Prefatory Note

The attached document represents the most complete and accurate version available based on original files from the FOMC Secretariat at the Board of Governors of the Federal Reserve System.

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Class I FOMC – Restricted Controlled (FR)

Report to the FOMC on Economic Conditions and Monetary Policy

Book B

Monetary Policy Alternatives

December 7, 2017

Prepared for the Federal Open Market Committee
by the staff of the Board of Governors of the Federal Reserve System

Authorized for Public Release

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Monetary Policy Alternatives

Data received over the intermeeting period indicate that the labor market has continued to strengthen. The average pace of job gains in recent months has been solid and well above estimates of the pace sustainable over the longer run; the unemployment rate and some broader measures of labor underutilization have declined further. In addition, real GDP has been growing faster than the staff's estimate of potential GDP and is projected to continue to do so. However, 12-month headline and core inflation have continued to run below 2 percent, though they are projected to rise toward 2 percent once last spring's idiosyncratic decreases in the PCE price index drop out of the calculation.[1]

There are two key questions for the Committee at this meeting: First, whether the available information warrants raising the federal funds rate; and second, whether the economic outlook, and associated risks, indicate that the funds rate path suggested by recent FOMC communications remains appropriate or, instead, justify signaling a different outlook for the funds rate.

This Tealbook contains three alternative draft statements for the Committee's consideration. The three alternatives provide varying interpretations of the ongoing tension between the strength in the labor market and the softness in inflation. Correspondingly, the alternatives differ with regard to the federal funds rate path expected to be necessary to achieve the Committee's objectives.

Alternative B indicates that economic conditions are likely to warrant gradual increases in the federal funds rate and that the FOMC has decided to take the next step along that path by raising the target range 25 basis points. Alternative C also involves a 25 basis point increase in the target range for the funds rate, but it accompanies this announcement with an indication that a somewhat steeper path for the federal funds rate than previously expected will likely be needed to slow growth in economic activity and employment to a sustainable pace. In contrast, under Alternative A the Committee leaves the target range unchanged and emphasizes the possibility that the federal funds rate may need to remain steady, or even be lowered at coming meetings, in order to achieve the Committee's inflation objective.

[1] Note that the payroll report for November will be released on the Friday before the FOMC meeting and the consumer price index for November will be published on the second day of the meeting.

With respect to the specifics of the draft statement language:

- The three alternatives characterize incoming data as indicating solid growth in economic activity and a strengthening labor market—or a "tightening" labor market, in the case of Alternative C. In particular, all three note that, averaging through hurricane-related fluctuations, job gains have been solid, and the unemployment rate declined further.
- In describing the data on inflation and measures of inflation expectations, the three alternatives differ slightly.
    - Like the November FOMC statement, all three alternatives state that 12- month core and headline inflation have declined this year and are running below 2 percent. In addition, all three alternatives no longer mention the rise in gasoline prices after the hurricanes. Alternatives B and C also drop the description of core inflation as having "remained soft" in September. Alternative A explicitly contrasts strong labor market developments with "soft" inflation.
    - Alternative C describes market-based measures of inflation compensation as "little changed, on balance," whereas Alternatives A and B say these measures "remain low," as in the November FOMC statement.
- The outlook for economic activity and the labor market is somewhat different across the three alternatives, but the inflation outlook is similar. However, each alternative conditions its outlook on different expectations for monetary policy.
    - Alternative B indicates that labor market conditions will "remain strong," in contrast to the November postmeeting statement and many previous Committee statements indicating that labor market conditions will "strengthen somewhat further." Similarly, Alternative B says that monetary policy accommodation supports "strong" labor market conditions, rather than "some further strengthening in" the labor market. These changes suggest that the Committee no longer sees additional tightening in the labor market as necessary for achieving its employment and inflation objectives.
    - Alternative C conveys that "further gradual reductions in monetary policy accommodation" are expected to be required so that "growth in economic activity and employment will moderate to sustainable rates in the medium term." Alternative C, like Alternative B, states that "strong" labor market

conditions are being supported by monetary policy accommodation, dropping the reference to "some further strengthening in" the labor market.

- Alternative A focuses primarily on inflation, removing the sentence conveying that the Committee expects inflation "to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term." Instead, Alternative A indicates that inflation will "gradually rise" to 2 percent over the medium term, suggesting that the Committee now expects a slower convergence to 2 percent than previously. Moreover, Alternative A no longer conditions the Committee's outlook on "gradual adjustments in the stance of monetary policy," but rather on "appropriately accommodative monetary policy."
- All three alternatives note that "hurricane-related disruptions and rebuilding have affected economic activity, employment, and inflation in recent months," but emphasize that this summer's hurricanes "have not materially altered the outlook for the national economy."

- With respect to the current policy decision and the outlook for monetary policy:
  - Alternatives B and C raise the target range for the federal funds rate to 1¼ to 1½ percent. In contrast, Alternative A maintains the current target range while the Committee is "assessing incoming information that bears on the outlook for inflation."
  - Alternative B continues to signal an expectation that "gradual increases" in the federal funds rate will be appropriate. Alternative C instead conveys an expectation of "further gradual increases," while Alternative A removes the sentence describing the Committee's expectation of gradual increases in the federal funds rate.
  - Alternative A no longer describes how "the timing and size of future adjustments" to the target range will be determined; instead, it focuses on how the FOMC will determine "whether" to adjust the target range. This provides an additional signal that the federal funds rate may need to remain on hold at coming meetings—or even be reduced—in order to achieve the Committee's objectives.

Alternatives

November 2017 FOMC Statement

1. Information received since the Federal Open Market Committee met in September indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate despite hurricane-related disruptions. Although the hurricanes caused a drop in payroll employment in September, the unemployment rate declined further. Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters. Gasoline prices rose in the aftermath of the hurricanes, boosting overall inflation in September; however, inflation for items other than food and energy remained soft. On a 12-month basis, both inflation measures have declined this year and are running below 2 percent. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding will continue to affect economic activity, employment, and inflation in the near term, but past experience suggests that the storms are unlikely to materially alter the course of the national economy over the medium term. Consequently, the Committee continues to expect that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace, and labor market conditions will strengthen somewhat further. Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.

3. In view of realized and expected labor market conditions and inflation, the Committee decided to maintain the target range for the federal funds rate at 1 to 1-1/4 percent. The stance of monetary policy remains accommodative, thereby supporting some further strengthening in labor market conditions and a sustained return to 2 percent inflation.

4. In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected inflation developments relative to its symmetric inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run.

However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

5. The balance sheet normalization program initiated in October 2017 is proceeding.

DRAFT OF DECEMBER 2017 ALTERNATIVE A

1. Information received since the Federal Open Market Committee met in ~~September~~ **November** indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate ~~despite hurricane-related disruptions~~. ~~Although the hurricanes caused a drop in payroll employment in September~~ **Averaging through hurricane-related fluctuations, job gains have been solid**, **and** the unemployment rate declined further. Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters. ~~Gasoline prices rose in the aftermath of the hurricanes, boosting overall inflation in September; however, inflation for items other than food and energy~~ **In contrast, inflation has** remained soft. On a 12-month basis, both **overall** inflation ~~measures~~ **and inflation for items other than food and energy** have declined this year and are running below 2 percent. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding ~~will continue to~~ **have** affect**ed** economic activity, employment, and inflation in ~~the near term,~~ **recent months** but ~~past experience suggests that the storms are unlikely to~~ **have not** materially alter**ed** the ~~course of~~ **outlook for** the national economy ~~over the medium term~~. ~~Consequently,~~ The Committee ~~continues to~~ expect**s** that, with ~~gradual adjustments in the stance of~~ **appropriately accommodative** monetary policy**, inflation will gradually rise to the Committee's 2 percent objective over the medium term**, economic activity will expand at a moderate pace, and labor market conditions will strengthen somewhat further. ~~Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term.~~ Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.

3. In view of realized and expected labor market conditions and inflation, the Committee decided to maintain the target range for the federal funds rate at 1 to 1-1/4 percent **while assessing incoming information that bears on the outlook for inflation**. The stance of monetary policy remains accommodative, thereby supporting some further strengthening in labor market conditions and a sustained return to 2 percent inflation.

