Strategy

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Fed Balance Sheet Normalization

And Impact on Cash Investment Strategies

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Abstract

Key takeaways: While details are lacking, one can generally expect balance sheet normalization to start at the end of 2017, with reinvestment gradually phased out over one year, taking 2.5 years to complete for a total reduction of $1.8 trillion in Treasury and MBS bonds.

Impacts to Expect:

- *Higher interest rates on Treasury securities*
- *Higher short-term rates*
- *Higher demand for Treasury bills*
- *Lower Fed RRP capacity*
- *A steeper yield curve*

Implications for Cash Investors:

- *Quasi policy rate hikes*
- *Yield pressure at Treasury auctions*
- *Impact on government MMFs*
- *Higher potential for repo failures*
- *Wider credit spreads and higher market volatility*

Introduction

As the Federal Reserve continues with its monetary policy normalization, Fed watchers are keenly interested in when and how the Fed will start reducing its balance sheet. While Treasury and mortgage backed securities (MBS) investors will certainly feel the market impact from such actions, the subject is equally relevant to institutional cash investors as reducing the Fed balance sheet has a similar effect on short-term interest rates as hiking the fed funds rate.

In this strategy commentary, we will approach the subject from the vantage point of the cash investor and seek to explain the mechanics of the normalization process. While estimates vary, we will also discuss the interplay between balance sheet reductions and fed funds rate increases, and how the changing dynamics of Treasury reinvestments affect other short-term instruments.

Why Do We Care?

The Federal Reserve embarked on successive rounds of large asset purchases of Treasury and MBS securities in the wake of the financial crisis. Starting with a balance of $925 billion in September 2008, just prior to the Lehman Brothers bankruptcy, the Fed accumulated assets to a peak level of $4,516 billion in January 2015. It kept a reinvestment policy to keep the balance relatively stable, which stands at $4,460 billion as of May 31, 2017.

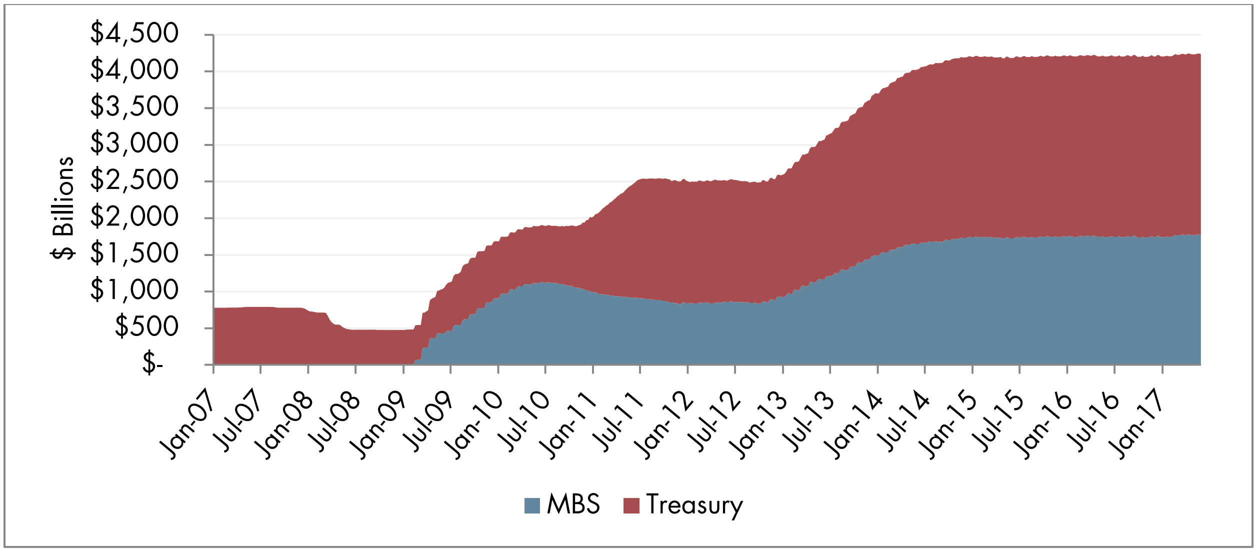
Quantitative Easing in Reverse: Balance sheet normalization has market implications for cash investors, as it represents de facto tightening of the monetary policy similar to hiking the fed funds rate. It essentially reverses the effect of lower interest rates from bond purchases known as quantitative easing. Estimates vary, but experts agree that balance sheet reduction will lead to generally higher rates.

