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

March 15, 2018

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 economy has continued to expand at a faster-than-potential pace and that the labor market has continued to strengthen. The average pace of job gains in recent months has been stronger than earlier last year and the unemployment rate has remained quite low. A number of other measures of labor market conditions also point to high and rising levels of labor utilization. Recent spending indicators, on balance, point to a moderation in real GDP growth in the current quarter. This moderation appears likely to be temporary, for two reasons. First, ongoing strengthening in the labor market, which is continuing to bolster income and confidence, as well as stronger expansions abroad and accommodative financial conditions, continue to support growth in consumer spending, business investment, and exports. Second, the increased federal government spending that will result from last month's passage of the Bipartisan Budget Act of 2018 is expected to provide an additional boost to aggregate demand going forward. Inflation has continued to run below the Committee's 2 percent objective, but recent monthly readings are consistent with the staff's expectation that inflation will step up in coming months and run close to 2 percent this year.

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 federal funds rate path suggested by recent FOMC statements remains appropriate. Against this background, three alternative draft statements are given below for the Committee's consideration. The alternative policy statements differ in the views expressed about tightening resource utilization and its implication for the inflation outlook and, hence, for the appropriate message to convey about the federal funds rate path expected to be necessary to achieve the Committee's objectives.

Alternative B notes a stronger economic outlook but signals that this upgrade has not substantially changed the Committee's judgement about the pace of rate hikes that will most likely prove appropriate. Alternative B includes a 25-basis-point increase in the target range for the federal funds rate in March but leaves the guidance about the future course of policy unchanged from the January statement.

Alternative C also acknowledges a stronger economic outlook but, unlike Alternative B, is predicated on the view that allowing resource utilization to tighten much further would create too large a risk that monetary policy will eventually need to tighten abruptly. Consequently, Alternative C conveys the Committee's intention to continue gradually increasing the federal funds rate until it is high enough to slow growth in employment and economic activity to sustainable rates.

In contrast, Alternative A is motivated by the view that longer-run inflation expectations may be too low. It thus indicates that "A temporary period of inflation modestly above 2 percent would be consistent with the Committee's symmetric inflation objective and may be needed to ensure that longer-run inflation expectations are consistent with that objective."

With regard to the specifics of the draft statement language:

- The three Alternatives agree in their assessment of the state of the labor market but differ slightly in the assessment of the strength of incoming spending data.
    - Each of the Alternatives recognizes that the labor market has continued to strengthen and characterizes job gains as being "strong in recent months."
    - The Alternatives differ in their characterization of consumer spending and business investment. Alternative A simply states that "Household spending and business fixed investment appear to be expanding at a moderate pace." Alternative B notes that the moderation follows strong growth in the fourth quarter. Alternative C states that "Household spending and business fixed investment have been growing at solid rates, on average, in recent quarters."
    - Consistent with the recent spending indicators, Alternative B notes that growth in economic activity has been "moderate" while Alternative A states that it has "moderated." Alternative C retains the language from January and characterizes economic activity as "rising at a solid rate."
- Regarding recent inflation developments, all three Alternatives note that inflation continued to run below 2 percent, with Alternative C adding that both overall inflation and inflation for items other than food and energy have "increased from their lows last summer."
- The three Alternatives indicate that survey-based measures of longer-term inflation expectations "are little changed, on balance," as in the January statement, but differ

slightly in the language concerning market-based measures of inflation compensation. Alternative B retains the language from January, Alternative C strikes the words "but remain low," and Alternative A instead deletes the language indicating that these measures "have increased in recent months."

- The outlook for economic activity and the labor market is somewhat different across the three alternatives, as is the inflation outlook. In addition, the outlook associated with each alternative is conditioned on a different expectation for monetary policy, reflecting different views about the risks associated with reducing policy accommodation at the pace currently anticipated by market participants.
  - Alternatives B and C include a new sentence, "The economic outlook has strengthened in recent months." This sentence is meant to capture the various factors that have contributed to a stronger outlook, including changes in fiscal policy, stronger and more synchronous growth abroad, and financial conditions that remain highly supportive of growth despite recent market volatility. Moreover, the outlook paragraph in Alternative C signals more strongly that the Committee sees further increases in the federal funds rate as necessary to achieve sustainable growth rates of economic activity and employment.
  - Regarding the outlook for inflation, Alternative B now states that inflation is expected to move up "in coming months" rather than "this year." (The latter words were used in the January statement.) This modification is not meant to signal a change in the inflation outlook but rather to acknowledge that the time when inflation is expected to step up closer to 2 percent is drawing near. Alternative C also notes that inflation is expected to move up "in coming months" but then conveys that, once the increase occurs, the Committee will essentially have achieved its inflation objective. In contrast, Alternative A signals a greater intention to achieve higher inflation by conditioning the outlook on "appropriate monetary policy accommodation" and noting that "A temporary period of inflation modestly above 2 percent … may be needed to ensure that longer-run inflation expectations are consistent with" the Committee's objective.
  - The three Alternatives retain the view that "Near-term risks to the economic outlook appear roughly balanced." Alternatives A and B, but not C, keep the statement that "the Committee is monitoring inflation developments closely."

Alternatives

- With respect to the current policy decision:
  - Alternatives B and C raise the target range to 1½ to 1¾ percent and continue to note that the stance of monetary policy remains accommodative.
  - Alternative A leaves the target range at 1¼ to 1½ percent.
- With respect to the outlook for monetary policy:
  - Alternative B makes no changes from the January statement.
  - Alternative C drops the statement that "the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run," thus suggesting that the federal funds rate may need to rise to its normal longer-run level faster than otherwise.
  - Alternative A drops all of the guidance about the path of the federal funds rate, thus conveying a more agnostic view of how policy will need to evolve in order to achieve the Committee's objectives.

JANUARY 2018 FOMC STATEMENT

1. Information received since the Federal Open Market Committee met in December indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. Gains in employment, household spending, and business fixed investment have been solid, and the unemployment rate has stayed low. On a 12-month basis, both overall inflation and inflation for items other than food and energy have continued to run below 2 percent. Market-based measures of inflation compensation have increased in recent months but 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. The Committee expects that, with further gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace and labor market conditions will remain strong. Inflation on a 12-month basis is expected to move up this year and 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 1-1/4 to 1-1/2 percent. The stance of monetary policy remains accommodative, thereby supporting 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.

ALTERNATIVE A FOR MARCH 2018

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** indicates that the labor market has ~~continued to strengthen~~ **remained strong** ~~and that~~ **while growth in** economic activity has ~~been rising at a solid rate~~ **moderated**. **Job** gains ~~in employment, household spending, and business fixed investment~~ have been ~~solid~~ **strong in recent months**, and the unemployment rate has stayed low. **Household spending and business fixed investment appear to be expanding at a moderate pace.** On a 12-month basis, both overall inflation and inflation for items other than food and energy have continued to run below 2 percent. Market-based measures of inflation compensation ~~have increased in recent months but~~ 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. The Committee expects that, with ~~further gradual adjustments in the stance of~~ **appropriate** monetary policy **accommodation**, economic activity will expand at a moderate pace and labor market conditions will remain strong. Inflation on a 12-month basis is expected to move up this year and 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 1-1/4 to 1-1/2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation. **A temporary period of inflation modestly above 2 percent would be consistent with the Committee's symmetric inflation objective and may be needed to ensure that longer-run inflation expectations are consistent with that objective.**

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.~~

ALTERNATIVE B FOR MARCH 2018

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** indicates that the labor market has continued to strengthen and that economic activity has been rising at a ~~solid~~ **moderate** rate. **Job** gains ~~in employment, household spending, and business fixed investment~~ have been ~~solid~~ **strong in recent months**, and the unemployment rate has stayed low. **Recent data suggest that growth of household spending and business fixed investment have moderated from their strong fourth-quarter rates.** On a 12-month basis, both overall inflation and inflation for items other than food and energy have continued to run below 2 percent. Market-based measures of inflation compensation have increased in recent months but 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. **The economic outlook has strengthened in recent months.** The Committee expects that, with further gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace **in the medium term** and labor market conditions will remain strong. Inflation on a 12-month basis is expected to move up ~~this year~~ **in coming months** and 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 1-1/4~~ to 1-1/2 **to 1-3/4** percent. The stance of monetary policy remains accommodative, thereby supporting 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.