4. In determining ~~the timing and size of future~~ **whether to** adjust~~ments to~~ the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation

pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected inflation developments relative to its symmetric inflation goal. ~~The Committee expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.~~

~~5. The balance sheet normalization program initiated in October 2017 is proceeding.~~

DRAFT OF DECEMBER 2017 ALTERNATIVE B

1. Information received since the Federal Open Market Committee met in ~~September~~ **November** indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate ~~despite hurricane-related disruptions~~. ~~Although the hurricanes caused a drop in payroll employment in September~~ **Averaging through hurricane-related fluctuations, job gains have been solid**, **and** the unemployment rate declined further. Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters. ~~Gasoline prices rose in the aftermath of the hurricanes, boosting overall inflation in September; however, inflation for items other than food and energy remained soft.~~ On a 12-month basis, both **overall** inflation ~~measures~~ **and inflation for items other than food and energy** have declined this year and are running below 2 percent. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding ~~will continue to~~ **have** affect**ed** economic activity, employment, and inflation in ~~the near term,~~ **recent months** but ~~past experience suggests that the storms are unlikely to~~ **have not** materially alter**ed** the ~~course of~~ **outlook for** the national economy ~~over the medium term~~. Consequently, the Committee continues to expect that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace~~,~~ and labor market conditions will ~~strengthen somewhat further~~ **remain strong**. Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.

3. In view of realized and expected labor market conditions and inflation, the Committee decided to ~~maintain~~ **raise** the target range for the federal funds rate ~~at 1~~ to 1-1/4 **to 1-1/2** percent. The stance of monetary policy remains accommodative, thereby supporting ~~some further strengthening in~~ **strong** labor market conditions and a sustained return to 2 percent inflation.

4. In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected inflation developments relative to its symmetric inflation goal. The Committee

expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

5. ~~The balance sheet normalization program initiated in October 2017 is proceeding.~~

DRAFT OF DECEMBER 2017 ALTERNATIVE C

1. Information received since the Federal Open Market Committee met in ~~September~~ **November** indicates that the labor market has continued to ~~strengthen~~ **tighten** and that economic activity has been rising at a solid rate ~~despite hurricane-related disruptions~~. ~~Although the hurricanes caused a drop in payroll employment in September~~ **Averaging through hurricane-related fluctuations, job gains have been solid**, **and** the unemployment rate declined further. Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters. ~~Gasoline prices rose in the aftermath of the hurricanes, boosting overall inflation in September; however, inflation for items other than food and energy remained soft.~~ On a 12-month basis, both **overall** inflation ~~measures~~ **and inflation for items other than food and energy** have declined this year and are running below 2 percent. Market-based measures of inflation compensation ~~remain low;~~ **and** survey-based measures of longer-term inflation expectations are little changed, on balance.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding ~~will continue to~~ **have** affect**ed** economic activity, employment, and inflation in ~~the near term,~~ **recent months** but ~~past experience suggests that the storms are unlikely to~~ **have not** materially alter**ed** the ~~course of~~ **outlook for** the national economy ~~over the medium term~~. ~~Consequently,~~ The Committee ~~continues to~~ expect**s** that, with **further** gradual ~~adjustments in the stance of~~ **reductions in** monetary policy **accommodation**, **growth in** economic activity **and employment** will ~~expand at a~~ moderate **to sustainable rates in the medium term** ~~pace, and labor market conditions will strengthen somewhat further~~. Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.

3. In view of realized and expected labor market conditions and inflation, the Committee decided to ~~maintain~~ **raise** the target range for the federal funds rate ~~at 1~~ to 1-1/4 **to 1-1/2** percent. The stance of monetary policy remains accommodative, thereby supporting ~~some further strengthening in~~ **strong** labor market conditions and a sustained return to 2 percent inflation.

4. In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected

inflation developments relative to its symmetric inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant **further** gradual increases in the federal funds rate~~; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run~~. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

~~5. The balance sheet normalization program initiated in October 2017 is proceeding.~~

Alternatives

THE CASE FOR ALTERNATIVE B

Economic Conditions and Outlook

- Available data indicate that the labor market has continued to strengthen.
    - Payroll gains averaged 160,000 per month from August through October, only slightly below their average pace earlier in the year. Adjusting for the staff's estimates of hurricane-related effects, average payroll gains over those three months would have been roughly the same.
    - The unemployment rate ticked down to 4.1 percent in October, below all FOMC participants' estimates of the longer-run normal rate of unemployment in the September Summary of Economic Projections (SEP) and about ¾ percentage point lower than one year earlier. There were also declines in October in the share of workers who report being part-time for economic reasons and the share of the population out of the labor force but who report wanting a job.
    - Despite the strong pace of job gains and the decline in unemployment this year, policymakers may not yet see signs of labor market overheating. In particular, compensation data point to little acceleration in wages. Thus, policymakers may judge that upward pressures on wages from a tightening labor market are likely to be moderate over the near term.
- Although headline and core inflation have continued to run below 2 percent, they are still projected to rise toward 2 percent next year.
    - Over the 12 months ending in October, core PCE inflation was 1.4 percent. The staff projects that 12-month core PCE inflation will rise to 1.7 percent in March, when the unusual decline in core prices seen in March 2017 drops out of the 12-month window.
    - Twelve-month headline PCE inflation was 1.6 percent in October and the staff expects it to fluctuate between 1.5 and 1.8 percent in the next several months, supported by recent increases in oil and gasoline prices.
    - The staff forecast of core inflation in 2018 is 1.8 percent, while the median projection in the September SEP was 1.9 percent. These forecasts are fairly close to the Committee's longer-run objective of 2 percent headline PCE inflation.

- GDP growth in the second and third quarter was solid and broad-based, supported by increases in consumer spending and business investment. The staff forecasts GDP growth at an annual rate of 2¼ percent in the fourth quarter and 2½ percent next year—in both cases in excess of the staff estimate and median September SEP estimate of longer-run potential growth.
- Survey measures of inflation expectations and the TIPS-based measure of inflation compensation 5 years to 10 years ahead have continued to be stable over the intermeeting period.
- This summer's hurricanes have left little imprint on the outlook for the national economy. A variety of indicators—including job gains, initial claims for unemployment insurance, and industrial production—show that economic activity bounced back from hurricane-related disruptions.

Policy Strategy

- Policymakers may see strong recent readings on the labor market as reinforcing their expectation that, with gradual increases in the federal funds rate, activity will expand at a moderate pace and inflation will return to 2 percent over the medium term. In addition, they may anticipate that 12-month headline and core inflation will soon run closer to 2 percent as the effects of the factors currently holding down core inflation fade. Thus, if the November employment and CPI reports are broadly in line with their expectations, policymakers may judge that another step in removing accommodation is warranted at this meeting.
- Policymakers may see two-sided risks to the inflation outlook and therefore judge it prudent to continue on their path of gradual removal of accommodation despite low current inflation readings.
    - Policymakers may view the economy as near or already somewhat beyond full employment and they might anticipate that the labor market will continue to tighten next year. Thus, they may see a risk that labor market tightness will push up wage and price inflation next year more than they currently anticipate.
    - However, inflation has been persistently soft. If incoming data reduce policymakers' confidence that inflation will return to 2 percent over the medium term even with gradual increases in the federal funds rate, a shallower path of rate hikes next year might become appropriate.

 - Policymakers may view Alternative B as preserving flexibility to respond appropriately to developments bearing on the outlook for inflation.

- Policymakers may wish to acknowledge the strength in the labor market and signal that the FOMC no longer sees additional tightening in the labor market as necessary to achieve its employment and inflation objectives. However, with wage growth having picked up only gently over the past few years, and with job gains having moderated during the same period, policymakers may see no need to suggest at this meeting that the FOMC is seeking less-tight labor market conditions.

- As shown in the "Monetary Policy Expectations and Uncertainty" box, a straight read of quotes on federal funds futures contracts implies an approximately 95 percent probability that the Committee will raise the target range at its December meeting. Thus, under current market expectations, a statement like Alternative B that increases the target range but makes no major revisions to the outlook for monetary policy is unlikely by itself to generate an appreciable response in financial markets.

THE CASE FOR ALTERNATIVE C

Economic Conditions and Outlook

- Policymakers may judge that the labor market is already appreciably beyond full employment and that the economy retains significant momentum.
    - The unemployment rate declined in October to 4.1 percent, a level below all FOMC participants' estimates of its longer-run normal level in the September Summary of Economic Projections. The broader U-6 unemployment rate also declined in October, reaching its lowest level since 2001.
    - The average pace of payroll gains this year and in recent months has significantly exceeded the pace commonly regarded as necessary to absorb new entrants (and reentrants) to the labor force and maintain a constant unemployment rate over the medium run.
    - The staff forecasts that average payroll gains will slow only gradually over the next three years. Accordingly, the staff expects that the unemployment rate will continue to decline, reaching 3.5 percent in 2019 and remaining at that level in 2020. An unemployment rate that low has not been reached for almost half a century.
    - Other indicators pointing to an unsustainably tight labor market include job openings, survey measures of job availability and the difficulty of hiring

Monetary Policy Expectations and Uncertainty

Over the intermeeting period, market participants appeared to have become virtually certain that the Committee will announce a 25-basis-point rate hike at the December FOMC meeting. A straight read of quotes on federal funds futures contracts implies that investors attach a probability of about 95 percent to such an outcome, 10 percentage points higher than at the time of the previous meeting (the black line in figure 1). The probability of a December rate increase is similar to the estimated probabilities of a rate increase just before the December FOMC meetings in 2015 and 2016 (the green and red lines, respectively). Respondents to the most recent Desk surveys on average assigned similarly high odds to a December rate increase.

