

## **Prefatory Note**

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Class I FOMC – Restricted Controlled (FR)

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# Report to the FOMC on Economic Conditions and Monetary Policy



## Book B Monetary Policy Alternatives

March 14, 2019

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

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## Monetary Policy Alternatives

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Information received since the Committee met in January indicates that the labor market has remained strong but that the growth of economic activity has slowed relative to last year's pace. Job gains were robust in January but slowed sharply in February, resulting in an average pace of job gains over the past three months of 186,000 per month. On the other hand, the unemployment rate declined to 3.8 percent in February while the labor force participation rate held firm at 63.2 percent. Real GDP expanded at a solid pace of 2.6 percent in the fourth quarter of 2018. While a step-down in output growth in 2019 had been anticipated for some time, low readings from the most recent spending indicators have led to a sizable downward revision in the staff's projection for real GDP growth in the first quarter. The staff expects a good portion of the recent softness to be transitory, forecasting output growth to bounce back in the second quarter and real GDP to grow a little under 2 percent over 2019. The staff estimates that the 12-month changes in headline and core PCE prices were 1.4 percent and 1.8 percent, respectively, in February. While energy prices are expected to weigh on total inflation over the next couple of years, core inflation is expected to run close to 2 percent.

Against this backdrop, the alternative policy statements presented below offer a range of options for communicating about the likely future path of monetary policy. Alternative B is intended to reaffirm the policy message that was conveyed in the January postmeeting statement. In particular, Alternative B continues to state that the Committee will be patient in determining what future adjustments to the target range for the federal funds rate may be appropriate. The case for a patient approach to monetary policy is buttressed by the uncertainty about the extent to which the recent softness in economic indicators will prove to be transitory. Alternative B acknowledges the slowing in economic growth in the first quarter and, while indicating that the labor market remains strong, downgrades the characterization of the average pace of job gains to "solid." The statement also notes that lower energy prices are currently holding down headline inflation and that, on balance, readings on longer-term inflation expectations are broadly similar to those at the time of the January meeting. Alternative B continues to indicate that the Committee views sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes.

Alternative A conveys a more accommodative posture than Alternative B—a posture that it portrays as necessary to shore up inflation and inflation expectations. It notes that some survey-based measures of longer-term inflation expectations have declined and, in paragraph 2, provides a more detailed outlook for inflation in which headline inflation is “expected to run below the Committee’s symmetric 2 percent objective in the near term.” The draft links the Committee’s intention to be patient to its aim “to support a sustained return to 2 percent inflation.”

In light of comments from FOMC participants that it would be useful to consider the possible evolution of the “patient” language, Alternative C is intended to illustrate two approaches the Committee could consider in the future if the economy continues to perform well and another increase in the federal funds rate might become appropriate. In such circumstances, the characterization of incoming data in the first paragraph could go a long way toward shaping expectations. Because current data do not support such an assessment, the draft of Alternative C omits the first paragraph. As shown in the second paragraph, the Committee could simply eliminate the sentence including the “patient” language. Alternatively, it could replace that sentence with one indicating that “some further policy firming may become appropriate.”

With regard to the specifics of the language in Alternatives A, B, and C:

- The assessment of the incoming data:
  - Alternatives A and B share the same characterizations of much of the incoming data. Both alternatives note that the labor market remains strong and that the unemployment rate remains low. Noting the weak reading on payroll growth in February, which followed robust growth in January, the alternatives describe average job gains in recent months as “solid.” Alternatives A and B state that growth of economic activity has slowed from its solid rate in the fourth quarter and that “recent indicators point to slower growth of household spending and business fixed investment in the first quarter.” They also state that “overall inflation has declined, largely as a result of lower energy prices” and that “inflation for items other than food and energy remains near 2 percent.”
  - Regarding indicators of inflation expectations, Alternative B states that “on balance, market-based measures of inflation compensation have remained low in recent months, and survey-based measures of longer-term inflation

expectations are little changed.” Alternative A also states that market-based measures “remain low” but adds that “some survey-based measures of longer-term inflation expectations have declined.”

