Unwinding Excesses in the Fed's Balance Sheet

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Chairman Barr, ranking member Moore and members of the Committee, I appreciate this opportunity to present my views on the Federal Reserve's monetary policy. My testimony will focus on the Fed's balance sheet. In summary, while the Fed's asset purchase decisions during the financial crisis were made in an emergency situation, the Fed's dramatic expansion of its massive quantitative easing programs while the economy was growing and financial markets were functioning normally--and its ongoing reinvestment policies that maintain a bloated balance sheet—have served no economic purpose, are risky on many dimensions and inappropriately involve the Fed in credit allocation. As such, the Fed must embark immediately on a strategy that would gradually unwind the assets in its portfolio as part of normalizing monetary policy. Doing so will enhance economic performance, support a healthier banking system and reduce unnecessary risks.

Prior to the financial crisis, the Fed's balance sheet was approximately $850 billion, consisting primarily of short duration Treasury securities needed for the conduct of monetary policy under normal conditions. Now, eight years after the financial crisis, the economy and financial markets are behaving normally and the Fed has begun to normalize interest rates, but the Fed is maintaining a balance sheet with $4.5 trillion in assets, five times larger than before the crisis (Chart 1).

Of the Fed's assets, $2.5 trillion are Treasury securities of various maturities and $1.8 trillion are mortgage backed securities (MBS), primarily with very long maturities (Charts 2-5). This portfolio results from a series of large scale asset purchases (LSAPs, better known as quantitative easing, or QE) and

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maturity extensions (so-called "Operation Twist") and the Fed's ongoing policy of reinvesting the proceeds of maturing assets. These assets are mirrored by liabilities on the Fed's balance sheet.

The Fed finances these long-maturity assets by borrowing $2 trillion in short-duration notes from the banking system, and accounts for those liabilities as excess reserves on the balance sheet (Chart 6). In October 2008, the Fed adopted a policy to pay interest on excess reserves (IOER), which was intended to provide a floor for propping up the effective Federal funds rate. Since then, the effective funds rate has struggled to remain above the IOER floor rate. Today the Fed pays interest equal to the top band of the Fed funds rate target, currently 1 percent.

The Fed's excessively large balance sheet does not serve any positive economic purpose, but has many downside aspects. It does not stimulate economic growth or increase bank lending. Arguments that the outsized balance sheet improves financial stability and the monetary policy transmission mechanism are a stretch. The Fed's policies reduce the government's net cash flow debt service, but its enormous long duration portfolio exposes the government and taxpayers to potentially costly interest rate risks. This false impression of riskless deficit reduction encourages misleading and inappropriate budget tactics and exposes the Fed to potentially troublesome politics that could harm its credibility and jeopardize its independence. The Fed's MBS holdings suppress mortgage rates and help housing at the expense of other sectors. The Fed has been insufficiently transparent about these risks and distorting impacts.

A brief review of the QE and Operation Twist asset purchases. The Fed's decisions to so dramatically expand and maintain its balance sheet reveal a lot about the Fed's strengths and weaknesses. In late 2008, as the financial crisis deepened and the economy faltered, the Fed lowered the Fed funds rate aggressively from 2% in September to 0%-0.25% in December. The Fed began providing various liquidity facilities to banks and select credit sectors; the Fed sterilized these loans by selling an equal amount of Treasuries, thereby maintaining the availability of credit but increasing the supply to select sectors. With the over-leveraged mortgage market seizing, the Fed boldly instituted a policy of purchasing $100 billion of GSE debt and $500 billion of MBS. In a December 1, 2008 speech, Fed Chair Bernanke stated "To avoid inflation in the long run and to allow short-term interest rates ultimately to return to normal levels, the Fed's balance sheet would eventually have to be brought back to a more sustainable level. The FOMC will ensure that this is done in a timely way." In March 2009, the Fed announced an

additional $750 billion in purchases of agency debt and MBS and an additional $300 billion of Treasury securities. These purchases contributed to dramatic increases in the Fed's balance sheet.

The economy began to recover in 2009Q2 and growth gained momentum through 2010. In particular, business fixed investment rebounded strongly, but housing activity remained hungover from the mortgage crisis and continued to contract. Atypical of the early stages of most economic recoveries from recession, the unemployment rate actually receded from its peak.

In November 2010, the Fed announced QEII, which involved the purchase of $600 billion of longer-dated Treasuries--$75 billion per month through June 2011. The economy temporarily contracted in 2011Q1, but expanded at a relatively healthy pace during the rest of the year, and the unemployment rate continued to decline slowly. In September 2011, in an attempt to reduce bond yields and signal its intention to maintain its aggressive monetary ease, the Fed announced Operation Twist, which involved the purchase of $400 billion of longer-dated maturities and the sale of the same amount of shorter-maturity securities. In June 2012 the Fed extended the Twist program by $267 billion through 2012. This significantly lengthened the duration of the Fed's portfolio.

In 2012, housing activity strengthened, but following a healthy Q1, overall economic growth moderated. The unemployment rate continued to recede from its cyclical peak of 10 percent, but by mid-year was 8 percent, above its 5.6 percent longer-run average. The core PCE deflator, the Fed's inflation measure of choice, averaged 1.9 percent, barely below the Fed's 2 percent longer-run target.

In September the Fed announced QEIII, an open-ended commitment to purchase $40 billion of agency MBS securities per month until the labor market improved "substantially". In December the Fed announced a continuation of this pace of purchases and an additional monthly purchases of $45 billion in longer maturity Treasury securities, which would continue after Operation Twist concluded, lifting total monthly purchases to $85 billion.