ALTERNATIVE C FOR MARCH 2018

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. **Job** gains ~~in employment, household spending, and business fixed investment~~ have been ~~solid~~ **strong in recent months**, and the unemployment rate has stayed low. **Household spending and business fixed investment have been growing at solid rates, on average, in recent quarters.** On a 12-month basis, both overall inflation and inflation for items other than food and energy have **increased from their lows last summer but have** continued to run below 2 percent. Market-based measures of inflation compensation have increased in recent months ~~but 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. **The economic outlook has strengthened in recent months.** The Committee expects that, with further gradual adjustments in the stance of monetary policy, economic activity **and employment** will expand at ~~a moderate pace and labor market conditions will remain strong~~ **sustainable rates in the medium term**. Inflation on a 12-month basis is expected to move up ~~this year~~ **in coming months** and **then** 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 1-1/4~~ to 1-1/2 **to 1-3/4** percent. The stance of monetary policy remains accommodative, thereby supporting 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.

Alternatives

THE CASE FOR ALTERNATIVE B

Economic Conditions and Outlook

- Available data indicate that the labor market has continued to strengthen but does not yet appear to be overheating.
  - Over the past three months, payrolls have increased by an average of 242,000 per month, well above the pace estimated to be consistent with an unchanged unemployment rate if the labor force participation rate declines in line with its estimated trend path.
  - The unemployment rate in February was 4.1 percent for the fifth consecutive month, below all FOMC participants' estimates of the longer-run normal rate of unemployment in the December Summary of Economic Projections (SEP).
  - The labor force participation rate jumped 0.3 percentage point to 63.0 percent in February. While the staff projects this increase to be reversed by year end, the labor force participation rate is projected to continue to run above its estimated trend level.
  - Notwithstanding the strong pace of job gains, the low unemployment rate, and the increase in labor force participation, compensation data continued to point to moderate wage growth.
- Although inflation on a 12-month basis remains below the Committee's 2 percent objective, the past several monthly readings have corroborated the view that inflation is moving up gradually.
  - Over the 12 months ending in January, the core PCE inflation rate was 1.5 percent, up about ¼ percentage point from its low last summer. In coming months, when the extraordinarily low reading from last March drops out of the calculation of 12-month inflation, core PCE inflation is quite likely to move up closer to 2 percent. Thereafter, with resource utilization tightening substantially further in the staff's projection, core inflation rises from 1.9 percent this year to 2.2 percent in 2020.
  - Over the 12 months ending in January, total PCE inflation was 1.7 percent. Total PCE inflation is projected to climb to 1.8 percent this year and to reach 2.1 percent in 2020.
  - On balance, longer-term survey-based measures of inflation expectations and market-based measures of inflation compensation have moved little since

January. Median 10-year inflation expectations for PCE prices in the Survey of Professional Forecasters held steady at 2.0 percent in the first quarter, the median of expectations over the next 5 to 10 years from the Michigan survey was stable at 2.5 percent in February, and the 3-year-ahead measure of median inflation expectations in the Federal Reserve Bank of New York's Survey of Consumer Expectations edged up to 2.9 percent in February, reversing the previous month's decline and remaining within the narrow range observed since last summer. The TIPS-based measure of 5-to-10-year-forward inflation compensation changed little over the latest intermeeting period but is up about 15 basis points since the December FOMC meeting and 25 basis points since the November FOMC meeting.

- Real GDP is now estimated to have increased at an annual rate of 2.9 percent in the fourth quarter of last year and is projected to increase 2.1 percent in the first quarter of this year but then to pick up, bringing about a further widening of the gap between actual and potential output. Despite somewhat softer readings on consumer spending, fundamentals underpinning consumer demand remain sound; most importantly, the ongoing strengthening in the labor market is continuing to bolster income and confidence. Moreover, the recently enacted tax bill should boost spending. The staff projects that the overall effect of the tax cuts enacted in December and the spending increases authorized in February will be to raise the growth rate of real GDP by ½ percentage point in 2018, ¾ percentage point in 2019, and ½ percentage point in 2020.
- Real GDP in the foreign economies averaged a solid 2.7 percent in the fourth quarter. More recent foreign economic data point to an upbeat start to this year, and the staff sees foreign growth picking up to 3 percent this quarter.

Policy Strategy

- The rates of output growth in the current quarter and the fourth quarter of last year—while lower than expected in the January Tealbook—nonetheless imply a further widening of the gap between actual and potential output. This development, together with the projected pick-up in the pace of growth in real activity after the current quarter, may have bolstered policymakers' confidence that inflation will reach 2 percent this year. That being so, they may see it as appropriate to continue the gradual removal of policy accommodation by raising the target range for the federal funds rate to 1½ to 1¾ percent at this meeting and to continue to signal that further

gradual rate hikes are likely appropriate to achieve maximum employment and a sustained return to 2 percent inflation.

- With the recent fiscal policy actions expected to provide significant stimulus to growth, financial conditions still supportive of growth (notwithstanding recent volatility in financial markets), and solid growth abroad, policymakers may wish to upgrade their assessment of the economic outlook by adding a sentence indicating that "The economic outlook has strengthened in recent months."
- Nonetheless, with an increase in the target range at this meeting and further gradual increases in the federal funds rate projected, policymakers may continue to perceive the near-term risks to the economic outlook as roughly balanced.
- As shown in the "Monetary Policy Expectations and Uncertainty" box, financial market quotes indicate that market participants are nearly certain that the Committee will raise the target range by 25 basis points at this meeting, an assessment shared by respondents to the Desk's latest surveys of primary dealers and market participants. Looking ahead, federal funds futures quotes imply that the modal outlook of market participants envisions a total increase of about 75 basis points by the end of this year. The median of the modal responses to the Desk's surveys points to four 25-basis-points rate hikes this year, but respondents see the likelihood of four hikes as only slightly higher than the probability of three. In light of current market expectations, a statement along the lines of Alternative B seems unlikely, by itself, to generate an appreciable change in asset prices, though the indication that the outlook has strengthened could lead to some steepening of the expected path for the federal funds rate.

THE CASE FOR ALTERNATIVE C

Economic Conditions and Outlook

- Policymakers may judge that the labor market is already appreciably beyond full employment and that economic activity—which was already growing at a faster-than-sustainable rate—will be further spurred by the recently enacted tax cuts and spending legislation.
  - The unemployment rate was 4.1 percent in February, well below each FOMC participant's estimate of its longer-run normal level in the December SEP.
  - Despite four increases in the target range for the federal funds rate from December 2016 to January 2018, the average pace of payroll gains in 2017

Monetary Policy Expectations and Uncertainty

Futures markets have almost fully priced in a 25-basis-point increase in the target range for the federal funds rate at the FOMC's upcoming March meeting, and the average odds assigned to this outcome by respondents to the Desk's surveys of primary dealers and market participants are comparably high. Expectations for the path of the federal funds rate based on market and survey measures have also ticked up, on balance.

Figure 1 shows the probability distribution, derived from quotes on federal funds futures contracts, of the total number of 25-basis-point rate increases over the next three FOMC meetings (March, May, and June). The probability that there will be two rate hikes has increased by about 10 percentage points over the intermeeting period, to around 70 percent. The probability of only one rate hike over these three meetings has come down by a similar amount.