Risk of the "Taper Tantrum": Balance sheet reduction, if not communicated well or executed cautiously, could cause significant adverse market reactions that impact trading liquidity and bond issuance. Back in June 2013, when the Fed was still in the middle of monthly asset purchases, then Fed Chairman Ben Bernanke told the press that the Fed would likely start slowing – that is, tapering – the pace of the purchases later in that year. Market reactions to his announcement were violent, with the yield on the 10-year US Treasury spiking from 2.18% to 2.55% between June 19 and June 21. The value of the dollar also jumped more than 2% against other major currencies in the same period. Today, Fed officials and market observers are keenly interested in avoiding a repeat of the now famed taper tantrum.

Treasury Issuance and HQLA Supply: The Fed keeps the size of its balance sheet constant today by reinvesting proceeds from matured bonds into new ones. The Fed buys new Treasury bonds from the Treasury Department passively when the department conducts auctions, thus not putting price pressure on public bidders. When the Fed reduces or stops its purchases, the Treasury will need to sell more of its bonds to the public, likely at higher yields and lower prices. Shrinking the Fed's bond portfolio also results in correspondingly lower reserve balances. Recent regulations require banks to keep a portion of their assets in high quality liquid assets (HQLAs), which include reserve balances. A smaller Fed balance sheet, thus, will force banks to buy up other HQLAs such as Treasury bills to replace shrinking reserves, an action that may cause a shortage of short-term government securities and lower yields.

Impact on the Yield Curve and other Asset Classes: The subject may be of interest to cash investors as the yield impact on securities along the maturity spectrum may be different, creating risk concerns and total return opportunity. Even though the Fed buys only Treasury and MBS bonds, its actions also influence the behaviors of other market participants and the supply and price/yield characteristics of repurchase agreements (repos), commercial paper (CP) and deposits, to name a few.

Figure 1: The Fed Balance Sheet – Assets



Source: The Federal Reserve H.4.1 report as of 5/31/2017

Why Now?

The Fed's move to fight deflation by expanding its balance sheet in the aftermath of the financial crisis was unconventional monetary policy. The market knew what goes up must come down at some point. The topic took on a new level of urgency when the March 2017 Fed meeting minutes suggested that balance sheet reduction could start as early as the end of 2017.

The Fed's first official message came by way of the September 16-17, 2014 minutes of the Federal Open Market Committee (FOMC) meeting. It said that the central bank would "**cease or commence phasing out reinvestments**" of its bond portfolio "**after it begins increasing**" the target fed funds rate. The Fed has since hiked the rate three times, in December 2015, December 2016 and March 2017.

The September 16-17, 2015 FOMC minutes gave more hints that cessation or phasing out of reinvestments could occur after "**certain levels of the federal funds rate, such as 1 percent or 2 percent, were reached.**" The December 13-14, 2016 meeting message turned more cryptic, indicating balance sheet actions would not come "**until normalization of the level of the federal funds rate is well under way.**"

Up until the March 14-15, 2017 FOMC minutes, many market observers pegged the start of normalization to begin in the middle of 2018, when the target fed funds rate is projected to be around 1.50%. The minutes essentially moved up the possibility to the end of 2017. It said, should the economy continue to perform as expected, "**most participants**" expected a change to its reinvestment policy "**later this year**". This consensus view was reaffirmed in the May 2-3, 2017 meeting minutes.

Key Items to Watch

For debt investors, there are a few items of interest from Fed communications in the weeks to come. In addition to a steady stream of Fed official speeches, the market widely expects the Fed to use its June to September FOMC meetings to telegraph the pace and methods by which is seeks to fulfill its balance sheet initiatives. The wait will not be long.

Timing: Fed officials have vowed not to repeat the taper tantrum of 2013. As a result, we should expect more clarity on the next move such as lead time and whether they will follow a structured or rule-based schedule. The move may start at the end of 2017, but an official announcement should come one to two FOMC meetings prior to that.

Cessation or Phasing out Reinvestments: While there was discussion among policymakers that simply ending reinvestment may be easier to communicate, phasing-out purchases over a period of time with "a set of gradually increasing caps" seem to have found a friendly audience among Fed officials. The latter will also be less disruptive to the markets than the former. It is unclear whether phase-out caps are decided in a mechanical fashion or indexed to some economic indicators. An outright sale of securities does not seem to have much support at this stage.

Treasuries, MBS, or Both: Fed officials prefer to hold only Treasury securities on its balance sheet over time. This led some observers to speculate that normalization will start with run-offs of the MBS portfolio before a reduction in Treasuries. The March 2017 minutes seem to suggest a simultaneous reduction of reinvestments in both. As of May 31, 2017, the Fed held $2,246 billion in Treasuries and $1,771 billion in MBS. The latter are expected to run off much faster due to prepayment allowances on home mortgages.