In May 2013 testimony to the Joint Economic Committee, Chairman Bernanke said the Fed would begin to taper the amount of QE purchases later in the year, conditional on continuing good economic news. In a June press conference, Bernanke noted improving economic conditions and stated "The Committee currently anticipates that it would be appropriate to moderate the monthly pace of purchases later this

year". The so-called "taper tantrum" followed: bond yields rose significantly more than the Fed had anticipated. This shocked the Fed and greatly heightened its sensitivity to market reactions to the Fed's policies and announcements. This fear of financial markets contributed to the Fed's misguided decisions in 2015-2016 to delay normalizing interest rates.

In December 2013, with the 10-year Treasury yield of 2.9 percent, a full percentage point higher than before Bernanke warned of an eventual tapering, the Fed officially began reducing its purchases by $10 billion per month, and ended the QEIII purchases in October 2014. Throughout the Fed's tapering of asset purchases, bond yields receded. During this period, the Fed decided that its monetary policy normalization strategy would start with very gradual Fed funds rate increases while continuing to reinvest the proceeds of maturing assets. This decision was driven by the Fed's fear that announcing a policy that would reduce its balance sheet could jar financial markets. As several Fed members noted in 2014, not reinvesting maturing assets would "send the wrong signal to markets". That fear continues to underlie its reinvestment policy, even after three hikes in the Fed funds rate—in December 2015, December 2016 and March 2017.

Assessment of the Fed's asset purchases and balance sheet management. The Fed can rationalize its quantitative easing during the financial crisis. Faced with the zero bound on its policy rate, the Fed's alternative liquidity facilities and asset purchases helped to end the financial crisis and lift the economy from deep recession. They were extraordinary policy measures taken in scary financial times. However, the Fed's massive asset purchase programs well after the economy and financial markets had returned to normal—in an explicit attempt to improve labor markets—have been an unnecessary and risky expansion of the scope of monetary policy that did little to stimulate growth.

The Fed's quick response--that if it had not done what it did, the economy would have suffered and millions of fewer jobs would have been created—is a valid assessment of its policies during the financial crisis, but a misleading assessment of its policies and their effectiveness during the now-lengthy expansion. This is particularly true of QEIII and the Fed's reinvestment policy, whose full costs are likely to unfold in coming years.

The open-ended QEIII and forward guidance certainly stimulated financial markets, kept bond yields low and pumped up the stock market and encouraged risk, but they did not have their desired or predicted

economic impact. Most noteworthy, these unprecedented monetary policies failed to stimulate nominal GDP growth, which actually decelerated. Most glaringly, business investment failed to respond positively to the lower interest rates and real costs of capital. Although these economic outcomes are far different than the Fed's earlier goal and predictions, the Fed takes credit for the sustained growth and all of the new jobs created. This incorrect interpretation overlooks the natural functioning of the economy growing along its potential growth path, and conveys the false impression that the Fed's monetary policy is the exclusive driver of economic activity.

Most likely, the economy would have continued to grow moderately without QEIII and even if the Fed had begun to raise interest rates. History provides an important lesson that the Fed seems to ignore: during every prior cyclical recovery, when the Fed raised rates after a period of monetary ease, economic growth was unharmed. Not surprisingly, economic growth remained healthy during the rise in interest rates during the taper tantrum in 2013 and in 2014 when the Fed was actually reducing its asset purchases.

It is noteworthy that during 2012-2016, while consumer spending and housing were healthy, business investment and productivity were disappointingly weak. Despite aggressive monetary ease, growth of the economy, particularly business investment, was inhibited by an array of non-monetary factors, including rising government taxes and a growing web of government regulations. These policies deterred business investment, hiring and expansion by raising business operating expenses, lowering expected after tax rates of return on investment and raising uncertainties.

These trends led to significant reductions in estimates of potential real growth. In 2007, the Congressional Budget Office and the Fed estimated potential at 2.6 percent; now those estimates are 1.8 percent. The cumulative implications of the lower growth on jobs, wages and standards of living are enormous. Obviously, the Fed's unlimited QE and bloated balance sheet cannot lift potential growth. The Fed's elevated assessment of its role in managing the economy seems to lead it to over-estimate its contribution to favorable outcomes. Only recently has Fed Chair Yellen acknowledged some of the non-monetary factors, including government regulations and taxes that have inhibited growth and are beyond the Fed's scope.

The explicit intention of QEIII—commonly referred to as "QE infinity"—was to improve labor markets. Frustrated with the moderate growth and lingering high unemployment, the Fed extended its emergency monetary policies, complemented by formal forward guidance that signalled the Fed's intention to keep bond yields low, push up the stock markets and home values and encourage risk until labor markets improved substantially.

Effectively, the Fed transformed the primary goal of monetary policy into maximizing employment subject to the constraint of Fed's 2 percent inflation target. This open-ended QE culminated the Fed's big shift from its decades-long approach based on the principle that low inflation was the best contribution monetary policy could make to sustained maximum economic and employment growth. Implicit in the Fed's reaction function was a lot of flexibility in the Fed's perception of its inflation target. The Fed made clear that 2 percent was merely a longer-run average, and some members suggested that over-heating the economy above 2 percent inflation was desirable in an attempt to boost jobs.

QEIII's aggressively activist policy presumed that the undesired high unemployment was primarily cyclical, relating to insufficient demand, and could be addressed with an ever-expanding effort to stimulate aggregate demand, rather than any structural problems including demographics, low educational attainment, skill mismatches or government tax and regulatory policies that deterred people from working and businesses from hiring. The Fed's primary focus on improving the labor market led it to significantly understate the distorting impacts of the open-ended asset purchases and their implications for income and wealth inequality and intergenerational distributions. The eventual economic and financial costs of eventually normalizing monetary policy received little weight.