Looking ahead to the end of 2018, the probability distribution for the level of the federal funds rate, based on options quotes and assuming zero term premiums, has shifted only marginally to the right (figure 2). It continues to suggest that investors place the greatest odds on the federal funds rate falling into the 2 to 2¼ percent range—consistent with three 25-basis-point increases in the target range in 2018. Figure 3 shows the corresponding average probability distribution from the Desk's surveys; respondents to those surveys see increased odds of higher rate outcomes relative to the January survey. Survey respondents now place almost the same probability on four 25-basis-point rate increases this year as on three such rate hikes. In addition, the survey-based distribution now assigns roughly the same likelihood as the probability distribution from market quotes to end-of-year federal funds rate levels suggestive of four or more rate hikes this year—about 35 percent.

Figure 4 shows how different measures of federal funds rate expectations for the end of 2018 have evolved since June 2016. The figure displays market-based metrics (with and without term premium adjustments) derived from quotes on overnight index swap contracts (OIS), the median projection from FOMC participants' Summary of Economic Projections (SEP) through December 2017, and the median of respondents' modal forecasts as well as the average of respondents' implied mean forecasts from the Desk surveys. Of note, the latter two forecasts approximately correspond to the mode and mean, respectively, of the distribution shown in figure 3. All measures declined somewhat around the U.K.'s referendum on "Brexit" and subsequently rose notably in the wake of the U.S. presidential election. The SEP (the golden squares) and Desk survey modal forecasts (the black dots) remained stable at 2 to 2¼ percent from early 2017 to January 2018, whereas the market-based measures (the red and blue lines) and the Desk survey implied mean forecasts (the grey dots) trended down from March to September 2017 and have inched up steadily since then. The narrowing

of the gap between the forward rates implied by OIS quotes (the blue line) and the expected path of the federal funds rate with adjustments for term premiums as estimated by a staff term structure model (the red line) reflects, in part, the shrinkage of negative term premiums toward zero as the projection horizon nears, and possibly also the diminution of downside risks as interest rates move further away from the lower bound. Based on the most recent observations, the unadjusted market-implied measure, the December SEP median, and the Desk survey's implied mean forecast are consistent with three 25-basis-point rate increases in 2018, while the market measure that adjusts for term premiums and the Desk survey's latest modal forecast both reflect an expectation of four hikes.

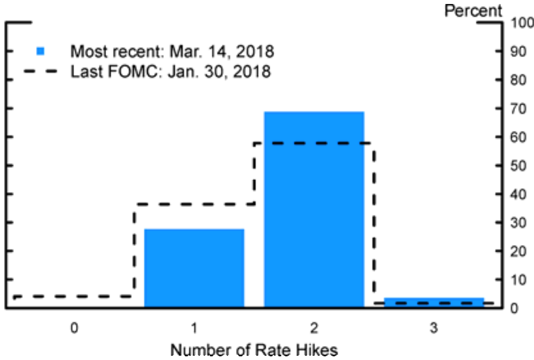
Figure 5 shows market-implied measures of the expected federal funds rate path beyond 2018. The path derived from quotes on OIS and not adjusted for term premiums (the blue line) has shifted up modestly over the intermeeting period, mostly in 2019 and 2020. The staff's term structure model attributes much of this increase to higher (less negative) term premiums, leaving the term-premium-adjusted path (the red line) only a touch higher.

Expectations for the path of the federal funds rate have likely been buoyed, in part, by the prospective economic effects of additional government spending resulting from the passage of the Bipartisan Budget Act of 2018. In the March Desk surveys, participants further marked up their projections for the U.S. fiscal deficit in coming years. As shown by the two sets of bars to the left in figure 6, since the December survey, the median projection for the budget deficit in the Survey of Primary Dealers, as a percentage of GDP, has increased by roughly ½ percentage point for 2018 and 1¼ percentage points for 2019. The deficit for 2020 (not shown) is projected to remain at approximately its 2019 level. The bars to the right of the figure show that, over the same period, the median projection for real GDP growth has shifted up for 2018 and 2019 by 40 and 20 basis points, respectively. The median growth estimate for 2020 was little changed at 1.8 percent, in line with participants' longer-run estimate for GDP growth (not shown).[1]

[1] Figure 6 is based on responses from primary dealers only as the Survey of Market Participants does not ask respondents for GDP growth forecasts.

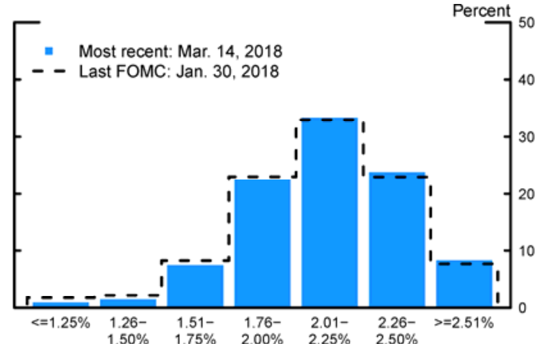
Alternatives

Figure 1: Market−Implied Probability Distribution of the Number of 25−Basis−Point Rate Hikes by Mid−2018



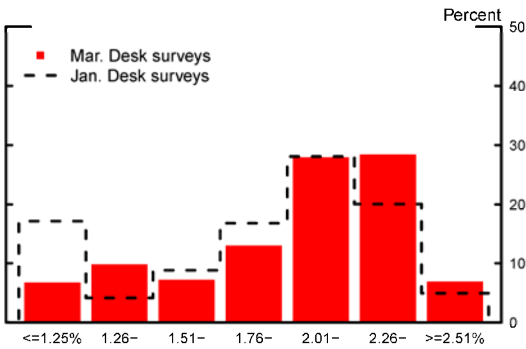
Note: Probabilities implied by a binomial tree fitted to settlement prices on federal funds futures contracts, assuming the next policy action is either no change or a 25−basis−point increase in rates, and no intermeeting moves. The effective federal funds rate until the next FOMC meeting is assumed 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 Federal Funds Rate, Year−End 2018



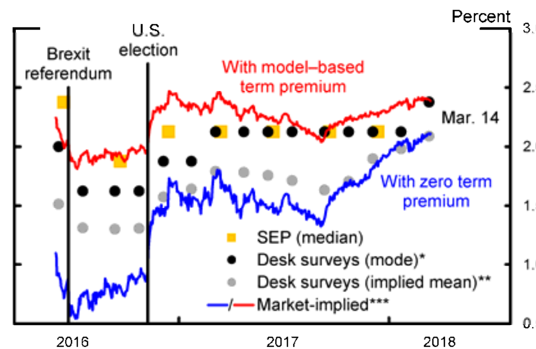
Note: Estimated from Eurodollar futures options, accounting for the differences in the levels and option−implied volatilities of LIBOR and the federal funds rate, but not adjusted for term premiums.
Source: CME Group; Federal Reserve Board staff estimates.

Figure 3: Desk Survey Average Probability Distribution of the Federal Funds Rate, Year−End 2018



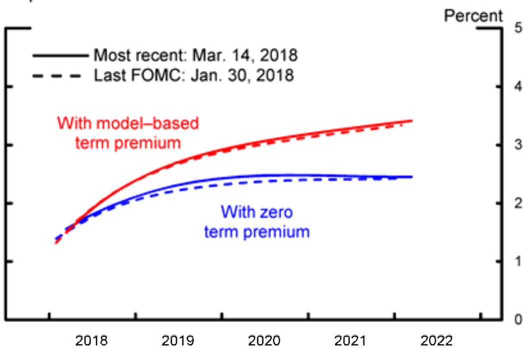
Note: Probabilities are averages of the probabilities assigned by respondents to different ranges of the federal funds rate at the end of 2018.
Source: FRBNY.