As shown in figure 2, conditional on a 25 basis point rate increase in December, and assuming zero term premiums, federal funds futures quotes imply that market participants assign a probability of close to 60 percent to a subsequent rate hike by the March 2018 FOMC meeting, up from about 45 percent at the time of the October–November FOMC meeting. Of note, adjusting for term premiums using a staff term structure model currently implies an 88 percent probability (not shown) of an additional rate increase by the March meeting.[1]

Looking further ahead, the probability distribution of the level of the federal funds rate at the end of 2018 implied by options quotes, assuming zero term premiums, shifted somewhat to the right over the intermeeting period (figure 3). That distribution now indicates that market participants attach the highest odds to the federal funds rate falling into the 1¾ to 2 percent range. Averaging across respondents, the distribution from the Desk's December surveys also shifted to the right (figure 4).

The forward rates implied by OIS quotes (the black line in figure 5) moved up over the intermeeting period, increasing by 13, 9, and 4 basis points at the end of 2018, 2019, and 2020, respectively. Under the assumption of zero term premiums, these market-implied forward rates translate to an expected federal funds rate of about 1.8 percent at the end of 2018 and around 2 percent at the end of both 2019 and 2020. The expected path of the federal funds rate with adjustments for term premiums as estimated by a staff term structure model (the light-blue line in figure 5) is little changed since the October–November FOMC meeting. The model-based path continues to suggest a faster pace of rate increases than the unadjusted path, with an expected federal funds rate of about 2.3 percent at the end of 2018 and about 3 percent at the end of 2020. The model-based path is similar to the Committee's September median SEP

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[1] Also of note, 33 out of 47 respondents in the Desk's December surveys viewed a sequence of a December rate hike followed by another rate increase at the March 2018 meeting as the most likely outcome.

projections (the dark blue dots) and to the median modal path from the Desk's latest survey (the brown line).

The staff term structure model assumes that shocks to the economy are normally distributed and therefore implies mean and modal short rate paths that largely coincide when the short rate is sufficiently away from the zero lower bound (ZLB). However, the survey-implied mean path (the golden squares in figure 5), which is constructed from respondents' probability distributions under certain assumptions, lies noticeably below the survey-implied modal path and is close to the unadjusted path implied by OIS quotes, suggesting that investors perceive risks to the outlook to be skewed towards the downside. Of note, the December survey-implied mean path moved up somewhat from the previous survey, about in line with the intermeeting changes in the unadjusted path for the federal funds rate. The median respondent to the December Desk surveys continued to attach about 20 percent probability to a return to the ZLB sometime over the next three years, unchanged from the previous survey.

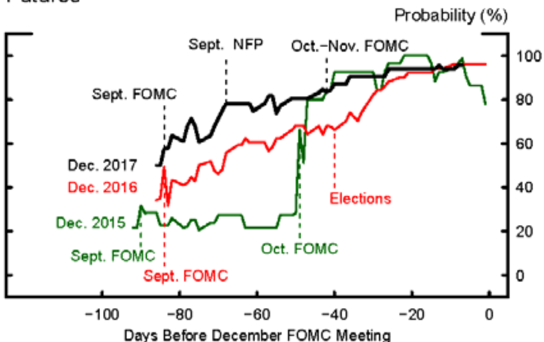
The Desk's surveys pointed to only a modest increase in respondents' expectations for monetary policy rates over the next three years, even as respondents revised up their projections for the U.S. federal fiscal deficit over the same period, with several citing an increased likelihood of tax reform legislation as the reason for the revision. As shown by the red bars in figure 6, the median respondent to the Desk's December surveys projected that the budget deficit will rise to 3.5, 4 and 4.25 percent of GDP by the end of fiscal year 2018, 2019, and 2020, respectively. These medians are 0.1, 0.3 and 0.5 percentage point higher for those three years than reported in the October surveys (the orange bars).

In the Desk's December surveys, respondents were also asked to decompose the flattening of the Treasury yield curve since December 2015—measured as the 100 basis point narrowing in the spread between the 2- and 30-year yield—into several components and to rate the importance of various factors in explaining this change in the spread.[2] On average, respondents attributed close to 70 basis points of the decline in the spread to an increase in market expectations for the average effective federal funds rate over the next 2 years and about 25 basis points to a decline in the 30-year nominal term premium. Overall, respondents did not appear to view the decline in the slope of the curve as signaling a heightened probability of a near-term recession.

[2] The box "The Flattening of the U.S. Yield Curve since December 2015" in the Financial Market Developments chapter of the Tealbook put the flattening of the Treasury yield curve into historical perspective, discussed factors that appear to explain the movements in short and longer-dated yields, and described the signal that may be taken for the near term growth outlook.

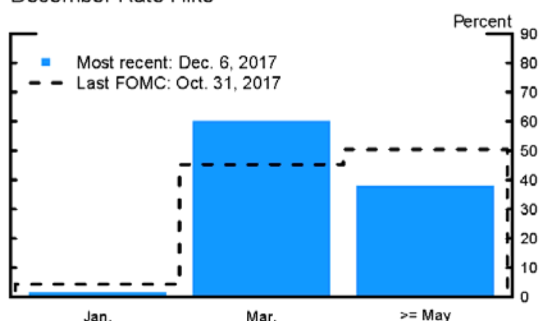
Alternatives

Figure 1: Market−Implied Probability of the Next Rate Increase in December Implied by Federal Funds Futures



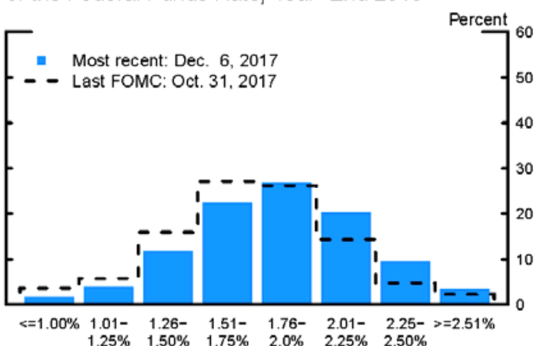
Note: Probabilities implied by a binomial tree fitted to settlement prices on fed funds futures contracts, assuming the next policy action is either no change or a 25 basis point increase in rates and no intermeeting moves. The effective federal funds rate until the next FOMC meeting is assumed to be equal to the observed rate on the previous non−month−end business day.
Source: CME Group; Federal Reserve Board staff estimates.

Figure 2: Market−Implied Probability Distribution of the Timing of Next Rate Increase Conditional on a December Rate Hike



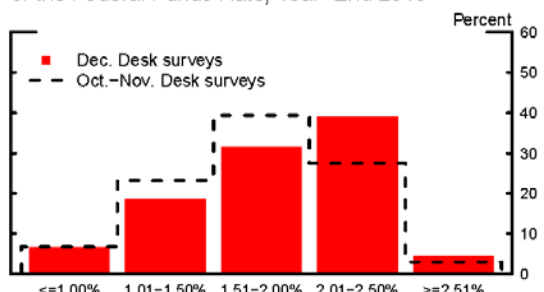
Note: Probabilities implied by a binomial tree fitted to settlement prices on fed funds futures contracts, assuming the next policy action is either no change or a 25 basis point increase in rates and no intermeeting moves. The effective federal funds rate until the next FOMC meeting is assumed to be equal to the observed rate on the previous non−month−end business day.
Source: CME Group; Federal Reserve Board staff estimates.

Figure 3: Market−Implied Probability Distribution of the Federal Funds Rate, Year−End 2018



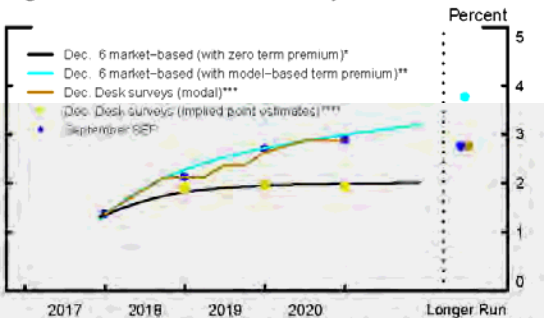
Note: Estimated from Eurodollar futures options, accounting for the differences in the levels and option−implied volatilities of LIBOR and the federal funds rate, but not adjusted for risk premiums.
Source: CME Group; Federal Reserve Board staff estimates.