The costs of the Fed's balance sheet have been sizeable and far outweigh any benefits. The massive amount of excess bank reserves has had little if any impact on bank lending. Most likely, the Fed's sustained negative real Fed funds rate and historically low bond yields have deterred bank credit. But the artificially low rates and excess reserves encouraged banks to add risks to their portfolios. Domestic demand and capital spending have shown little response to the aggressive monetary ease.

But the distortions in credit markets are sizeable. The Fed's MBS purchases have expanded monetary policy into private sector credit allocation, an undesirable misuse of the Fed's mandate. The Fed is the largest holder of MBS. This keeps mortgage rates lower than they would be otherwise and results in the

allocation of too much credit into mortgages at the expense of other activities (Charts 7-8). Fed Chairman Bernanke acknowledged this ill-suited role of monetary policy and recommended that ultimately the Fed's portfolio would be all-Treasuries. The Fed has ignored this concern.
The Fed's massive portfolio blurs the border between monetary and fiscal policy, with highly undesirable consequences and many risks. The Fed lowers the government's net debt service costs through its low policy rate and net profits on its long duration portfolio that it remits to the US Treasury. In Fiscal Year 2017, the Fed remitted $110 billion, equal to roughly one-fifth of the government's budget deficit. This may sound good superficially, but in reality it involves very high risks that are not reflected in the government's budget and are not made clear by the Fed. And it also entangles the Fed in fiscal policies and in ways that may jeopardize the Fed's credibility and inadvertently reduce its independence. Presumably the Fed understands these risks but chooses not to be transparent about them.

Most obviously, a rise in interest rates or a deterioration in the mortgage credit market puts current and future taxpayers at significant risk. If interest rates rise, the Fed will remit less profits to the Treasury and the net debt service costs rise. It is ironic that if the Fed's excessive monetary ease actually stimulated the economy, rates would rise a lot and the result would be large losses.

The risks of rising rates are acknowledged by the CBO (but are not fully captured in its baseline forecast), but are barely mentioned in official Fed documents, while the credit risks of the Fed's $1.7 trillion holdings of mostly long maturity MBS are not captured. The CBO's baseline 10-year budget forecasts assume a gradual runoff of the Fed's balance sheet and interest rates that are probably too low, particularly in the intermediate term (3-month Treasury bills are assumed to be 0.7 percent in 2017, 1.1 percent in 2018, 2.0 percent in 2019-2020 and 2.8 percent in 2021-2027; 10-year Treasury bonds are assumed to be 2.3 percent in 2017, 2.5 percent in 2018; 3.0 percent in 2019-2020, and 3.6 percent in 2021-2027). According to the CBO, a 1 percentage point rise in interest rates over the 10-year projection period would add $1.6 trillion to the budget deficit during 2018-2027. That is definitely a risk that merits attention.

The Fed should be equally transparent about its interest rate and credit exposure. Even though fiscal policy is beyond the Fed's purview, the Fed should own up to it substantial impacts on fiscal outcomes.

The Fed's entanglement with the government's budget and fiscal policies is unhealthy. Concerns about the budget's interest rate sensitivity may weigh on the Fed's monetary policy deliberations, while Congress' perceptions of the Fed may be influenced by the current reductions in net interest costs without considering the sizeable risks. The Fed's portfolio and net profits may be too enticing for fiscal policymakers to resist, and encourage budget practices that involve "sleight-of-hand" that affect the allocation of national resources. Redirecting the Fed's net profits from the Treasury's general fund into specific trust funds has no real effect on the government's finances, but such a strategy may be used by opportunistic fiscal policymakers to increase spending or reallocate resources to favorite programs. There is precedent for such behavior. In December 2015, the FAST Act, whose objective was to shore up the Highway Trust Fund, involved redirecting a small portion of the Fed's assets and some of its net income into the Highway Trust Fund. The Fed was compromised but did not protest the way this budgetary procedure used monetary policy for fiscal purposes.

The Fed's maintenance of a massive portfolio is ironic following the failed and costly excessive leverage strategies of the Government Sponsored Enterprises Fannie Mae and Freddie Mac and commercial banks and their roles in the financial crisis. The government and the Fed bailed out the GSEs and some large financial institutions, and forced them to raise capital and deleverage. Now it is the Fed that maintains an excessive balance sheet that provides large positive carry while understating the risks. The Fed's narrow capital base and high leverage are different in nature from the high leverage and low capital that used to characterize commercial banks, insofar as the Treasury is the Fed's capital backstop and large Fed losses would be met with an infusion of capital from the Treasury. But such an outcome may be just as costly or even more so in terms of the damage to the Fed's credibility.

The potential costs and risks of the Fed's reinvestment policy far outweigh the benefits. Since monetary policy has always affected the economy and inflation with lags, future risks are high. This is particularly true now, as pro-growth fiscal reform currently under consideration would raise interest rates and make the Fed's abnormally large balance sheet even more inconsistent with economic and inflation conditions and prospects.

The Fed rationalizes maintaining its outsized balance sheet based on the general notion that it helps maintain accommodative financial conditions. Bernanke has argued that it provides safe short-term assets to banks and combined with the Fed's expanded role in the RRP market reduces some risky

behavior and enhances financial stability. It is also argued that the large balance sheet and the use of RRPs improves the transmission of monetary policy. The driving force underlying these arguments a justification for keeping Fed's policies just the way they are presently. Basically, the Fed does not want to reverse the expanded scope of monetary policy, and it does not want to face the potentially negative market response to normalizing policy. These arguments ignore the risks of the Fed's enlarged footprint on financial markets and are particularly inappropriate in current circumstances.