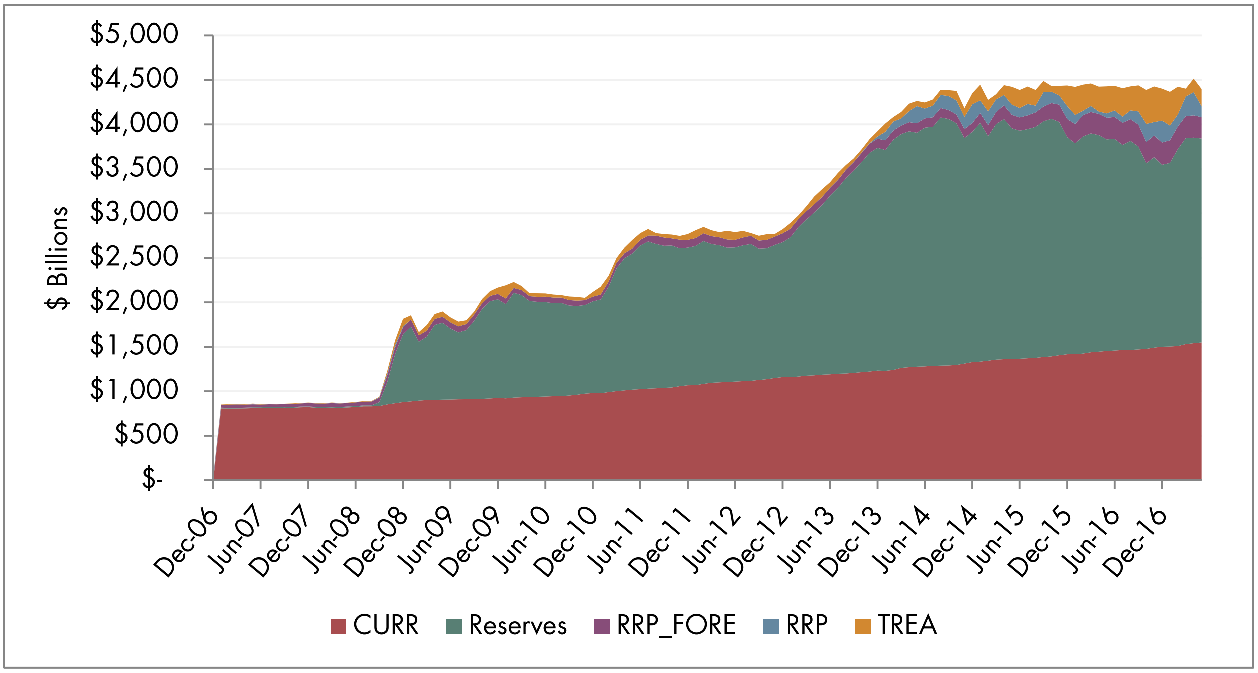
Size of Reduction: What should be the "end state" of the Fed balance sheet? It has been the subject of intense debate. It will not be possible for it to return to the level of $925 billion in 2008, since currency (reserve notes) in circulation alone is now $1,554 billion. Adding to it are the two reverse repo (RRP) facilities (with money market investors and foreign central banks, projected at $500 billion) in place and Treasury Department's cash balance (recommended up to $500 billion). Fed officials also expressed the merit of some level of "abundant reserve balances" (ballpark figures of $500-$1,000 billion) for financial flexibility and banking system stability. Ignoring miscellaneous items, the sum of these items requires an end-state balance sheet sized at $2.5-$3.0 trillion. Total reduction from today's $4.5 trillion, thus, will be $1.5-$2.0 trillion.

Table 1: An Illustration of Balance Sheet Reduction

	In $ Billions
Currency in Circulation	$1,500
RRP - Investors (assumed)	$250
RRP - Central Banks (assumed)	$250
Treasury Account	$500
Abundant Reserves	$500
Total	**$3,000**
Current Balance	**$4,500**
Amount of Reduction	**($1,500)**

Duration to Normal State: The time it takes to get down to the targeted balance sheet level is conditional on the other factors above. Fed officials also indicated that the move, though intended as permanent and irreversible, will be executed with an eye towards economic conditions and market developments, which could impact the schedule. A recent New York Fed report projects that it will take nine to 12 months for reinvestment phase-out to take full effect, and another two to three years to complete, barring unforeseen circumstances.