Figure 4: Desk Survey Probability Distribution of the Federal Funds Rate, Year−End 2018



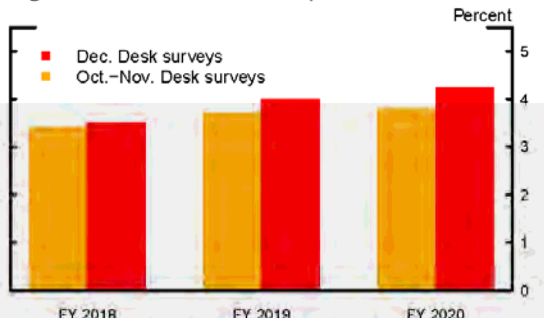
Note: Average unconditional probabilities across primary dealers and market participants for different ranges of the federal funds rate at the end of 2018.
Source: FRBNY.

Figure 5: Federal Funds Rate Projections



* Estimated using overnight index swap quotes with a spline approach and no term premium.
** Estimated using a term structure model maintained by Board staff and adjusted for term premiums. The longer−run model−implied forecast is for the expected federal funds rate 5 to 10 years ahead.
*** Median of the respondents' modal paths for the federal funds rate.
**** Estimated from respondents' conditional year−end probability distributions.
Source: Bloomberg; Federal Reserve Board staff estimates; FRBNY; Summary of Economic Projections.

Figure 6: U.S. Fiscal Deficit Expectations



Note: Median of respondents' modal forecasts for the U.S. federal fiscal deficit as a percentage of GDP for fiscal years 2018 through 2020.
Source: Surveys of Primary Dealers and Market Participants.

workers, and initial claims for unemployment insurance. Thus, even if the November employment report is not as strong as the October report, the cumulative strengthening already observed will likely still point to a tight and tightening labor market.

- Twelve-month headline and core PCE inflation, which have been running about 1½ percent in recent months, are expected to rise to 1¾ percent next spring when the large drop in the price of cell phone service observed last March drops out of the 12- month calculation. Thus, policymakers may see the projected inflation rate as not very far from the Committee's longer-run objective for headline inflation. In the near term, recent increases in oil and gasoline prices are likely to boost headline inflation. Moreover, policymakers may anticipate that a prolonged period of labor market tightness will put sustained upward pressure on wages.

- Despite three increases in the federal funds rate target range since December 2016, financial conditions remain broadly accommodative. The stock market has registered additional gains in recent months from already high levels, while stock market volatility has been very low. Spreads on investment-grade and high-yield bonds have declined over the past year and are roughly in line with their pre-crisis levels.

- Policymakers may see notable upside risks to the outlook for economic activity, resource utilization and inflation.
    - Tax policy changes may soon be enacted that could imply a larger fiscal stimulus than assumed by the staff.
    - Measures of consumer and business sentiment, including Michigan consumer sentiment, the ISM manufacturing index, and the Philadelphia Fed future capital spending index, have been extremely buoyant; to the extent that such "soft indicators" are discounted in the formulation of point forecasts, they suggest an upside risk to aggregate demand.

Policy Strategy

- Despite three rate hikes since December 2016 and recent FOMC statements noting an expectation of additional gradual hikes, the labor market and activity continue to expand more rapidly than is sustainable in the longer run, with the labor market already beyond full employment. Meanwhile, broad financial conditions have remained quite accommodative. Policymakers may consequently be concerned that reducing accommodation at the very gradual pace that market participants anticipate

poses significant upside risks to inflation and appreciably raises the likelihood that policy may need to be tightened abruptly in the future.

- Policymakers may view valuation pressures together with low volatility in financial markets as encouraging or reflecting excessive risk-taking. Policymakers might be concerned that significant undershooting of the longer-run normal rate of unemployment together with loose financial conditions could lead to a buildup of financial vulnerabilities. Policymakers may see such a vulnerability, for example, in historically high levels of leverage in the nonfinancial corporate sector, noting that interest expense ratios could rise rapidly if monetary policy needed to be tightened quickly.
- For all of the above reasons, policymakers may opt to increase the federal funds rate at this meeting and communicate that further gradual increases are expected to be necessary to moderate growth in economic activity to a sustainable pace.
- Both financial market quotes and responses to the Desk's latest surveys suggest that financial market participants view an increase in the federal funds rate at this meeting as almost certain. Thus, the increase in the federal funds rate in Alternative C is unlikely on its own to generate a large response in financial markets. However, market participants likely would infer from Alternative C's adjustments to the economic and policy outlook that the Committee foresees a somewhat steeper path than before for the federal funds rate as appropriate to moderate the growth of economic activity. Assuming there were broadly corresponding changes in the December SEP, medium and long-term real interest rates would likely rise, as would market expectations for the near-term policy rate path. In addition, inflation compensation and stock prices would likely fall, unless investors viewed Alternative C as a very upbeat signal regarding the strength of the U.S. expansion.

The Case for Alternative A

Economic Conditions and Outlook

- On a 12-month basis, both headline and core inflation continue to run notably below the Committee's 2 percent objective. Twelve-month core PCE inflation including only market-based prices was 1.1 percent in October; the 12-month trimmed mean inflation rate calculated by the Federal Reserve Bank of Dallas remained at 1.6 percent. Policymakers may see these readings as indicating that inflation this year has been held down by persistent factors, at least in part.

- One factor holding down inflation may be that the labor market has not yet reached maximum sustainable employment. The unemployment rate has declined about ¾ percentage point this year and average job gains have been solid; nonetheless, 12-month inflation has remained soft.
    - The employment-to-population ratio for prime-age workers remains below its pre-recession level, suggesting that further labor market strengthening may be needed to bring inflation back to 2 percent on a sustainable basis. Moreover, a strong labor market might continue to draw workers back into the labor market without notable wage acceleration.
- The Michigan survey of inflation expectations over the next five to ten years ticked down in November, extending the downward trend over the past four years. Market-based measures of inflation compensation 5 to 10 years ahead were little changed over the intermeeting period and remain low by historical standards.
    - The probability that CPI inflation will notably exceed 2 percent over the medium term, based on inflation caps and floors, has shifted down over the past year. In contrast, the probability that CPI inflation will be significantly below 2 percent over the medium term is roughly unchanged from a year ago.
- The evidence discussed in the "Monetary Policy Strategies" section of Tealbook A suggests that the balance sheet normalization initiated in October is likely to have roughly the same macroeconomic effects as adding 50 basis points to the federal funds rate over the next five years. Thus, even with the federal funds rate remaining unchanged, monetary policy accommodation is being removed through balance sheet normalization.

Policy Strategy

- Policymakers may be concerned that inflation expectations have already declined notably in recent years and could drift down further if inflation continues to run persistently below 2 percent.
    - While the "Lower Inflation Expectations" scenario shown in the "Risks and Uncertainty" section of Tealbook A contemplates inflation expectations ¼ percentage point below the staff's baseline estimates, policymakers may see the downside risk to inflation as much greater, especially if an adverse shock to aggregate demand necessitates bringing the federal funds rate back to its effective lower bound.

- Since the last recession, 12-month core PCE inflation has exceeded 2 percent for only four months. Policymakers may favor a statement like Alternative A in order to reduce the risk that the public comes to see 2 percent inflation as a ceiling rather than the Committee's symmetric objective. In addition, policymakers may judge that the past decade's experience of low inflation makes it unlikely that the opposite risk—that inflation expectations rise significantly—would become a reality.

- Policymakers may view any buildup of risks to financial stability as limited, partly reflecting a judgment that the banking system is well capitalized and that broad measures of leverage and credit growth remain contained. In addition, policymakers may see some scope to address financial stability concerns through macroprudential policies and supervisory actions that target specific risks.

- On the basis of these arguments, policymakers may want to communicate that an increase in the target range for the federal funds rate is not warranted at this meeting and that future increases are unlikely until the Committee is more confident that the recent softness in inflation is being reversed. They may also want to suggest that the Committee would consider reducing the target range if inflation does not increase as expected. Policymakers may therefore prefer a statement along the lines of Alternative A.

- Financial market quotes indicate that market participants see an increase in the federal funds rate at this meeting as a near certainty. Thus, a statement along the lines of Alternative A would likely be regarded as a significant change in the Committee's policy outlook. If investors inferred that a more accommodative stance of policy is required to return inflation to 2 percent, then medium- and longer-term real interest rates would likely fall, as would market expectations for the near-term policy rate path. Such a market response may well be a goal of the Committee if it adopts a statement like Alternative A. In addition, inflation compensation and stock prices would likely rise, unless investors viewed Alternative A as a sharply negative signal regarding the strength of aggregate demand or the risks to the economic outlook.

IMPLEMENTATION NOTE

If the Committee decides to raise the target range for the federal funds rate, an implementation note that communicates the changes the Federal Reserve decided to make to its administered rates—the interest rates on required and excess reserves, the offering rate on overnight reverse repurchase agreements, and the primary credit rate—would be issued. If the Committee decides to maintain the current target range for the federal funds rate, an implementation note that indicates no change in these three policy tools would be issued. Draft implementation notes that correspond to these two cases appear on the following pages; struck-out text indicates language deleted from the November directive and implementation note, bold red underlined text indicates added language, and blue underlined text indicates text that links to websites.