At the press conference following the March 2017 FOMC meeting, Fed Chair Yellen recently emphasized the Federal funds rate as the "key active tool of policy" while putting the balance sheet into proper perspective: "while the balance sheet asset purchases are a tool that we could conceivably resort to if we found ourselves in a serious downturn where we were, again, up against the zero bound…It's not a tool that we could want to use as a routine tool of policy." A related issue is the effectiveness of QE in addressing a future economic downturn or crisis. Asset purchases likely would have a bigger impact on interest rates and the economy if the Fed's balance sheet had previously been reduced to a more normal size; for the same reason a normalization of interest rates is perceived to provide more flexibility for future monetary policy. So why is the Fed continuing to maintain its large balance sheet?

A strategy for unwinding the Fed's balance sheet. Establishing a strategy for a gradual reduction in the Fed's balance sheet and implementing it in a predictable manner is of overriding importance. The objective should be to reduce the excesses of the Fed's balance sheet and move it toward an all-Treasuries portfolio while maintaining a healthy banking system and facilitating the monetary policy transmission mechanism. Markets adjust to gradual and predictable changes. The Fed must avoid announcing a policy and then discretionarily changing it in response to concerns about every twist and turn of market sentiment and high frequency economic data. Such adjustments would only raise uncertainty and the costs of the transition. There is a debate about the "new normal" size of the Fed's balance sheet. Currency in circulation is now $1.5 trillion, up from $900 billion prior to the financial crisis. The economy is bigger and the banking system is bigger. Without identifying precisely an optimal size for the Fed's balance sheet, it is obvious that over $2 trillion in excess bank reserves is unnecessary and risky, and that any reasonable strategy for unwinding the excesses will take many years, and it is important to get the process started without delay.

As a first step, the Fed should announce that it will cease reinvesting maturing assets at some point in the near term. This would initiate a passive and predictable reduction in the Fed's portfolio involving magnitudes that are relatively small in the context of the overall Treasury and mortgage markets. Financial market participants are recommending that the Fed take a small step and reinvest all but a small portion of maturing assets and apply a different portion to Treasuries than MBS. This would unduly elongate the process, encourage further policy adjustments and fuel market speculation of future adjustments. The result would be maintaining current risks and raising uncertainty.

In the first three years of not reinvesting maturing assets, approximately $900 billion of the Fed's holdings of Treasuries would mature and not be replaced, but only a very small amount of MBS would mature (Charts 9-10). The actual duration of the Fed's MBS portfolio would be shortening very gradually as mortgages amortize, even with very low pre-payments. As a result, at the end of three years, the Fed's portfolio would consist of $1.5 trillion Treasuries and roughly $1.7 trillion of MBS.

Relative to the $14.3 trillion in outstanding publicly-held debt, the runoff of Fed holdings of Treasuries would have only a minor impact on financial flows. Banks would remain awash in excess reserves, and their lending would be unaffected. The impact on Treasury bond yields would likely be very modest, 25 basis points or less. My assessment is shared by a number of fixed income portfolio managers. The factors supporting this low interest rate impact are: the total net change in the Fed's Treasury holdings would be small relative to the size of market flows; the announcement effect of each of the Fed's succeeding QE asset purchase programs diminished and eventually reversed; the "Taper Tantrum" resulted from a surprise announcement by Bernanke and yields declined during the actual reduction in asset purchases; the announcement effect of each balance sheet policy change was temporary; and markets would realize that the balance sheet runoff would lower the extent to which the Fed would need to raise rates to achieve its long-run objective. This latter factor may contribute to a flatter Fed funds rate futures curve.

The impact on MBS yields would also be modest, according to market participants, but slightly larger than the impact on Treasuries. Markets would quickly realize that there would be only a small and measureable amount of MBS runoff for over a decade (stemming from the natural amortization of mortgages), but they may price in future policy shifts that would affect the Fed's MBS holdings.

Although mortgage yields may temporarily widen relative to Treasury yields, it is noteworthy that over the long run, their spread has not deviated significantly, despite the Fed's large MBS purchases.

Any interest rate impact would be sufficiently small that it would not harm the economy.   Remember, the outsized Taper Tantrum had little economic impact.

The second step, a long-term program of gradually swapping the Fed's holdings of MBS for shorter-maturity Treasuries, would be announced once the natural runoff in Treasuries is underway and before 2020. The Fed would sell approximately $150 billion per year of long maturity MBS and purchase the same amount of intermediate term Treasuries (3-7 year maturities) until the Fed's MBS holdings were reduced to zero. The Fed would continue to allow maturing assets to roll off its balance sheet. As this swap program proceeded, estimates of an appropriate range for the Fed's balance sheet would be refined.