Figure 2: The Fed Balance Sheet – Liabilities



Source: The Federal Reserve H.4.1 report as of 5/31/2017

FRBNY's Projections

The Federal Reserve Bank of New York (FRBNY), the member bank charged with managing the Fed's assets in the capital markets, released its 2016 Domestic Market Operations annual report that includes a section projecting the portfolio path[1]. We provide some key highlights below:

- Assumes/expects normal state balance = $2.8 trillion
- Rate assumptions:
  - Long-run fed funds rate (FFR) = 2.75%
  - 10-year Treasury yield = 3.38%
  - MBS rate = 5.0%
- Reduce holdings in a "gradual and predictable matter, primarily by ceasing to reinvest repayments of principal"
- No outright agency MBS sales
- Abundant reserves @ $100, $500 and $1,000 billion levels
- Reinvestment continues until normalization "well underway"
- Reinvestment phases out over the course of a year
- Start date = 2nd quarter 2018, when the FFR = 1.50% [may shift earlier by six months]
- Post-normalization, MBS run-offs continue but Treasury reinvestments start
- Expects normal state to be reached in -
  - 4th quarter 2022 if Reserves = $100 billion
  - 4th quarter 2021 if reserves = $500 billion
  - 4th quarter 2020 if Reserves = $1 trillion

Note that these projections were based on surveys of market participants after the December 2016 FOMC meeting, marking the start of normalization at the 2nd quarter of 2018. If the Fed kicks it off in the 4th quarter of 2017, as suggested by the March FOMC minutes, the FRBNY projected timeline would need to shift earlier by six months.

Figure 3: FRBNY's Projected Fed Securities Holdings

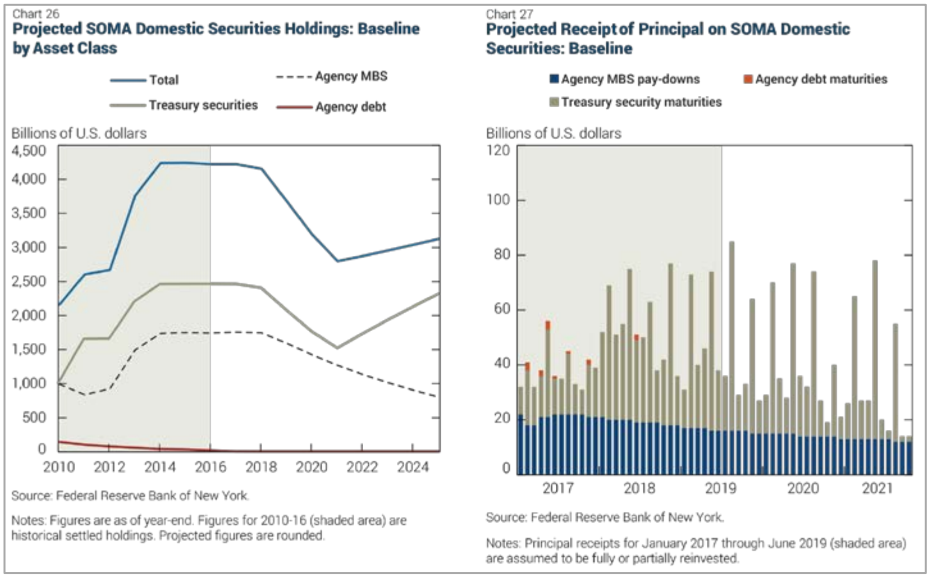


Chart 26
Projected SOMA Domestic Securities Holdings: Baseline by Asset Class

Source: Federal Reserve Bank of New York.

Notes: Figures are as of year-end. Figures for 2010-16 (shaded area) are historical settled holdings. Projected figures are rounded.

Chart 27
Projected Receipt of Principal on SOMA Domestic Securities: Baseline

Source: Federal Reserve Bank of New York.

Notes: Principal receipts for January 2017 through June 2019 (shaded area) are assumed to be fully or partially reinvested.

Source: The Federal Reserve H.4.1 report as of 5/31/2017

[1] FRBNY, Domestic Open Market Operation During 2016, https://www.newyorkfed.org/medialibrary/media/markets/omo/omo2016-pdf.pdf

What Impact to Expect

Although details are lacking, we can generally surmise that balance sheet normalization will likely start at the end of 2017, with reinvestment gradually phased out over one year, taking a total of 2.5 years (assuming reserves of $500 billion) to complete for a total reduction of $1.8 trillion (mid-point) in Treasury and MBS bonds. What kinds of impact should institutional cash investors expect from market operations of this speed and magnitude?