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Implementation Note for December 2017 Alternative A

Release Date: December 13, 2017

Decisions Regarding Monetary Policy Implementation

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on ~~November 1~~ **December 13**, 2017:

- The Board of Governors of the Federal Reserve System voted **[** unanimously **]** to maintain the interest rate paid on required and excess reserve balances at 1.25 percent.

- As part of its policy decision, the Federal Open Market Committee voted to authorize and direct the Open Market Desk at the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the System Open Market Account in accordance with the following domestic policy directive:

> "Effective ~~November 2~~ **December 14**, 2017, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 1 to 1- 1/4 percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 1.00 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.
>
> The Committee directs the Desk to continue rolling over at auction the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during ~~each calendar month~~ **December** that exceeds $6 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during ~~each calendar month~~ **December** that exceeds $4 billion. **Effective in January, the Committee directs the Desk to roll over at auction the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during each calendar month that exceeds $12 billion, and to reinvest in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds $8 billion.** Small deviations from these amounts for operational reasons are acceptable.

> The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

- In a related action, the Board of Governors of the Federal Reserve System voted unanimously to approve the establishment of the primary credit rate at the existing level of 1.75 percent.

This information will be updated as appropriate to reflect decisions of the Federal Open Market Committee or the Board of Governors regarding details of the Federal Reserve's operational tools and approach used to implement monetary policy.

More information regarding open market operations and reinvestments may be found on the Federal Reserve Bank of New York's website.

Implementation Note for December 2017 Alternatives B and C

Release Date: December 13, 2017

Decisions Regarding Monetary Policy Implementation

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on ~~November 1~~ **December 13**, 2017:

- The Board of Governors of the Federal Reserve System voted **[** unanimously **]** to ~~maintain~~ **raise** the interest rate paid on required and excess reserve balances ~~at 1.25~~ **to 1.50** percent**, effective December 14, 2017**.

- As part of its policy decision, the Federal Open Market Committee voted to authorize and direct the Open Market Desk at the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the System Open Market Account in accordance with the following domestic policy directive:

  "Effective ~~November 2~~ **December 14**, 2017, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of ~~1~~ **1-1/4** to ~~1-1/4~~ **1-1/2** percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of ~~1.00~~ **1.25** percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.

  The Committee directs the Desk to continue rolling over at auction the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during ~~each calendar month~~ **December** that exceeds $6 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during ~~each calendar month~~ **December** that exceeds $4 billion. **Effective in January, the Committee directs the Desk to roll over at auction the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during each calendar month that exceeds $12 billion, and to reinvest in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds $8 billion.** Small deviations from these amounts for operational reasons are acceptable.

> The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

- In a related action, the Board of Governors of the Federal Reserve System voted unanimously to approve ~~the establishment of~~ **a 1/4 percentage point increase in** the primary credit rate ~~at the existing level of 1.75~~ **to 2.00** percent**, effective December 14, 2017**. **In taking this action, the Board approved requests to establish that rate submitted by the Boards of Directors of the Federal Reserve Banks of . . .**

This information will be updated as appropriate to reflect decisions of the Federal Open Market Committee or the Board of Governors regarding details of the Federal Reserve's operational tools and approach used to implement monetary policy.

More information regarding open market operations and reinvestments may be found on the Federal Reserve Bank of New York's website.

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Projections

BALANCE SHEET AND INCOME

The staff has prepared projections of the Federal Reserve's balance sheet and elements of the associated income statement that are consistent with the staff's baseline economic outlook presented in Tealbook A. Key features of these projections are described below.

SOMA redemptions and reinvestments. As reported in the exhibit titled "Redemptions and Reinvestments of SOMA Principal Payments," the staff projects that the balance sheet normalization program initiated in October will reduce the Federal Reserve's holdings of Treasury securities and of agency securities by $18 billion and $12 billion, respectively, during the current quarter. In 2018, holdings of Treasury and agency securities are projected to decline about $229 billion and $147 billion, respectively.[1] While the maturities of existing Treasury securities holdings are known, agency MBS paydowns are uncertain and have historically displayed month-to-month variability.

Normalization of the size of the balance sheet. The size of the balance sheet is projected to normalize in the third quarter of 2021, the same as projected in the October Tealbook (see the exhibit titled "Total Assets and Selected Balance Sheet Items" and the table that follows the exhibit). At that time:

- Reserve balances reach the assumed longer-run level of $500 billion;[2]

[1] Once the cap on monthly reductions in SOMA holdings of Treasury securities has been fully phased in, reinvestment of principal from maturing Treasury securities will primarily take place in the middle month of each quarter. In contrast, the maximum $20 billion cap on monthly redemptions of agency securities is not projected to bind under the staff's current baseline path of rising longer-term interest rates.

[2] Other noteworthy assumptions underlying the liabilities projections are as follows: Federal Reserve notes in circulation and the Treasury General Account are assumed to increase at the same rate as nominal GDP; the foreign repo pool and balances in the accounts of designated financial market utilities (DFMUs) remain at their October 31, 2017, levels of about $240 billion and $75 billion, respectively; and take-up at the overnight RRP facility is assumed to maintain a value of $100 billion until the level of reserve balances reaches $1 trillion, at which point it declines to zero over the course of one year.

Redemptions and Reinvestments of SOMA Principal Payments

Projections for Treasury Securities
(Billions of dollars)

	Redemptions		Reinvestments	
	Period	Cumulative*	Period	Cumulative*
2017: Q4	18.0	18.0	27.1	27.1
2018: Q1	36.0	54.0	74.7	101.9
2018: Q2	54.0	108.0	65.7	167.6
2018: Q3	67.0	175.0	27.4	195.0
2018: Q4	72.1	247.1	29.2	224.3
2019	272.1	519.2	115.0	339.3
2020	210.3	729.4	88.4	427.6

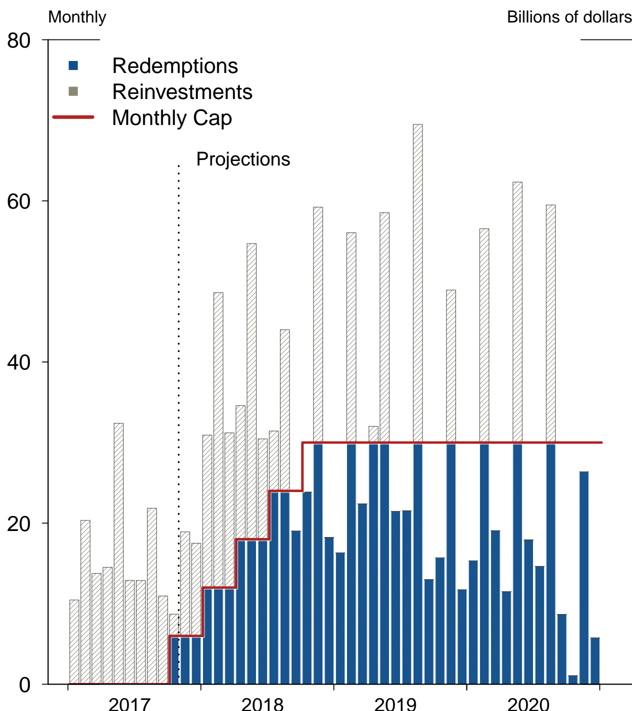
* Since October 2017.

Projections for Agency Securities
(Billions of dollars)

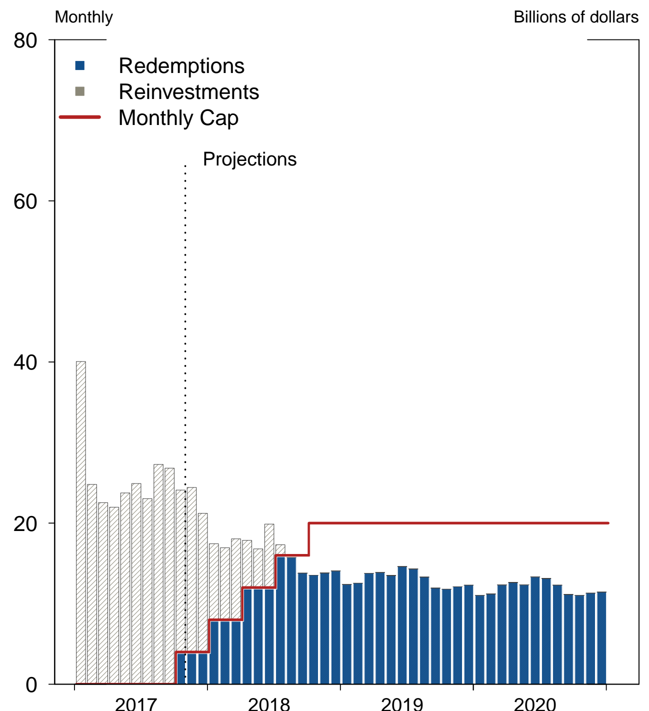
	Redemptions		Reinvestments	
	Period	Cumulative*	Period	Cumulative*
2017: Q4	12.0	12.0	57.7	57.7
2018: Q1	24.0	36.0	28.4	86.2
2018: Q2	36.0	72.0	18.5	104.7
2018: Q3	45.5	117.5	1.3	106.0
2018: Q4	41.4	158.9	0.0	106.0
2019	156.4	315.4	0.0	106.0
2020	143.2	458.6	0.0	106.0

* Since October 2017.