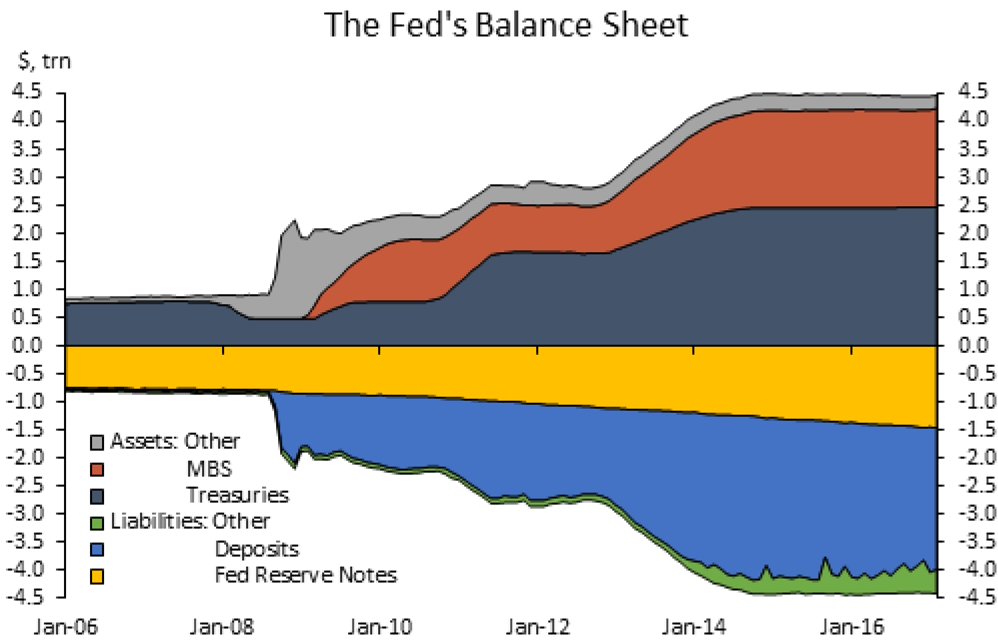
The announcement of this swap program likely would increase MBS yields and widen the yield spreads between MBS and Treasuries. Although the magnitude of the gradual MBS sales—roughly $12 billion per month--would be small relative to the $14.3 trillion mortgage market, the expectation of the Fed's ongoing sales would lift yields. The rise in mortgage rates would have some dampening impact on housing activity and home values from what would have occurred otherwise.

In the third step, as the Fed's balance sheet moves toward normalization, the Fed would slowly wind down its involvement with RRPs in the short-term funding market which would no longer be necessary.

The Fed's must consider the benefits and costs of its conduct of monetary policy over the longer run. As the Fed undertook its unprecedented policies during the financial crisis, it acknowledged that its emergency policies were temporary and inconsistent with its longer-run mandated objectives. As the recovery matured, however, the Fed expanded and extended these QE programs in an aggressive attempt to lower unemployment. Those polices did little to stimulate economic growth. In recent years, as the economy has continued to grow moderately, the Fed has delayed normalizing its balance sheet and has understated its costs and risks. It has developed arguments to justify that its unconventional policies are really conventional. This approach is misguided and should be replaced with a monetary policy strategy consistent with the Fed's long-run mandated objectives. At some time in the

future should a financial crisis and deep recession unfold and the Fed faced with the zero bound, it would have flexibility to reinstitute unconventional monetary policy.

Chart 1:



Source: Federal Reserve Board

Chart 2:

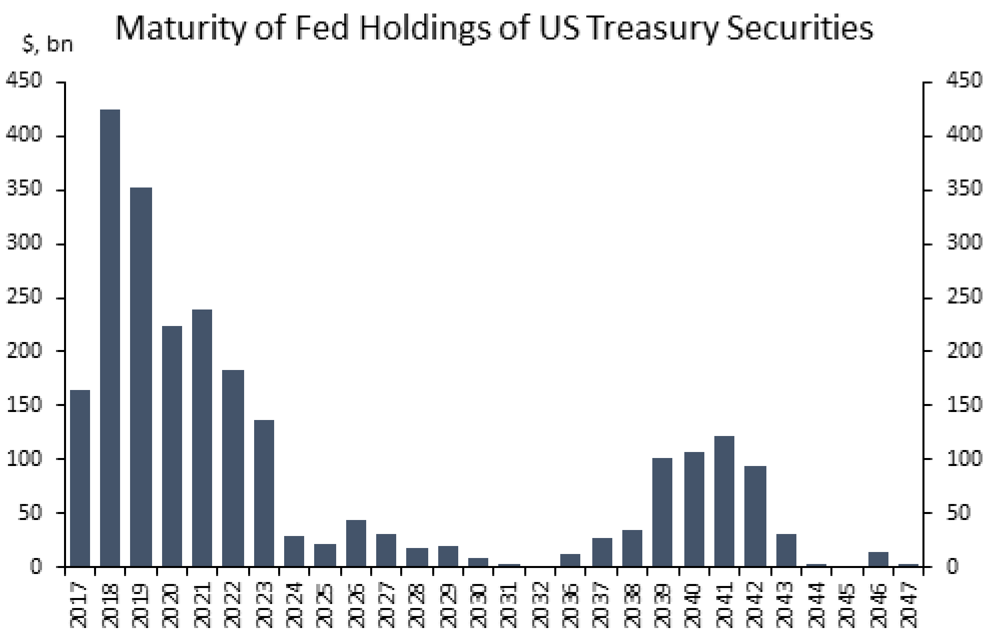


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Chart 3:

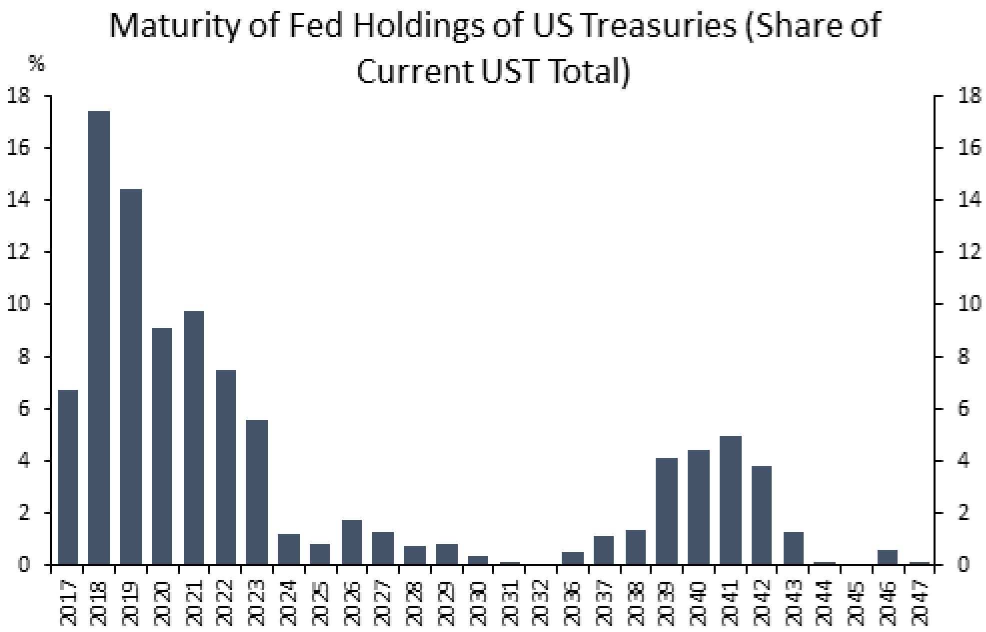

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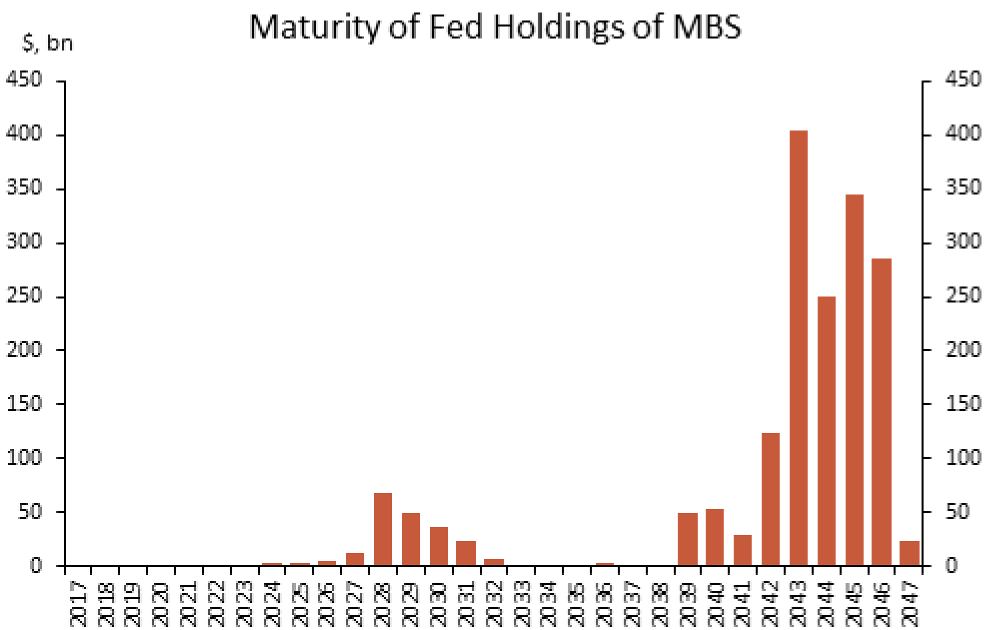
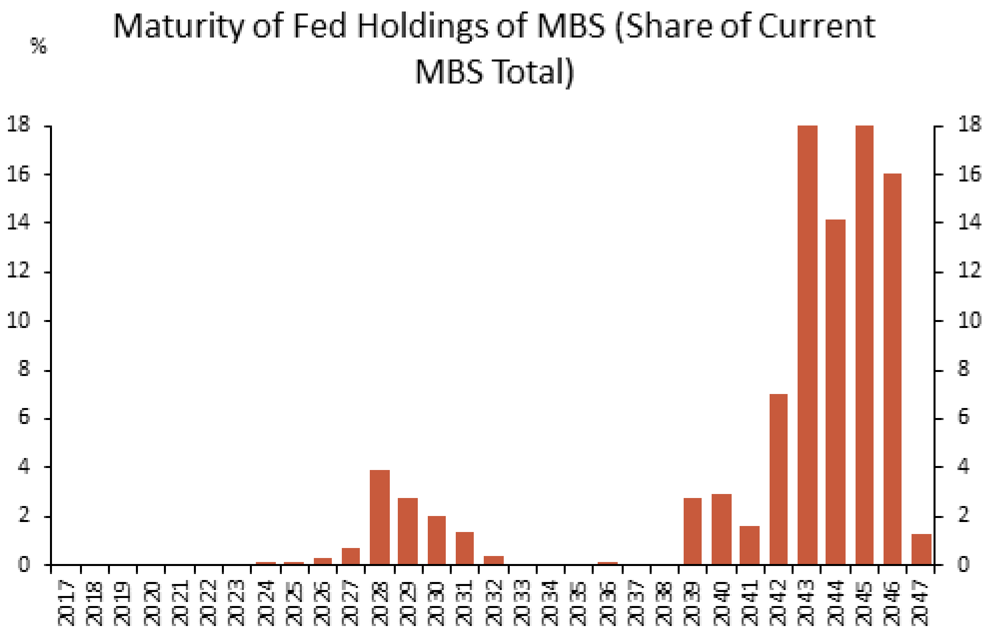
Chart 4:



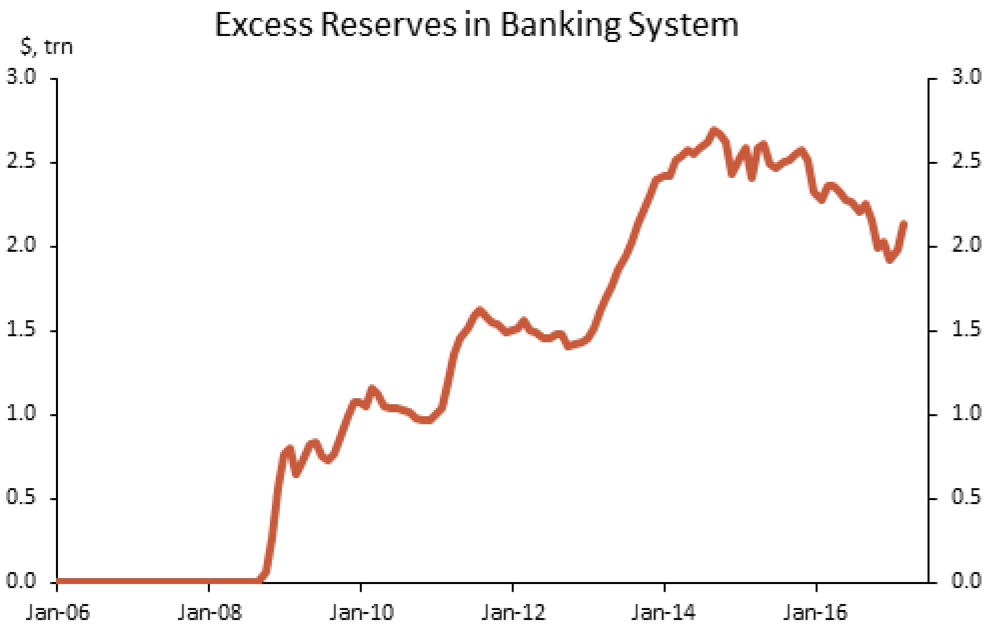
Source: Federal Reserve Board

Chart 5:



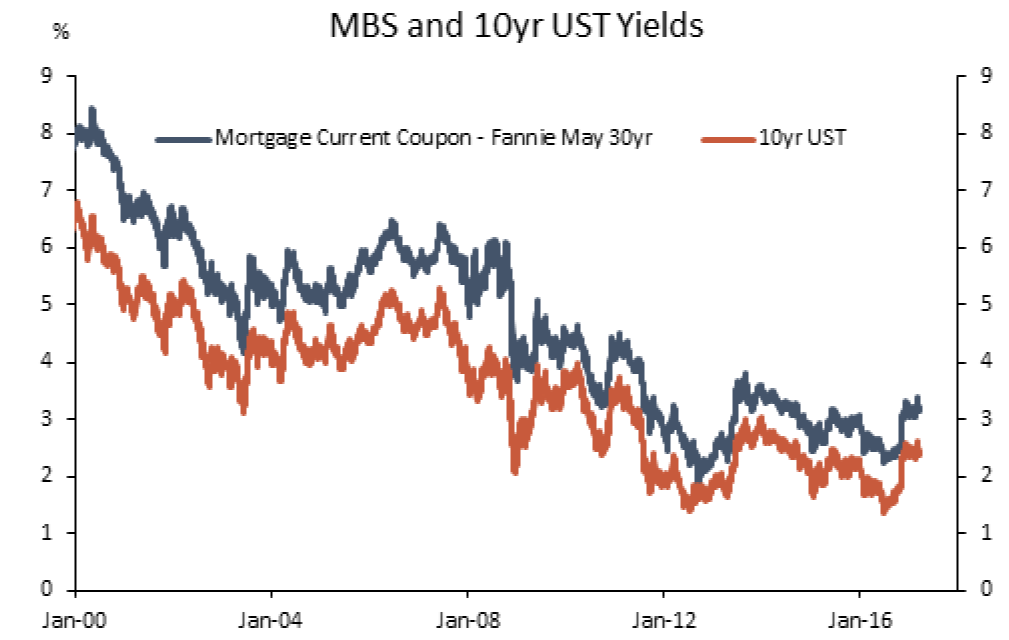
Source: Federal Reserve Board

Chart 6:



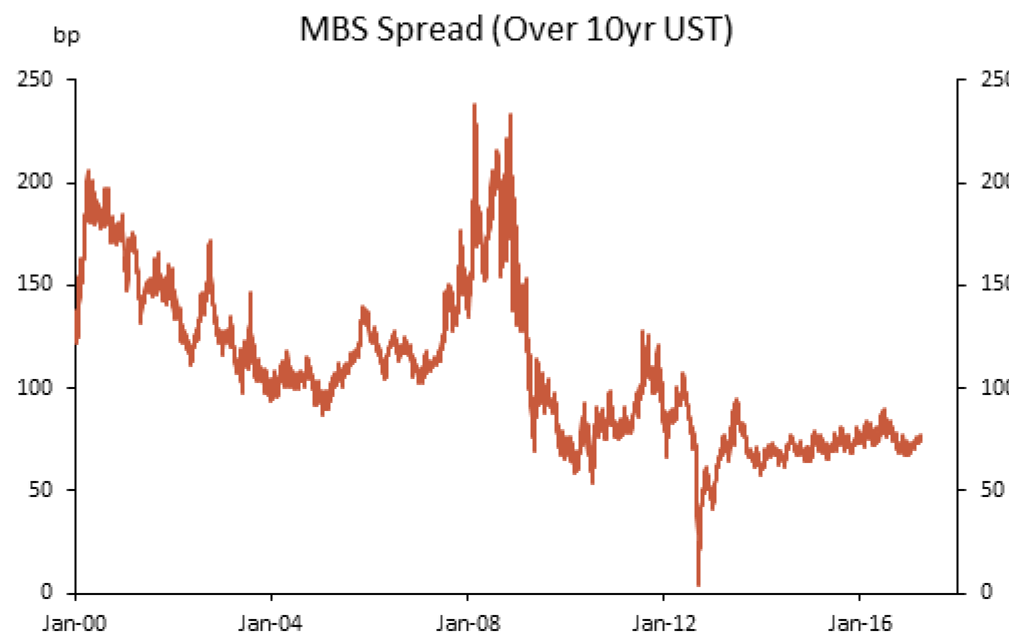
Source: Federal Reserve Board

Chart 7:



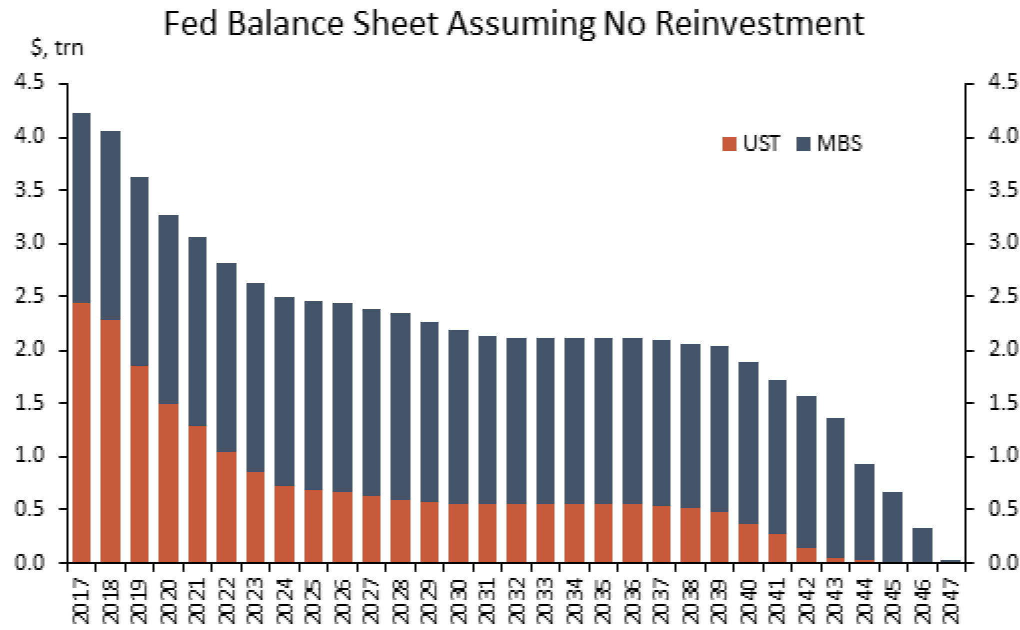
Source: Bloomberg, US Treasury

Chart 8:



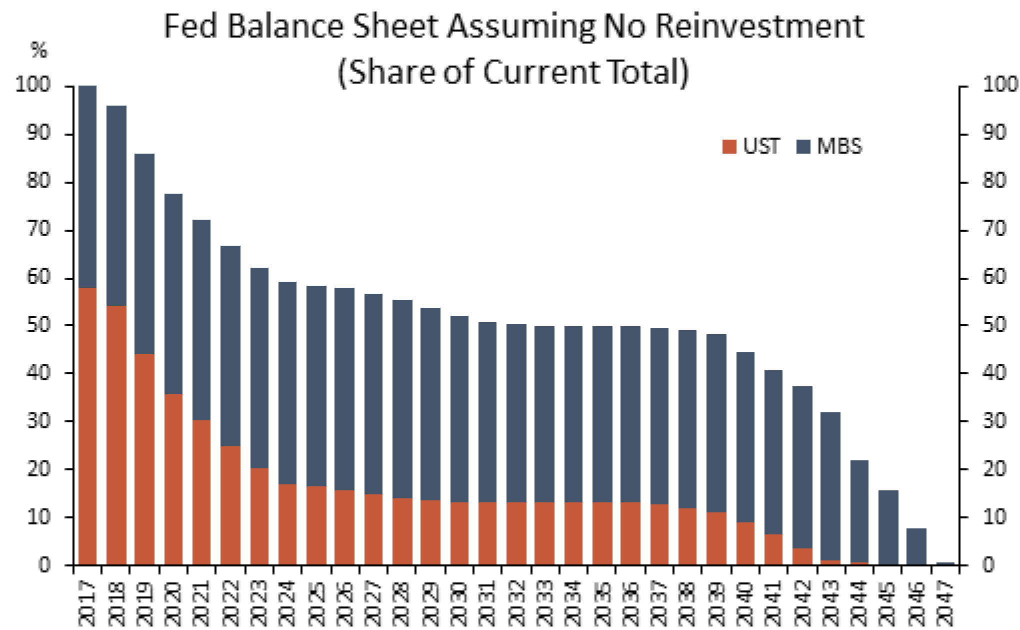
Source: Bloomberg, US Treasury

Chart 9:



Source: Federal Reserve Board

Chart 10:



Source: Federal Reserve Board