- As noted above, Alternative C omits a description of the incoming data because it is intended to be considered in some future scenario in which the data point toward a potential need for further policy firming.
- The outlook for economic activity and inflation:
  - Under Alternatives B and C, the outlook for economic activity and inflation is unchanged from the January statement. These alternatives note that the Committee “continues to view sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee’s symmetric 2 percent objective as the most likely outcomes.”
  - Alternative A agrees that sustained expansion of economic activity and strong labor market conditions are the most likely outcomes, but then adds that “inflation is expected to run below the Committee’s symmetric 2 percent objective in the near term and then rise gradually toward 2 percent as labor market strength continues and the transitory effects of recent energy price declines dissipate.”
- For the current policy decision and the outlook for policy:
  - All three alternatives maintain the current target range for the federal funds rate.
  - Alternative B maintains the January perspective that “global economic and financial developments and muted inflation pressures” are factors that shape the outlook for policy and states that the Committee “will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate” to support the Committee’s outlook.
  - Alternative A more directly links inflation and the policy outlook, stating that “in light of global economic and financial developments and to support a sustained return to 2 percent inflation, the Committee will be patient as it determines” future adjustments to the target range.
  - Alternative C presents two options: one in which no outlook for policy is given, and one in which policymakers anticipate that “some further policy firming may become appropriate.”

**JANUARY 2019 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. Job gains have been strong, on average, in recent months, and the unemployment rate has remained low. Household spending has continued to grow strongly, while growth of business fixed investment has moderated from its rapid pace earlier last year. On a 12-month basis, both overall inflation and inflation for items other than food and energy remain near 2 percent. Although market-based measures of inflation compensation have moved lower in recent months, survey-based measures of longer-term inflation expectations are little changed.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 2-1/4 to 2-1/2 percent. The Committee continues to view sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes. In light of global economic and financial developments and muted inflation pressures, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes.
3. 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 maximum employment objective and its symmetric 2 percent inflation objective. 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.

**ALTERNATIVE A FOR MARCH 2019**

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** indicates that the labor market ~~has continued to strengthen and~~ **remains strong but** that **growth of** economic activity has ~~been rising at a~~ **slowed from its** solid rate **in the fourth quarter**. **Payroll employment was little changed in February, but** job gains have been ~~strong~~ **solid**, on average, in recent months, and the unemployment rate has remained low. **Recent indicators point to slower growth of** household spending ~~has continued to grow strongly, while~~ ~~growth of~~ **and** business fixed investment ~~has moderated from its rapid pace earlier last year~~ **in the first quarter**. On a 12-month basis, ~~both~~ overall inflation **has declined, largely as a result of lower energy prices;** and inflation for items other than food and energy ~~remains~~ **near 2 percent**. ~~Although~~ Market-based measures of inflation compensation ~~have moved lower in recent months~~ **remain low, and some** survey-based measures of longer-term inflation expectations ~~are little changed~~ **have declined**.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 2-1/4 to 2-1/2 percent. The Committee continues to view sustained expansion of economic activity, **and** strong labor market conditions, ~~and inflation near the Committee's symmetric 2 percent objective~~ as the most likely outcomes. **Inflation is expected to run below the Committee's symmetric 2 percent objective in the near term and then rise gradually toward 2 percent as labor market strength continues and the transitory effects of recent energy price declines dissipate.** In light of global economic and financial developments ~~and muted inflation pressures~~ **and to support a sustained return to 2 percent inflation**, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate ~~to support these outcomes~~.
3. 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 maximum employment objective and its symmetric 2 percent inflation objective. 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.



**ALTERNATIVE B FOR MARCH 2019**

1. Information received since the Federal Open Market Committee met in ~~December~~ **January** indicates that the labor market ~~has continued to strengthen and~~ **remains strong but** that **growth of** economic activity has ~~been rising at a~~ **slowed from its** solid rate **in the fourth quarter**. **Payroll employment was little changed in February, but** job gains have been ~~strong~~ **solid**, on average, in recent months, and the unemployment rate has remained low. **Recent indicators point to slower growth of** household spending ~~has continued to grow strongly, while growth of~~ **and** business fixed investment ~~has moderated from its rapid pace earlier last year~~ **in the first quarter**. On a 12-month basis, ~~both~~ overall inflation **has declined, largely as a result of lower energy prices;** and inflation for items other than food and energy remains ~~near~~ **2** percent. ~~Although~~ **On balance,** market-based measures of inflation compensation have ~~moved lower~~ **remained low** in recent months, **and** survey-based measures of longer-term inflation expectations are little changed.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 2-1/4 to 2-1/2 percent. The Committee continues to view sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes. In light of global economic and financial developments and muted inflation pressures, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes.
3. 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 maximum employment objective and its symmetric 2 percent inflation objective. 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.