Balance Sheet & Income



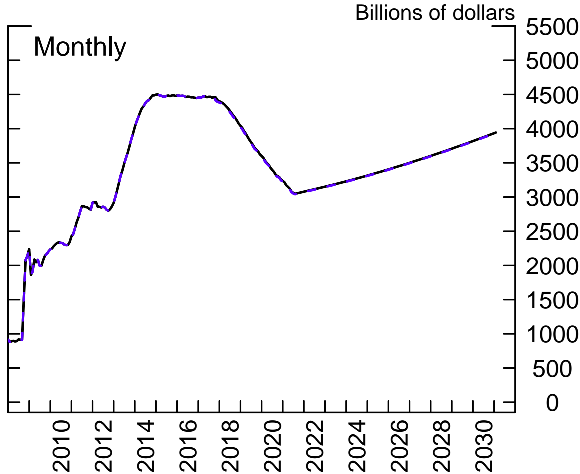
Note: Projection dependent on assumed distribution of future Treasury issuance.

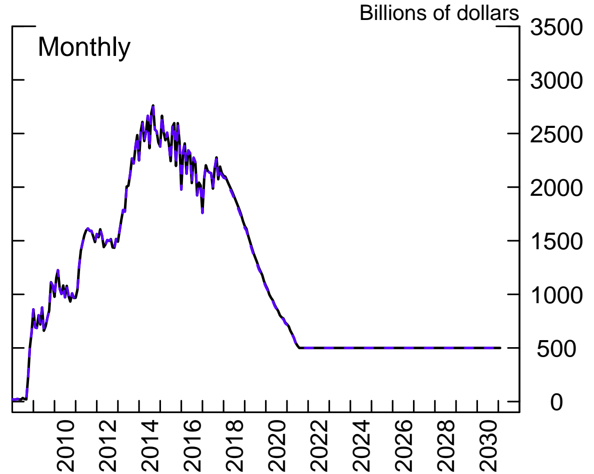


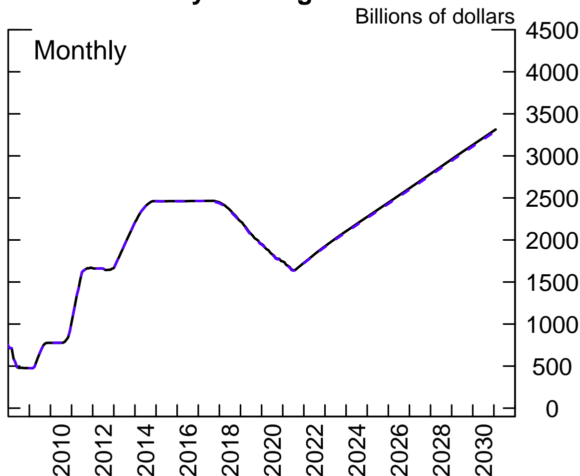
Note: Projection dependent on future interest rates and housing market developments.

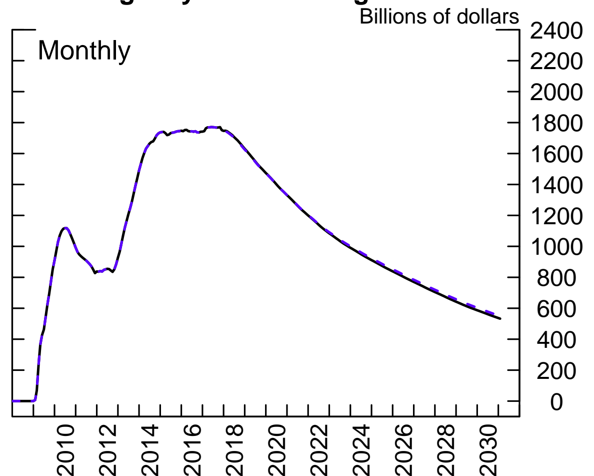
Total Assets and Selected Balance Sheet Items

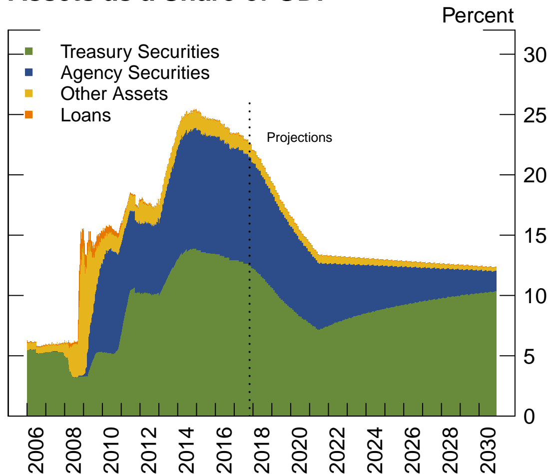
December Tealbook baseline — October Tealbook baseline

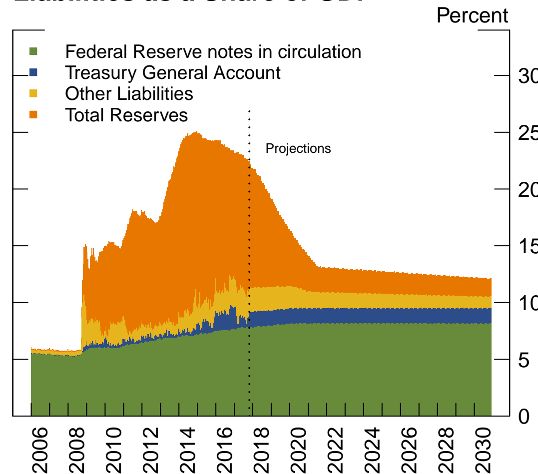












Federal Reserve Balance Sheet
End-of-Year Projections -- December Tealbook
(Billions of dollars)

	Oct 31, 2017	2017	2019	2021	2023	2025	2030
Total assets	4,456	4,401	3,600	3,078	3,229	3,404	3,933
Selected assets							
Loans and other credit extensions*	2	0	0	0	0	0	0
Securities held outright	4,237	4,198	3,428	2,930	3,097	3,285	3,839
U.S. Treasury securities	2,460	2,448	1,952	1,728	2,104	2,444	3,300
Agency debt securities	7	4	2	2	2	2	2
Agency mortgage-backed securities	1,771	1,746	1,474	1,200	991	839	537
Unamortized premiums	161	159	125	99	82	68	41
Unamortized discounts	-14	-14	-11	-9	-7	-6	-4
Total other assets	70	58	58	58	58	58	58
Total liabilities	4,415	4,359	3,556	3,030	3,177	3,347	3,862
Selected liabilities							
Federal Reserve notes in circulation	1,541	1,565	1,763	1,897	2,023	2,169	2,612
Reverse repurchase agreements	415	340	340	240	240	240	240
Deposits with Federal Reserve Banks	2,524	2,449	1,448	888	909	932	1,004
Reserve balances held by depository institutions	2,192	2,105	1,082	500	500	500	500
U.S. Treasury, General Account	177	264	286	308	328	352	424
Other deposits	77	80	80	80	80	80	80
Earnings remittances due to the U.S. Treasury	2	0	0	0	0	0	0
Total Federal Reserve Bank capital**	41	41	44	48	52	57	71

Source: Federal Reserve H.4.1 statistical releases and staff calculations.
Note: Components may not sum to totals due to rounding.
*Loans and other credit extensions includes primary, secondary, and seasonal credit; central bank liquidity swaps; and net portfolio holdings of Maiden Lane LLC.
**Total capital includes capital paid-in and capital surplus accounts.

- Total assets are projected to stand at roughly $3 trillion, with SOMA securities holdings of $1.6 trillion of Treasury securities and $1.3 trillion of MBS;
- The Federal Reserve's securities holdings are projected to decline roughly $1.3 trillion from October 2017 to the third quarter of 2021, when the size of the balance sheet is normalized. Holdings of Treasury securities are projected to shrink about $820 billion and holdings of agency debt and MBS are projected to decline about $520 billion;
- The size of the balance sheet is projected to stand at roughly 13 percent of nominal GDP, compared with a peak of about 25 percent in late 2014 and a pre-crisis average of about 6 percent.