Figure 4: Historical Federal Funds Rate Expectations for the End of 2018



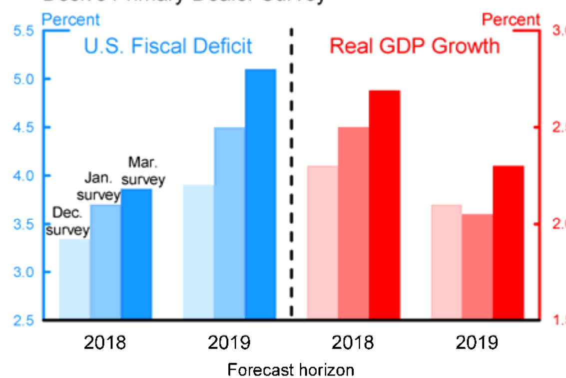
* Median of the respondents' modal forecasts for the federal funds rate.
** Estimated from respondents' year−end probability distributions.
*** Zero term premium path is estimated using overnight index swap quotes with a spline approach and no term premium adjustment. Model−based term premium path is estimated using a term structure model maintained by Board staff and corrects for term premiums.
Source: Bloomberg; Blue Chip Financial Forecasts; FRBNY; Federal Reserve Board staff estimates.

Figure 5: Market−Implied Federal Funds Rate Expectations



Note: Zero term premium path is estimated using overnight index swap quotes with a spline approach and no term premium adjustment. Model−based term premium path is estimated using a term structure model maintained by Board staff and corrects for term premiums.
Source: Bloomberg; Federal Reserve Board staff estimates.

Figure 6: Median Macroeconomic Forecasts from the Desk's Primary Dealer Survey



Note: Deficit estimates are for the U.S. federal fiscal deficit, as a percentage of GDP, for the fiscal year indicated in the forecast horizon. Real GDP growth is for Q4 of the forecast horizon over Q4 of the preceding year.
Source: FRBNY.

and early 2018 significantly exceeded the pace necessary to absorb new entrants (and reentrants) into the labor force and to maintain a constant unemployment rate over the longer run. Moreover, the recent acceleration in payrolls may be seen as a signal that, given accommodative financial conditions, monetary policy will need to tighten more than market participants currently anticipate if the Committee is to succeed in slowing economic growth to a sustainable pace.

- The staff forecasts that, from 2018 through 2020, average payroll gains will continue to run above their longer-run sustainable pace. Accordingly, the unemployment rate is projected to continue to decline, reaching 3.1 percent at the end of 2019 and moving sideways throughout 2020. Such a low rate of unemployment has not been reached in the United States for more than half a century.
- Other indicators pointing to an already tight labor market include an elevated rate of job openings, survey measures showing a high level of job availability, widespread reports of firms having difficulty hiring workers, and near-record-low initial claims for unemployment insurance.

- Policymakers may project that inflation will soon move above the Committee's 2 percent objective. Twelve-month rates of total and core PCE inflation have been held down by an unusually large decline in the price of cell phone services in March 2017. As this reading drops out of the 12-month calculation, inflation should move closer to the target. Beyond the near term, the staff projects that core PCE price inflation will move up to 2.2 percent and total PCE price inflation to 2.1 percent, respectively, in 2020, conditional on a rising path for the federal funds rate. Policymakers may believe that more concerted upward pressures on both wages and prices are likely to emerge following a prolonged period of labor market tightness.
- Despite the four increases in the target range for the federal funds rate implemented by the Committee between December 2016 and January 2018, financial conditions appear to remain highly supportive of growth. The stock market experienced considerable volatility and a decline in equity price indexes early in the intermeeting period, but those indexes have since mostly recovered their losses. Spreads on investment-grade and speculative-grade corporate bonds over comparable-maturity Treasury securities widened moderately but remained near the lower end of their historical ranges.

- Policymakers may judge that the economic outlook has strengthened in recent months.
  - Indicators of consumer and business sentiment—including as measured by the University of Michigan Surveys of Consumers, the ISM manufacturing index, and the Philadelphia Fed and Empire State future capital spending indexes—have been buoyant.
  - Foreign economic data released since the January FOMC meeting point to an upbeat start to this year, and the staff sees foreign growth picking up to 3 percent this quarter. Despite volatility in financial markets abroad, overall financial conditions continue to be supportive of foreign growth.
  - Recent tax cuts and spending legislation will provide significant stimulus to growth. The staff projects that the level of real GDP will be about 3½ percent above potential GDP by the end of 2020, about ¼ percentage point higher than in the January Tealbook.

Policy Strategy

- Despite past rate increases and a sequence of FOMC statements noting an expectation of further gradual hikes, employment and economic activity continue to expand more rapidly than is sustainable in the longer run. Consequently, policymakers may be concerned that market participants expect too small a cumulative increase in the federal funds rate, which would in turn risk significant overheating, inflation well above target, and eventually a need to tighten policy abruptly.
- Policymakers might be concerned that significant undershooting of the longer-run normal rate of unemployment, alongside accommodative financial conditions, could lead to a buildup of financial vulnerabilities. For example, in addition to already elevated asset valuations rising further, policymakers may also see the historically high levels of leverage in the nonfinancial corporate sector, and the accompanying danger that interest-expense ratios could rise rapidly if monetary policy needed to be tightened quickly, as a vulnerability.
- For all of the above reasons, policymakers may opt not only to raise the target range of the federal funds rate to 1½ to 1¾ percent but also to highlight that the Committee anticipates tightening policy enough to slow growth of output and employment to sustainable rates in coming years.

- A statement like Alternative C could surprise market participants, particularly if read as indicating an intention to raise the federal funds rate enough to slow growth to a sustainable pace fairly soon. If the public were to infer that the current Committee has a less accommodative "reaction function" than last year's Committee, then medium- and longer-term real interest rates would likely rise, as would the exchange value of the dollar, and equity prices and inflation compensation would probably fall.

THE CASE FOR ALTERNATIVE A

Economic Conditions and Outlook

- On a 12-month basis, core inflation has continued to run notably below 2 percent. Twelve-month core PCE inflation including only market-based prices was 1.1 percent in January. Policymakers may judge that inflation this year has been held down, at least in part, by persistent factors.
- One factor holding down both core and all-items inflation may be low expected inflation. Readings on market-based measures of inflation compensation remain substantially below where they were before the middle of 2014, and survey-based measures of longer-term inflation expectations also remain low by historical standards.
- Moreover, the labor market may not yet have reached maximum sustainable employment. The unemployment rate has declined about ¾ percentage point over the past year, and average job gains have been solid; nonetheless, wages have shown little sign of accelerating. The employment-to-population ratio for prime-age workers has been rising but still remains below its pre-recession level, suggesting scope for further labor market strengthening. In addition, the labor force participation rate jumped 0.3 percentage point to 63.0 percent in February. The behavior of labor force participation rate over the past four years suggests that its trend may well be higher than previously estimated.

Policy Strategy

- Policymakers may be concerned that longer-term inflation expectations have declined materially in recent years and could drift down further if inflation continues to run below 2 percent. Policymakers may further judge that raising the federal funds rate while inflation is below 2 percent runs the risk of creating the perception that the Committee sees its longer-run objective as a ceiling rather than as a symmetric objective.

  - In order to solidify the Committee's commitment to its inflation objective and to prevent further erosion in inflation expectations, policymakers may favor a statement like Alternative A and the addition of the sentence "A temporary period of inflation modestly above 2 percent would be consistent with the Committee's symmetric inflation objective and may be needed to ensure that longer-run inflation expectations are consistent with that objective."

- Policymakers may view the current state of the financial system as sound and see the potential for a 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 scope to address any emerging financial stability concerns through macroprudential policies and supervisory actions that target specific risks.

- Despite the likely stimulative effects of the recently enacted changes in federal taxes and spending, other policies could pose downside risk. Policymakers may judge that their ability to react to downside outcomes is limited by proximity to the effective lower bound.

- 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 a sustained return to the 2 percent inflation objective has been achieved.

- Financial market quotes and the Desk's latest surveys indicate that market participants view an increase in the target range at the March 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 and bring down expectations of further rate hikes. If the public saw this statement as primarily reflecting policymakers' resolve to push inflation up to or above 2 percent, then inflation compensation could rise, real longer-term interest rates would probably fall somewhat, and equity prices might rise. Lower real rates and the prospect of higher inflation likely would encourage depreciation of the dollar. Conversely, if investors read the statement as reflecting an unexpectedly downbeat assessment of the economic outlook, equity prices and inflation compensation could fall.

