the size of the maximum monthly reductions will be quite low. To start, the balance sheet will be reduced by no more than \$10 billion per month. Even at the maximum planned rate of at most \$50 billion per month, the monthly reductions will be less than the pace of accruals during the earlier asset-purchase programs. Thus, the exit will be less dramatic than the entry.

Third, as the economy has grown, the housing market has stabilized, the stock of outstanding Treasury debt has expanded, and the footprint of the Fed's asset holdings relative to the market has declined. In that sense, some reduction of policy accommodation associated with previous balance-sheet actions has already happened, and hence some fraction of the ultimate market effect has already occurred.

Finally, the FOMC communicated its decision to begin reducing the stock of assets held by the Fed, and the contours of its approach, well in advance.

The series of slowly increasing caps on the size of the balance-sheet reductions that the FOMC has outlined will help ensure that markets can predict the flow of riskless assets that will be available to the private sector. As a consequence, much of the impact of these reductions is likely already built into market interest rates.

Our recent experience in this regard supports this view. The announcement of the start of the program, in the September 2017 FOMC statement, had almost no effect on the 10-year Treasury yield. But even compared to the beginning of that deliberation process, some six months ago, the 10-year yield is little changed.

I believe this outcome reflects the effectiveness of the FOMC's advance communication regarding the coming balance-sheet policy. And in my view, these communications were a great success.

The FOMC reported initial discussions in its March meeting minutes and [issued an addendum](#) to the normalization plans at the end of its June meeting. This document outlined the details of the caps and an implementation timeline.

Finally, FOMC members' public testimony and speeches seemed to focus market participants on the likelihood of a September decision, and this indeed is what happened. As I mentioned, all this preparation was, in my view, key to minimizing any undesirable market volatility. We did not experience a reprise of the so-called "taper tantrum" of 2013.

In terms of lessons learned, in my view, the different market responses to the two attempts of our central bank to begin a normalization of the balance sheet—one extreme market volatility and the other virtually no response in real time—highlights the importance of clear communication. While such clarity of purpose and goals is always of value, it is especially so when in the realm of unconventional policy, where there are few guideposts to help shape the expectations of market participants.

I was not a member of the central bank in 2013. I was teaching at the University of Southern California at the time. I will tell you that, though they understood that the size of the balance sheet needed to eventually be reduced, many industry people I encountered wondered if this new and, in their eyes, sudden decision to taper purchases signaled a return to higher levels of uncertainty and risk.

Though I'm guessing the FOMC did not intend for such a market interpretation, it needed to say so, and with a consistency and relentlessness that left no room for doubt. Such consistency means making speeches that are difficult to give and perhaps even dull. But the cost of giving too little focus on clear communication can be large.

And as you consider changes to your unconventional policies in challenging times, I strongly encourage you to take extra care to ensure your communication strategy is explicit and incorporates enough time for markets to learn and adapt. The additional effort is well worth the reduction in risk.

On balance, the limited market reaction to the rollout of the Fed's new balance-sheet policy leads me to conclude that financial market participants do not view it as a significant tightening of conditions or a hindrance to economic growth.

Although I don't expect financial market conditions to be significantly affected in the coming months by balance-sheet reductions themselves, I, along with my colleagues, will obviously be monitoring financial markets for any change in financial conditions that could affect the macroeconomy.

### **Longer-run questions**

The final question related to the balance sheet is, where to from here? The Committee has termed this policy "balance-sheet normalization," but what exactly is a "normal" balance sheet for the Federal Reserve? Well, I'm not going to answer that question, because the FOMC has not yet made certain decisions regarding that definition. But I do think we know what some of the key issues are.

The first thing I should note is that the Fed's balance sheet will likely continue to respond passively to the public's demand for cash (which is a central bank liability). Since the demand for cash has grown substantially since the beginning of the financial crisis, the size of the balance sheet will be larger than precrisis levels.