After the size of the balance sheet is normalized, SOMA holdings rise, keeping pace with the projected increases in Federal Reserve Bank capital and in Federal Reserve liabilities including currency in circulation and the Treasury General Account (TGA).

Federal Reserve remittances. Remittances to the Treasury are projected to decline this year to about $79 billion from $92 billion in 2016, reflecting the increase in the interest rate paid on reserves (see the "Income Projections" exhibit).[3] Total interest paid is projected to be $29 billion this year, while interest income from the SOMA holdings is expected to reach $113 billion. As the size of the SOMA portfolio decreases and the target range for the federal funds rate moves up further, remittances are expected to reach a low of $38 billion in 2020. Thereafter, remittances begin to increase, particularly once the size of the balance sheet is normalized and Treasury securities are added to the SOMA portfolio. As shown in the bottom left panel of the "Income Projections" exhibit, annual remittances average about 0.25 percent of nominal GDP over the projection period, slightly higher than the pre-crisis average.

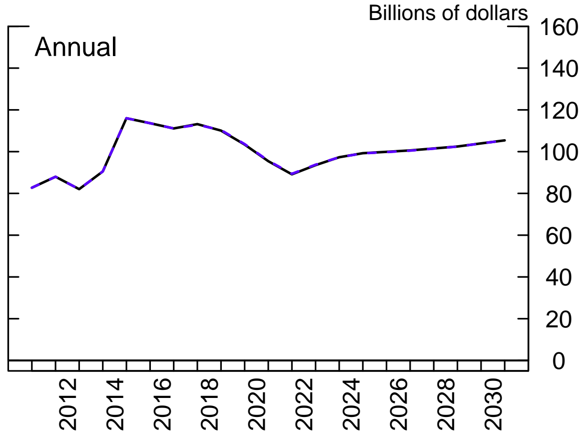
Unrealized gains or losses. The staff estimates that the SOMA portfolio was in a net unrealized gain position of about $83 billion at the end of October.[4] With longer-term interest rates expected to rise over the next couple of years in the December Tealbook baseline projection, the portfolio is expected to shift to an unrealized loss position early

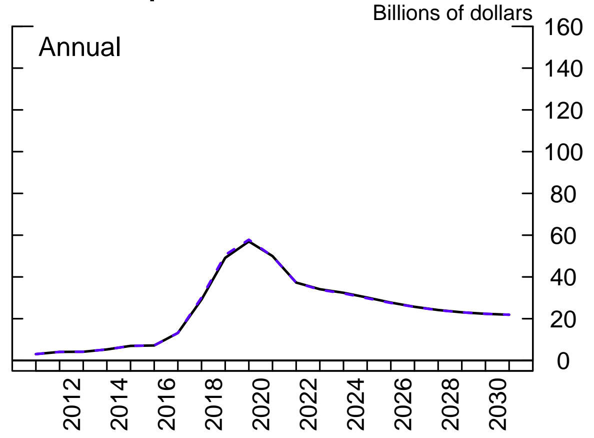
[3] We continue to assume that the FOMC will set a 25 basis-point-wide target range for the federal funds rate and that the interest rate paid on excess reserve balances and the offering rate on overnight RRPs will be set at the top and bottom of the range, respectively.

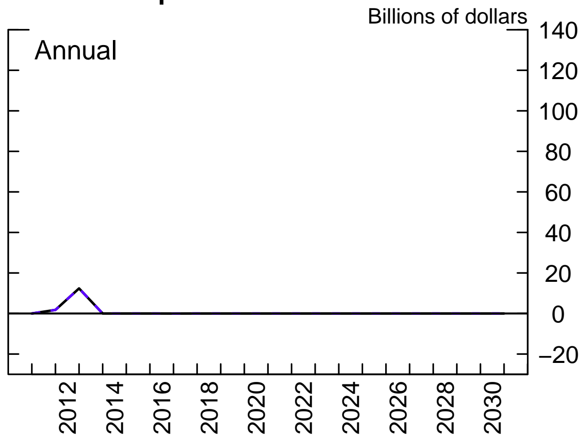
[4] The Federal Reserve publishes the quarter-end net unrealized gain/loss position of the SOMA portfolio in the "Federal Reserve Banks Combined Quarterly Financial Reports," available on the Board's website at http://www.federalreserve.gov/monetarypolicy/bst_fedfinancials.htm#quarterly.

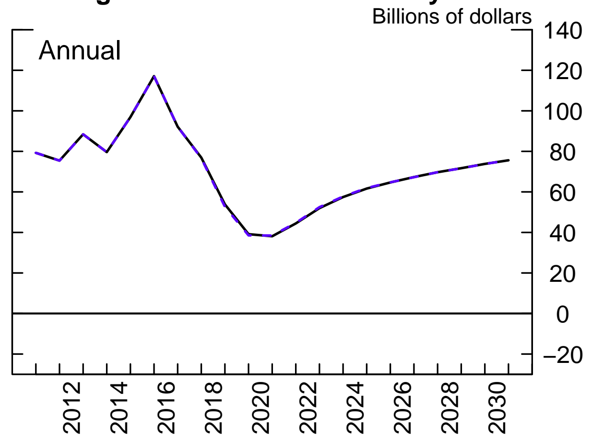
Balance Sheet & Income

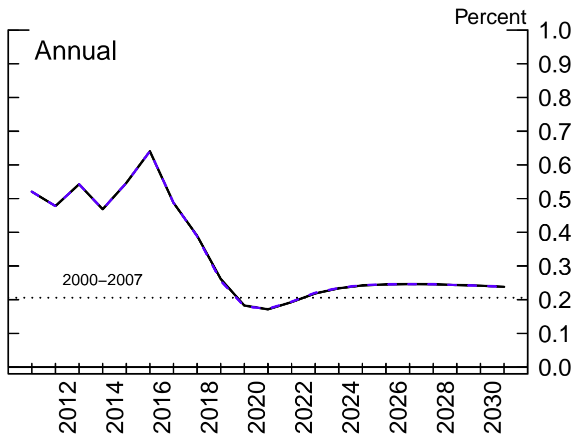
Income Projections

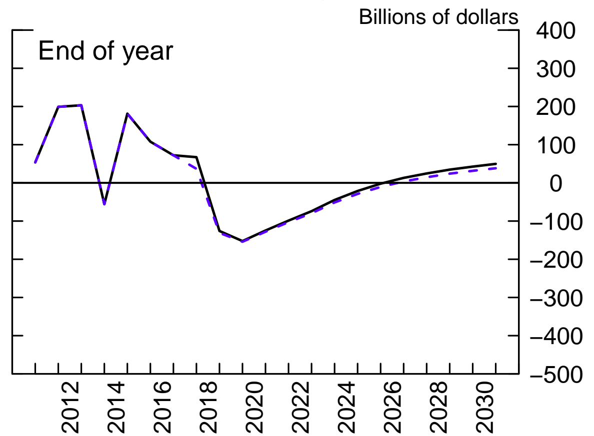












Balance Sheet & Income

next year and to record a peak unrealized loss of $157 billion in 2019:Q3; $53 billion of this amount is attributable to Treasury securities and $104 billion to agency MBS. The unrealized loss position subsequently narrows, in part because the value of securities acquired under the Federal Reserve's large-scale asset purchase programs returns to par as those securities approach maturity. This projection is similar to that in the October Tealbook.

Term premium effect. As shown in the table "Projections for the 10-Year Treasury Term Premium Effect," the elevated amount of securities held in the SOMA is currently estimated to be reducing the term premium in the 10-year Treasury yield 87 basis points; this effect will gradually fade over time.[5] This projection is nearly identical to that in the previous Tealbook.

SOMA characteristics. As shown in the top panel of the "Projections for the Characteristics of SOMA Treasury Securities Holdings" exhibit, the weighted-average duration of the SOMA Treasury portfolio is currently about six years. The weighted-average duration of the portfolio is projected to increase during the balance sheet normalization process as the pace of redemptions picks up and longer-duration securities account for a larger share of the remaining portfolio.