IMPLEMENTATION NOTE

If the Committee decides to maintain the current target range for the federal funds rate, an implementation note that indicates no change 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 raise the target range for the federal funds rate, an implementation note that communicates the changes the Federal Reserve decided to make 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 January directive and implementation note, bold red underlined text indicates added language, and blue underlined text indicates text that links to websites.

Alternatives

Implementation Note for March 2018 Alternative A

Release Date: March 21, 2018

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 ~~January 31~~ **March 21**, 2018:

- The Board of Governors of the Federal Reserve System voted **[** unanimously **]** to maintain the interest rate paid on required and excess reserve balances at 1.50 percent, effective ~~February 1~~ **March 22**, 2018.

- 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 ~~February 1~~ **March 22**, 2018, 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 1-1/4 to 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 1.25 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~~ **March** that exceeds $12 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~~ **March** that exceeds $8 billion. **Effective in April, 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 $18 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 $12 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 2.00 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 March 2018 Alternatives B and C

Release Date: March 21, 2018

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 ~~January 31~~ **March 21**, 2018:

- 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~~ **to** ~~1.50~~ **1.75** percent, effective ~~February 1~~ **March 22**, 2018.

- 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 ~~February 1~~ **March 22**, 2018, 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 ~~1-1/4 to~~ 1-1/2 **to 1-3/4** 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 ~~1.25~~ **1.50** 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~~ **March** that exceeds $12 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~~ **March** that exceeds $8 billion. **Effective in April, 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 $18 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 $12 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 2.00~~ **to 2.25** percent**, effective March 22, 2018**. 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.

Authorized for Public Release

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Balance Sheet and Income Projections

The staff has prepared projections of the Federal Reserve's balance sheet and elements of the associated income statement that are consistent with the baseline economic outlook presented in Tealbook A. Relative to the January Tealbook, the normalization of the size of the balance sheet occurs one quarter later, and the higher interest rate paths in the latest staff economic forecast lead to a larger unrealized loss position of the SOMA portfolio. 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 2017 will lead to the redemption of $36 billion of Treasury securities and $24 billion of agency securities during the current quarter. Over 2018 as a whole, holdings of Treasury and agency securities are projected to decline by about $230 billion and $140 billion, respectively. During this same period, about $200 billion of Treasury securities and about $60 billion of agency securities will be reinvested.[1] The projections for agency securities are particularly uncertain because unscheduled prepayments depend on a number of factors that are difficult to predict, including the realized path of mortgage rates.

Evolution of the size of the balance sheet. The size of the balance sheet is projected to normalize in the third quarter of 2021, about one month later than in the January Tealbook (see the exhibit titled "Total Assets and Selected Balance Sheet Items" and the table that follows the exhibit).[2] The revision in the timing of normalization reflects higher MBS holdings due to lower prepayments, as well as a slower pace of

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

[2] Many factors will influence the size at which the balance sheet will be normalized, including banks' post-crisis underlying demand for reserves. Generally speaking, the size of the balance sheet is considered to be normalized when the resumption of purchases of Treasury securities is required in order to maintain the desired longer-run level of reserve balances and accommodate the expansion of other key non-reserve liability items.

Redemptions and Reinvestments of SOMA Principal Payments

Projections for Treasury Securities
(Billions of dollars)

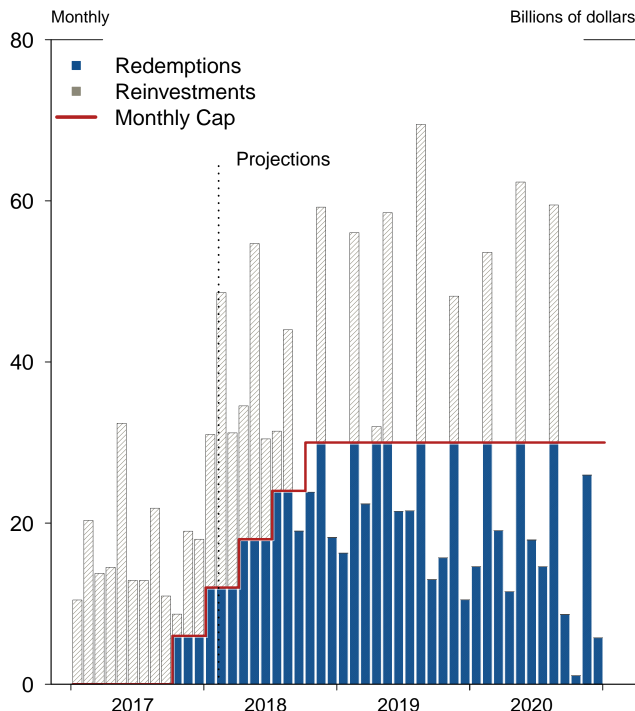
	Redemptions		Reinvestments	
	Period	Cumulative*	Period	Cumulative*
2018: Q1	36.0	54.0	74.8	102.5
2018: Q2	54.0	108.0	65.7	168.2
2018: Q3	67.0	175.0	27.4	195.6
2018: Q4	72.0	247.1	29.2	224.9
2019	270.8	517.8	114.2	339.1
2020	209.1	726.9	85.4	424.5
2021	271.1	998.1	69.8	494.3

* Since October 2017.

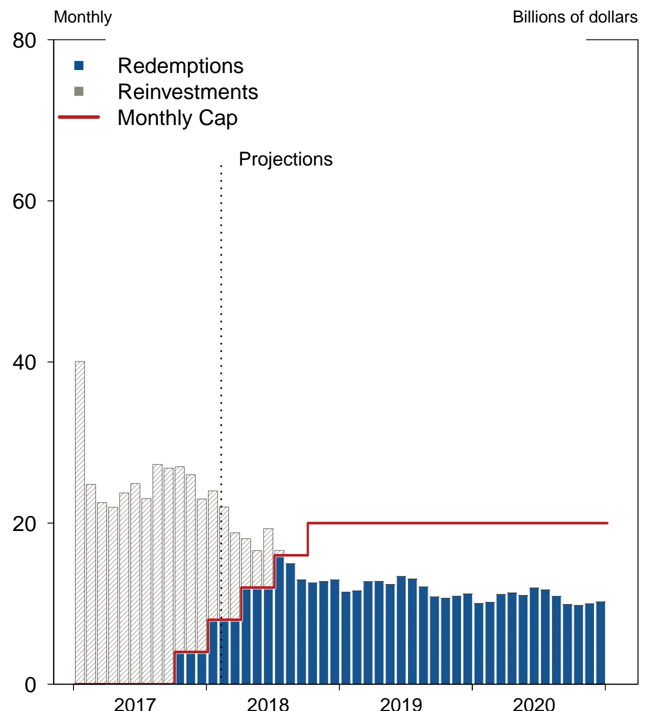
Projections for Agency Securities
(Billions of dollars)

	Redemptions		Reinvestments	
	Period	Cumulative*	Period	Cumulative*
2018: Q1	24.0	36.0	40.7	101.8
2018: Q2	36.0	72.0	17.7	119.5
2018: Q3	43.8	115.8	0.6	120.1
2018: Q4	38.2	154.1	0.0	120.1
2019	143	297.0	0.0	120.1
2020	128.1	425.1	0.0	120.1
2021	118.4	543.5	0.0	120.1

* Since October 2017.