The essential outstanding questions about the normalized size of the balance sheet are likely to come down to judgments about the appropriate quantity of reserves held by the banking system. Bank reserves are, of course, the accounts that depository institutions hold with the central bank, and they represent the principal noncash element of Federal Reserve liabilities.

So, what will the normalized quantity of bank reserves be? There are, in my assessment, two major issues.

First, the nature of the FOMC's interaction with the banking system will depend on how private banks' demand for reserves has been fundamentally changed by postcrisis regulatory reforms.

Dodd-Frank created new regulations designed to improve the stability of the U.S. financial system. These regulations have likely changed the demand for reserves by U.S. banks and foreign banks with U.S. operations.

For example, the supplementary leverage ratio and new Federal Deposit Insurance Corporation assessment fee have made it more expensive for U.S. banks to expand their balance sheets. All else equal, this reduces the demand for reserves, which are assets from the vantage point of banks. On the other hand, the new liquidity regulation creates additional demand for high-quality liquid assets, which can

include reserves.

How these factors intersect is complex and still evolving. But banks may well have a much greater demand for reserves now than they did precrisis. The [July 2017 update to the \*Domestic Open Market Operations\* report](#) offers one illustration of the range of possible outcomes. In that update, New York Fed staff lay out three scenarios for a normalized balance sheet. These scenarios are based on the surveys of market participants and range from \$2.4 trillion to \$3.5 trillion.

The second key issue in defining the normalized size of the balance sheet is the important unresolved question of what the operating framework for conducting monetary policy interventions will be.

I'm assuming that all of you at this conference are familiar with the distinctions between the precrisis system in the United States that relied on reserve scarcity and federal funds rate management and today's system of abundant, or nonscarce, reserves with policy implemented via an administered interest rate paid on banks' reserve balances. However, if readers or listeners feel they could use a refresher, I commend the excellent [speech](#) by the New York Fed's Lorie Logan delivered to the Money Marketeers of New York University this past May 18.

Effectively, the question becomes whether we "go home" to the precrisis operating framework that had been in place for many decades. This return would require engineering a large enough reduction in the balance sheet to once again create a situation in which reserves are scarce. In other words, we would need to find (and maintain) levels of reserves in the entire banking system such that there is competition for those reserves and the demand for them is once again sensitive to changes in the federal funds rate.

While returning to an operating system that was well understood and successful sounds attractive, the situation may not be as simple as going home again. I've already mentioned the regulatory changes that make banks' aggregate future demand for reserves uncertain. In addition, the U.S. Treasury has recently altered the way it manages its "checking account," which is held at the Federal Reserve. The balances of this account are an "autonomous factor" affecting the supply of reserves in the system. Under a scarce reserves system, daily variations in this autonomous factor need to be projected with a high degree of precision to exert monetary control. So essentially, both demand and supply conditions in the market for reserves would need to be relearned.

## Conclusion

There are many other items on the list of pros and cons for choosing either the precrisis framework of scarce reserves and active funds rate management, or something more like the current situation, with abundant reserves and interest on excess reserves as the main tool for implementing policy. I have not attempted to do justice to them here, and I have not yet made up my mind on the question of what the normalized size of the balance sheet should be.

My point is only to acknowledge that answering this question is the next major step in the process of normalizing monetary policy. Of course, the Federal Reserve System has been actively engaging in this discussion. You can find reports on a few of these discussions in the [minutes of the November 2016 FOMC meeting](#) and in the presentation materials from [a conference on normalizing central bank balance sheets](#) that the New York Fed hosted this past July.

We have the luxury of continuing to be deliberate about seeking answers about the new normal. But I have noted that I view communications about the FOMC's plans as key to the success of full exit from the extraordinary policy interventions of the financial crisis and Great Recession. I look forward to actively engaging with my colleagues in both formulating answers to our outstanding issues and playing my part in communicating our thinking and decisions to the public.