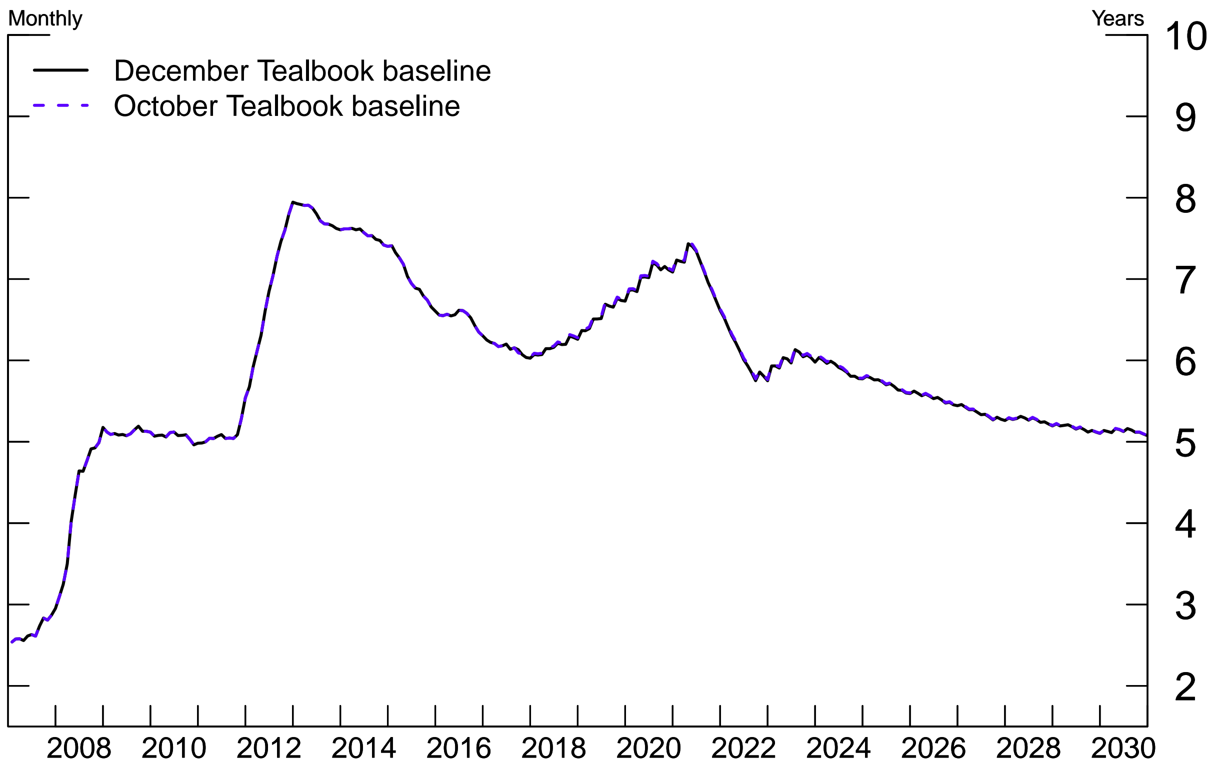
After normalization of the size of the balance sheet, the duration of the SOMA Treasury portfolio is projected to decline as the Federal Reserve resumes purchases of Treasury securities. The initial sharp decline in duration results from the staff's assumption that these purchases will be limited to Treasury bills until they account for one-third of the Treasury portfolio, close to the pre-crisis composition (currently the SOMA portfolio holds no Treasury bills). Thereafter, purchases of Treasury securities are assumed to be spread across the maturity spectrum (see the bottom panel of the exhibit).

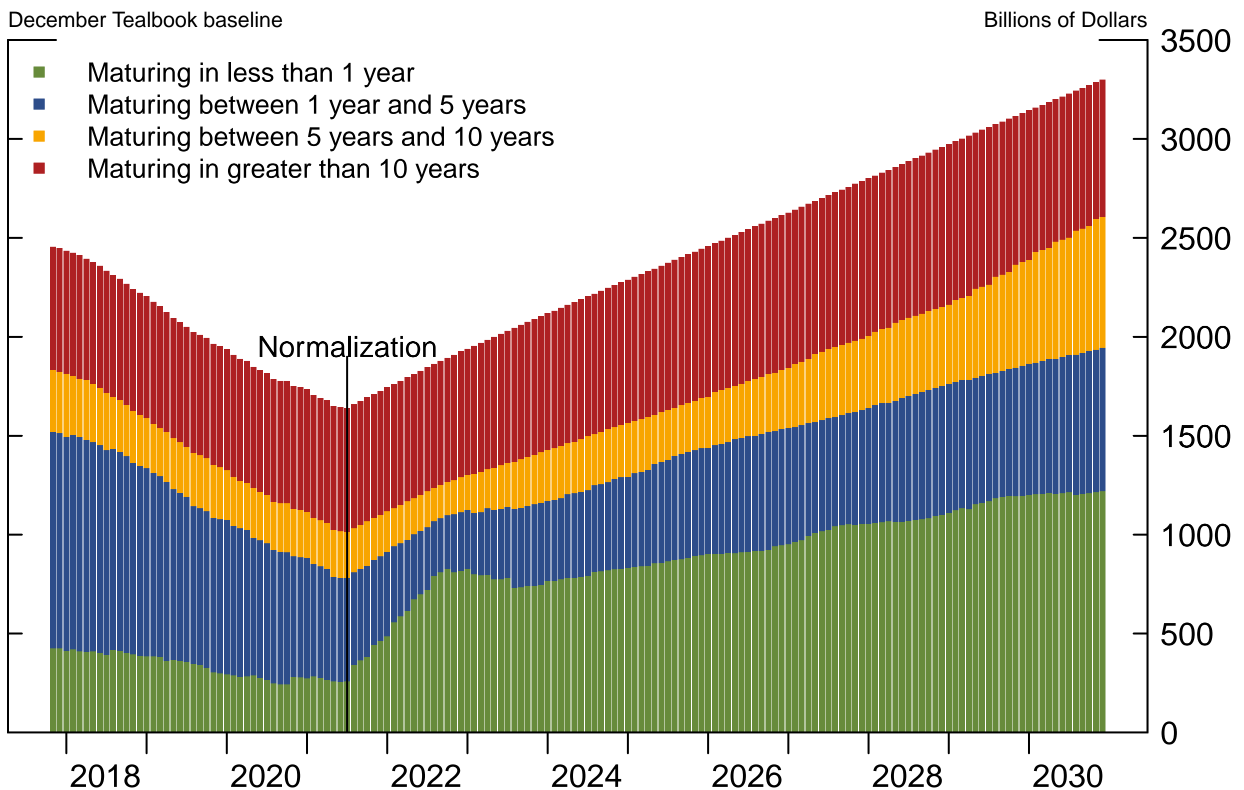
[5] The estimated path of the term premium effect depends on the difference between the expected path of the Federal Reserve's balance sheet over coming years and a benchmark counterfactual projection based on the configuration of the balance sheet that prevailed before the financial crisis of 2007–2008. In particular, in the benchmark counterfactual balance sheet projection, the staff assumes a longer-run level of reserves of $100 billion and a constant, minimal TGA level, consistent with the pre-crisis minimum level of excess reserve balances and the Treasury's pre-crisis cash management policy.

Projections for the 10-Year Treasury Term Premium Effect
(Basis Points)

Date	December Tealbook	October Tealbook
Quarterly Averages		
2017:Q4	-87	-87
2018:Q4	-75	-75
2019:Q4	-64	-65
2020:Q4	-57	-57
2021:Q4	-51	-51
2022:Q4	-48	-48
2023:Q4	-45	-45
2024:Q4	-42	-42
2025:Q4	-39	-39
2026:Q4	-36	-37
2027:Q4	-34	-35
2028:Q4	-32	-33
2029:Q4	-31	-31
2030:Q4	-29	-29

Projections for the Characteristics of SOMA Treasury Securities Holdings





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Abbreviations

ABS	asset-backed securities
BEA	Bureau of Economic Analysis, Department of Commerce
BHC	bank holding company
CDS	credit default swaps
CFTC	Commodity Futures Trading Commission
C&I	commercial and industrial
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
DEDO	section in Tealbook A, “Domestic Economic Developments and Outlook”
Desk	Open Market Desk
DFMU	Designated Financial Market Utilities
ECB	European Central Bank
ELB	effective lower bound
EME	emerging market economy
EU	European Union
FAST Act	Fixing America’s Surface Transportation Act
FDIC	Federal Deposit Insurance Corporation
FOMC	Federal Open Market Committee; also, the Committee
GCF	general collateral finance
GDI	gross domestic income
GDP	gross domestic product
GSIBs	globally systemically important banking organizations
HQLA	high-quality liquid assets
IOER	interest on excess reserves
ISM	Institute for Supply Management
LIBOR	London interbank offered rate

LSAPs	large-scale asset purchases
MBS	mortgage-backed securities
MMFs	money market funds
NBER	National Bureau of Economic Research
NI	nominal income
NIPA	national income and product accounts
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
QS	Quantitative Surveillance
repo	repurchase agreement
RMBS	residential mortgage-backed securities
RRP	reverse repurchase agreement
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms
SEP	Summary of Economic Projections
SFA	Supplemental Financing Account
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TBA	to be announced (for example, TBA market)
TGA	U.S. Treasury’s General Account
TIPS	Treasury inflation-protected securities
TPE	Term premium effects
ZLB	zero lower bound