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

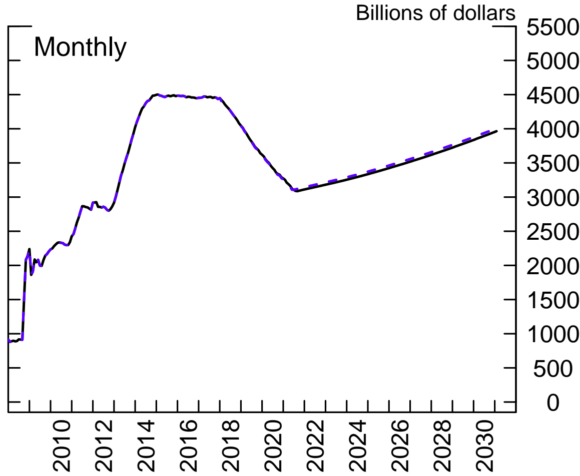


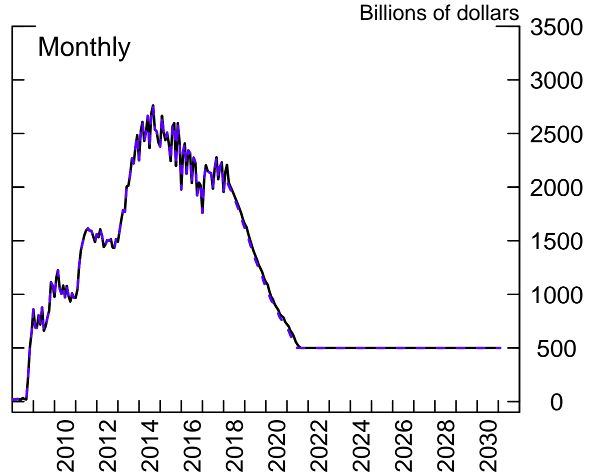
Note: Projection dependent on future interest rates and housing market developments.

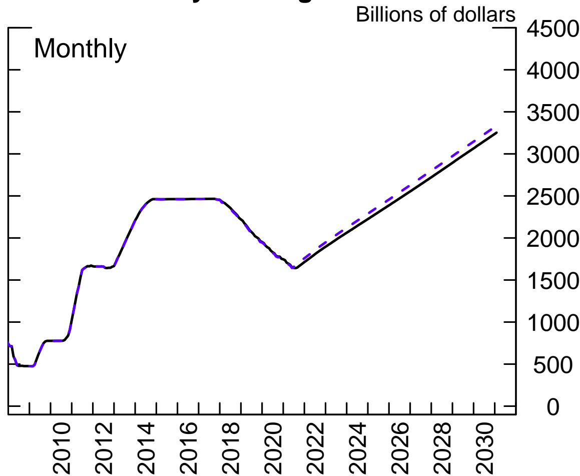
Balance Sheet & Income

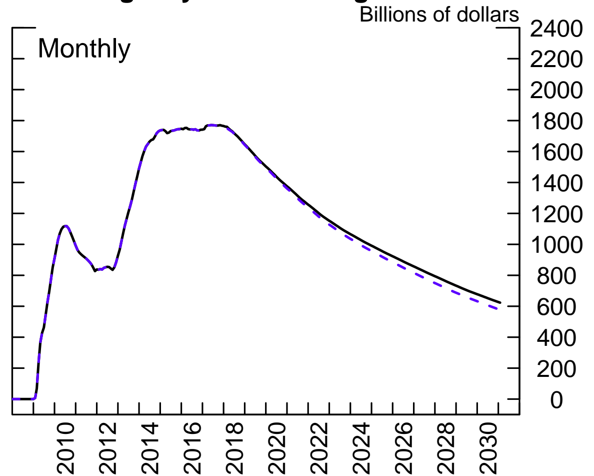
Total Assets and Selected Balance Sheet Items

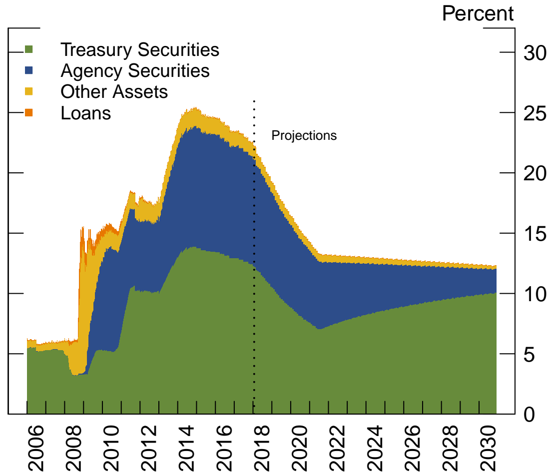
March Tealbook baseline — January Tealbook baseline

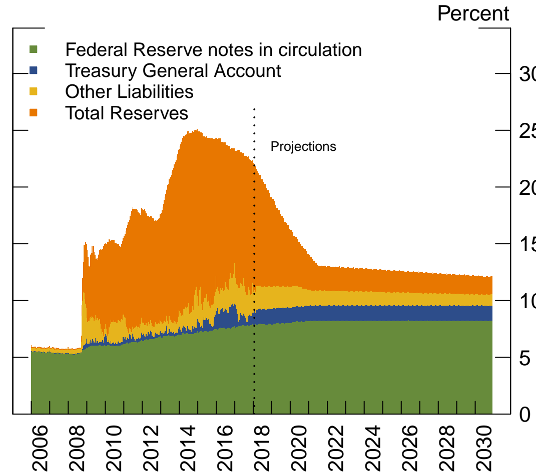












Balance Sheet & Income

Balance Sheet & Income

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

	Feb 28, 2018	2018	2020	2022	2024	2026	2030
Total assets	4,393	4,045	3,273	3,181	3,335	3,518	3,954
Selected assets							
Loans and other credit extensions*	2	0	0	0	0	0	0
Securities held outright	4,189	3,869	3,124	3,050	3,218	3,413	3,867
U.S. Treasury securities	2,424	2,220	1,747	1,895	2,224	2,553	3,237
Agency debt securities	4	2	2	2	2	2	2
Agency mortgage-backed securities	1,760	1,646	1,375	1,152	991	857	627
Unamortized premiums	156	141	111	91	76	63	43
Unamortized discounts	-14	-13	-10	-8	-7	-6	-4
Total other assets	61	48	48	48	48	48	48
Total liabilities	4,354	4,006	3,233	3,137	3,287	3,465	3,890
Selected liabilities							
Federal Reserve notes in circulation	1,580	1,663	1,874	2,003	2,132	2,286	2,652
Reverse repurchase agreements	277	330	255	230	230	230	230
Deposits with Federal Reserve Banks	2,484	2,008	1,099	898	919	944	1,003
Reserve balances held by depository institutions	2,208	1,656	721	500	500	500	500
U.S. Treasury, General Account	199	277	302	323	344	369	428
Other deposits	77	75	75	75	75	75	75
Earnings remittances due to the U.S. Treasury	1	0	0	0	0	0	0
Total Federal Reserve Bank capital**	39	39	40	44	48	53	63

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.

growth in Federal Reserve notes in the near term, two factors which imply higher reserve balances of depository institutions throughout the projection period.[3]

From the start of the balance sheet normalization program in October 2017 to its conclusion in 2021, the Federal Reserve's securities holdings are projected to decline by about $1.3 trillion, with holdings of Treasury and agency securities shrinking by about $800 billion and $475 billion, respectively. At the time of normalization:

- Reserve balances reach the assumed longer-run level of $500 billion;[4]
- Total assets are projected to stand at roughly $3 trillion, with the SOMA portfolio consisting of about $1.6 trillion in Treasury securities and $1.3 trillion in MBS.

Once these declines in asset holdings have taken place, 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 will rise, keeping pace with the projected increases in Federal Reserve liabilities including Federal Reserve notes in circulation, the Treasury General Account (TGA), and Federal Reserve Bank capital. However, when expressed as a share of nominal GDP, Federal Reserve assets and liabilities are projected to edge down, as their pace of expansion is projected to be slightly slower than that of current-dollar GDP.

Federal Reserve remittances. Remittances to the Treasury are projected to decline to about $55 billion this year from $80 billion in 2017.[5] This decline reflects both the projected increases in the interest rate paid on reserve balances associated with future increases in the target range for the federal funds rate (see the "Income Projections"

[3] Other factors contributing to this outcome are a slight decrease in capital as a result of the Bipartisan Budget Act of 2018, as well as a slight decrease in projected foreign repo pool balances.