The following offers a few highlights, although exactly by how much in each situation remains a guessing game:

Higher Interest Rates in Treasury Securities: The $2.2 trillion Treasury debt held by the Fed represents 15% of its $14.2 trillion public debt outstanding. Any meaningful reduction in this balance will result in higher borrowing rates for the government.

Higher Short-term Rates: With reserves less plentiful, banks at some time will be forced to pay higher rates to borrow from each other, pushing up the effective fed funds rate and rates on related instruments such as Eurodollar and commercial paper rates.

Higher Demand for Treasury Bills: Required to hold HQLAs but with lower reserve balances available, banks will hunt for other HQLAs such as Treasury bills in the open market as substitutes, putting downward pressure on Treasury yields.

Lower RRP Capacity: The Fed RRP facility is an important lifeline for government money market funds (MMFs), particularly after the 2016 fund reform. Lower Treasury balances hinder the Fed's ability to conduct the operations, as the total RRP balance cannot exceed its Treasury holdings. If the facility is unable to satisfy market demand, private repo rates may be lower than this theoretical floor rate.

A Steeper Yield Curve: The Fed currently reinvests proceeds in two, five and seven-year notes, and has not held any T-bills since 2012. As recommended by its advisory committee, Treasury will issue debt across maturities, including T-bills, to replace the Fed portion. Short-maturity bills and notes will meet strong demand from MMFs, banks and foreign buyers, but demand for long bonds will be weaker by comparison, especially in a rising rate environment. The net effect could be a steeper yield curve, with higher yields and bigger losses on long bonds vs. shorter ones.

Conclusions - Implications for Cash Investors

Similar to the start of interest rate hikes, Fed balance sheet normalization will be an important milestone for the financial markets. While MBS and Treasury bond investors will feel the most impact from the exit of a major buyer, the event has implications for all debt investors, especially those directly influenced by the Fed's monetary policies.

Quasi Policy Rate Hikes: Balance sheet reduction impacts interest rates similar to rate hikes. Those who monitor Fed rate hikes for portfolio decisions should be aware of the changed math equation. Exactly how much reduction equals a 25-basis points (BPS) rate hike remains anyone's guess due to different assumptions. For example, a Kansas City Fed bulletin found a $675 billion reduction over a two-year horizon equals one rate hike[2]. Fed Chair Janet Yellen indicated that the end of reinvestment may equal 0.15% on the 10-year yield, or two 25-bps hikes[3]. Other, more aggressive, estimates peg the impact to about one hike a year.

[2] Troy Davig and A. Lee Smith, Forecasting the Stance of Monetary Policy under Balance sheet Adjustments, the Federal Reserve Bank of Kansas City, May 10, 2017, https://www.kansascityfed.org/publications/research/mb

[3] Chair Janet Yellen, The Economic Outlook and the Conduct of Monetary Policy, at the Stanford Institute for Economic Policy Research, Note No. 17, January 19.2017, https://www.federalreserve.gov/newsevents/speech/yellen20170119a.htm

Negative Yield Pressure at Auctions: The ability for Treasury to close the funding gap post-Fed depends on how it plans its auctions. While the Fed kept a policy of buying non-bills Treasury issuance evenly on auction dates, future demand for longer maturities will be weaker, leading to higher yields. Added to the equation are the Administration's deficit spending initiatives and its intent to issue ultra-long bonds, which will put more pressure on longer-term rates. We urge caution on maturities longer than two-years.

RRP and Government MMFs: The 2016 reform resulted in the substantial increase of government MMF assets (over $1 trillion) in institutional cash portfolios. The reduction in Treasury securities will reduce the Fed's capacity to conduct RRP, although the impact looks to be benign for now. At some point along the way, we expect the Fed to reduce the RRP capacity to further remove policy accommodation, which will put more supply pressure on government funds.

Potential for Higher Repo Failures: For investors in the repo market, the Fed's exit could lead to higher repo failures. This is because the Fed currently buys on-the-run issues (the specials) from Treasury and makes them available to dealers through repo (not RRP) operations. Absent the Fed providing these special bonds around auction dates, one would expect higher frequency for repo failures.

Wider Credit Spreads and Higher Uncertainty: Credit sectors have been the beneficiaries of the Fed's asset purchases and consequent reinvestments. Easy liquidity and an expanding Fed balance sheet allowed funds to flow into credit sectors for higher yield. Corporations took advantage of the low rates to issue debt and buy back shares, increasing financial leverage. The Fed exit will lead to a reversal on credit spreads as liquidity diminishes, washing up the weaker credits. In addition, the Fed will have to raise rates and shrink the balance sheet at the same time, something it has never done, leaving potential for market volatility on credit sectors.

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