[4] Other noteworthy assumptions about liability items underlying the projections are as follows: The Treasury General Account is assumed to increase in line with nominal GDP; Federal Reserve notes in circulation are assumed to increase at an average annual pace of about 6 percent through 2020 and at the same pace as nominal GDP thereafter; the foreign repo pool and balances in the accounts of designated financial market utilities remain at their February 2018 levels of about $232 billion and $70 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 take-up declines to zero over the course of one year.

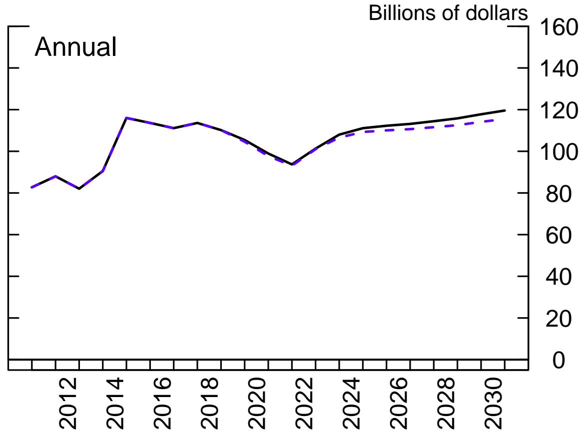
[5] The Federal Reserve Board's public announcement of remittances to the Treasury for 2017 is available at https://www.federalreserve.gov/newsevents/pressreleases/other20180110a.htm.

Balance Sheet & Income

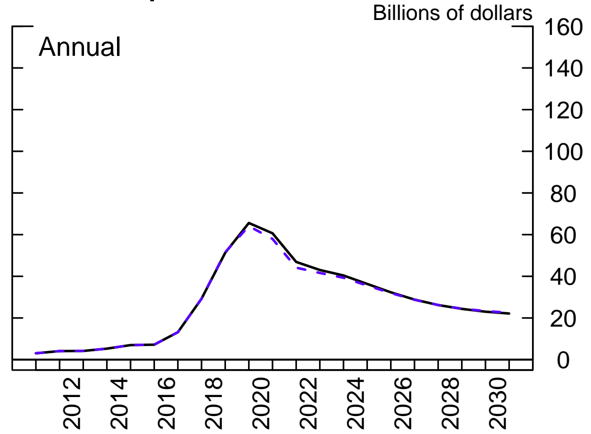
Income Projections

March Tealbook baseline — January Tealbook baseline

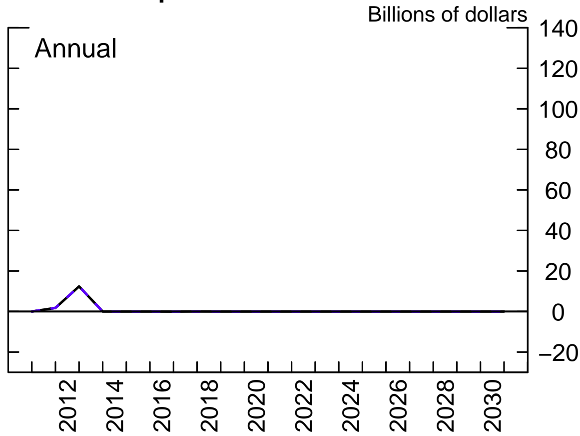
Interest Income



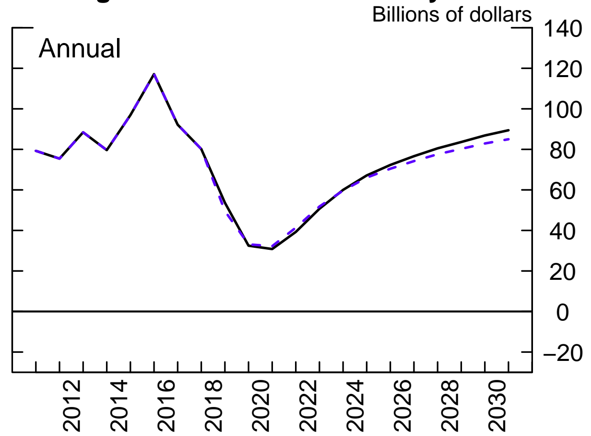
Interest Expense



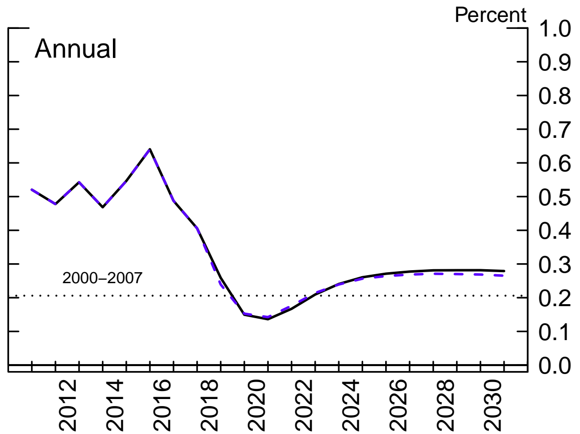
Realized Capital Gains



Earnings Remittances to Treasury



Remittances as a Percent of GDP



Memo: Unrealized Gains/Losses

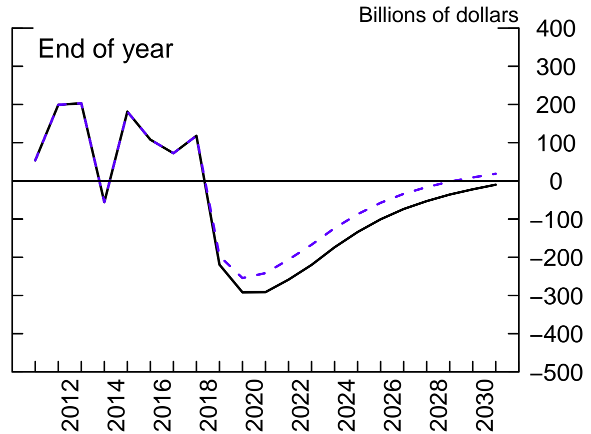


exhibit), and the $2.5 billion reduction in surplus.[6] Total interest expense is projected to rise to about $51 billion this year, while interest income from SOMA holdings is expected to decline slightly to $110 billion. As the target range for the federal funds rate moves up and the size of the SOMA portfolio decreases, remittances are expected to bottom out at about $31 billion in 2020. Thereafter, remittances begin to increase, particularly once the size of the balance sheet is normalized and higher-yielding Treasury securities are being added to the SOMA portfolio.

Projected remittances over the next few years are similar to the January Tealbook baseline. Subsequently, projected remittances are higher, largely due to the upward revision to the projection of the interest rates the SOMA will receive on Treasury securities purchased after normalization. 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 loss position of about $40 billion at the end of February. With longer-term rates expected to continue to rise over the next several years, the unrealized loss position is expected to reach nearly $300 billion in 2020:Q1. Of this amount, $120 billion is attributable to Treasury securities and $180 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. Relative to the January Tealbook baseline, the net unrealized position is projected to be, on average, about $40 billion more negative along the entire projection horizon, with this revision due to higher trajectories of medium- and longer-term interest rates.

[6] We continue to assume that the FOMC will set a 25 basis-point-wide target range for the federal funds rate for the duration of the projection, 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.

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

Date	March Tealbook	January Tealbook
Quarterly Averages		
2018:Q1	-86	-84
Q2	-83	-81
Q3	-80	-79
Q4	-77	-76
2019:Q4	-66	-66
2020:Q4	-58	-58
2021:Q4	-53	-52
2022:Q4	-49	-49
2023:Q4	-46	-46
2024:Q4	-43	-43
2025:Q4	-40	-40
2026:Q4	-37	-37
2027:Q4	-35	-35
2028:Q4	-33	-33
2029:Q4	-31	-31
2030:Q4	-29	-30

Term premium effect. As shown in the table "Projections for the 10-Year Treasury Term Premium Effect," SOMA securities held as a result of the Federal Reserve's asset purchase programs are currently estimated to be reducing the term premium in the 10-year Treasury yield by 86 basis points; this effect is projected to fade gradually over time.[7] This projection is little changed from the previous Tealbook.

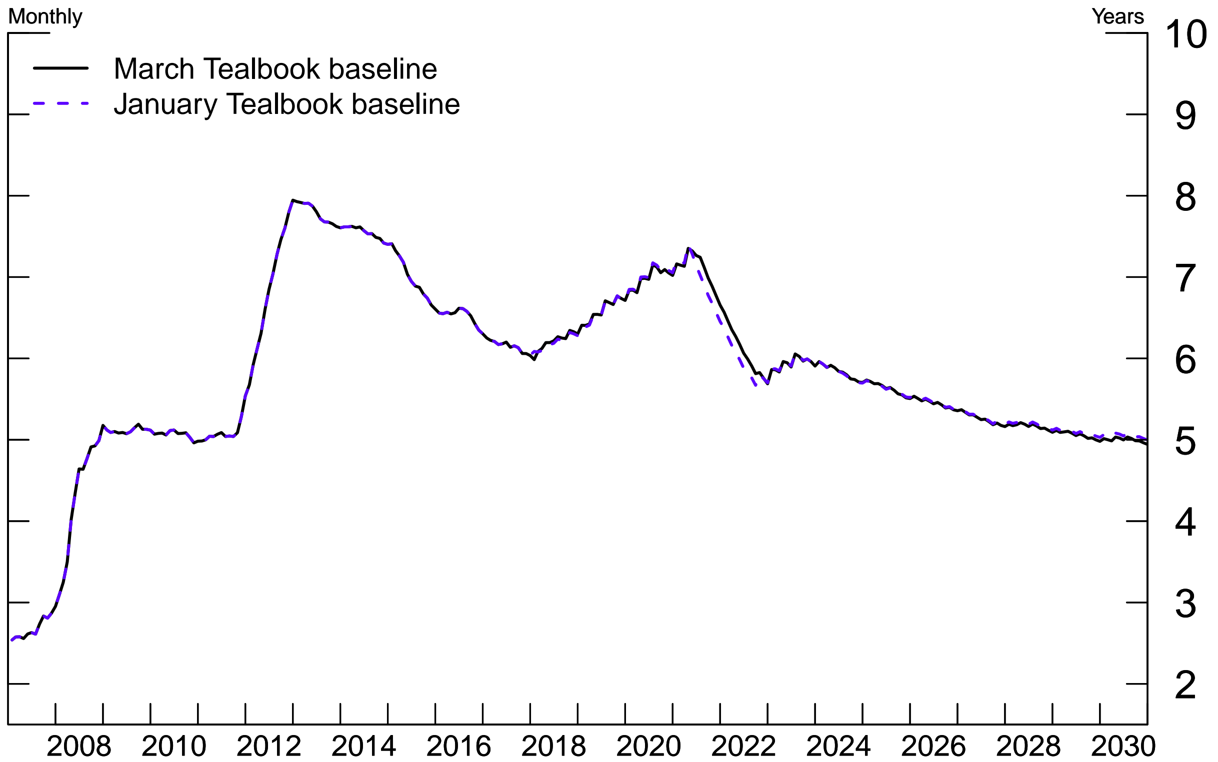
SOMA characteristics. As shown in the top panel of the "Projections for the Characteristics of SOMA Treasury Securities Holdings" exhibit, the weighted-average duration of the SOMA Treasury portfolio is currently about six years. The weighted-average duration of that portfolio is projected to increase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

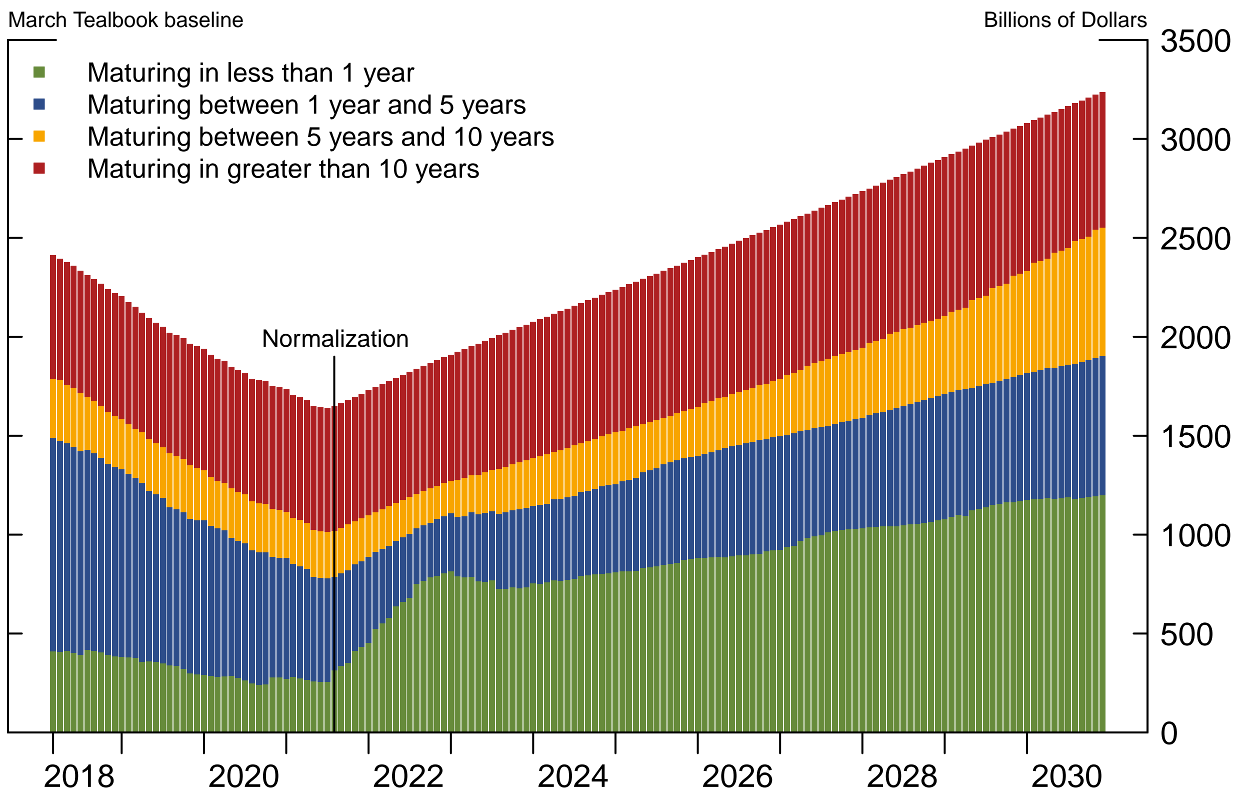
After normalization of the size of the balance sheet in 2021, the duration of the SOMA Treasury portfolio is projected to decline as the Federal Reserve resumes purchases of Treasury securities. The initial sharp decline in duration results from the staff's assumption that these purchases will be limited to Treasury bills until they account for one-third of the Federal Reserve's Treasury securities portfolio, close to the pre-crisis composition (currently the SOMA portfolio contains no Treasury bills). Thereafter, purchases of Treasury securities are assumed to be spread across the maturity spectrum (see the bottom panel of the exhibit).

[7] 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.

Balance Sheet & Income

Projections for the Characteristics of SOMA Treasury Securities Holdings





Abbreviations

ABS	asset-backed securities
AFE	advanced foreign economy
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)
TCJA	Tax Cuts and Jobs Act of 2017
TGA	U.S. Treasury’s General Account
TIPS	Treasury inflation-protected securities
TPE	Term premium effects
ZLB	zero lower bound