## ALTERNATIVE C FOR MARCH 2019

1. Information received since the Federal Open Market Committee met in...
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. In support of these goals, the Committee decided to maintain the target range for the federal funds rate at 2-1/4 to 2-1/2 percent. The Committee continues to view sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective as the most likely outcomes. ~~In light of global economic and financial developments and muted inflation pressures, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes.~~ **[ The Committee anticipates that some further policy firming may become appropriate to support these outcomes. ]**
3. 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 maximum employment objective and its symmetric 2 percent inflation objective. 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 CASE FOR ALTERNATIVE B

### Economic Conditions and Outlook

- Much of the recent spending data have been softer than anticipated, indicating that growth of economic activity slowed from its solid rate in the fourth quarter. Data on retail sales, motor vehicle sales, new orders of capital goods, construction activity, and industrial production indicate that the growth rates of household and business spending have slowed. The staff now projects that real GDP growth in the first quarter will be 1 percent, down from 2.3 percent at the time of the January FOMC meeting. Hence, the step-down in growth from the previous quarter is larger than had been anticipated in January and lowers the overall 2019 growth forecast. However, in light of labor market readings that, on balance, have remained solid over recent months, an easing in financial conditions, and still-favorable consumer sentiment, this first quarter weakness is expected to be transitory.
- Available data indicate that the labor market remains strong.
  - While the January non-farm payrolls report was stronger than expected, the February report was considerably weaker; weather effects may explain a part of both surprises. Smoothing through the volatile readings, nonfarm payroll gains averaged a solid 186,000 in the three months ending in February, a level of job growth that remains well above the pace that the staff estimates is consistent with no change in resource utilization.
  - In contrast to the payrolls data, the unemployment rate moved back down to 3.8 percent in February, and the labor force participation rate held at 63.2 percent. The unemployment rate has fluctuated in a limited range around its current level over the past year. Although it remains below all participants' estimates of the longer-run rate of unemployment in the December Summary of Economic Projections, policymakers do not expect high levels of labor utilization to generate notable upward pressure on inflation.
  - Consistent with a strong labor market, average hourly earnings rose 3.4 percent over the 12 months ending in February, extending the gradual upward trend seen in this series in recent years.
- Headline inflation has been held down by recent declines in energy prices and is projected to run a bit below the Committee's 2 percent goal, though core inflation is projected to remain near 2 percent.

- The staff expects the change in total and core PCE prices to be 1.4 percent and 1.8 percent, respectively over the 12 months ending in February. Recent declines in oil prices are expected to weigh on total PCE inflation in the near term.
- Since the turn of the year, measures of market-based inflation compensation have partially reversed their declines last fall, but the level of inflation compensation 5-to-10 years ahead remains about 25 basis points lower than at the time of the September 2018 FOMC meeting. While the most recent reading of longer-term inflation expectations from the Michigan consumer survey represented a decline to the lowest end of its historical range, these readings can be volatile.
- After deteriorating markedly late last year, investor sentiment towards risky assets has continued to rebound as a result of FOMC communications following the January meeting that were more accommodative than expected and renewed optimism regarding trade negotiations with China. This improvement in investor sentiment led to an easing of financial conditions since the turn of the year, with increases in equity prices, declines in yields and spreads on corporate bonds, and little change in Treasury yields.<sup>1</sup>
- Nonetheless, a number of downside risks persist. Continued evidence of a slowdown in foreign growth, ongoing uncertainty about Brexit and the outcome of U.S.-China trade negotiations, fiscal policy uncertainty, and the softer first-quarter readings on household and business spending data all pose downside risks for economic activity. In addition, indicators of longer-term inflation expectations bear watching.

## Policy Strategy

- Policymakers may have anticipated a moderation in overall output growth from 2018 to 2019, and see the somewhat deeper-than-expected dip in estimated first quarter growth rates of household and business spending as transitory. Consequently, they may anticipate a rebound in spending growth over the remainder of 2019 and therefore see economic conditions as evolving broadly in line with their expectations, notwithstanding notable risks.

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<sup>1</sup> See the Tealbook A box titled “The Partial Recovery in Investor Risk Sentiment This Year” for a detailed review of the evolution of risk sentiment over the latter part of last year and since the start of this year.

- The Committee may see the current dip in headline inflation as transitory—being largely a reflection of energy price movements—and anticipate that inflation will continue to run close to the Committee’s symmetric 2 percent inflation goal over the medium term.
- Seeing muted inflation pressures in the context of near-potential growth and the policy rate within the range of estimates of its neutral level, policymakers may deem the current stance of policy as appropriate.
- In light of the current constellation of incoming and projected data, policymakers may see elevated uncertainty about the underlying state of the economy. In such a circumstance, policymakers may wish to signal that they remain patient and attentive to the arrival of new data that may alter their judgement about the appropriate stance of monetary policy.
- Market quotes along with responses to the Desk’s latest surveys of primary dealers and market participants indicate that an increase in the target range at the March meeting is seen as highly unlikely. A statement such as Alternative B also appears generally in line with the expectations of respondents to the Desk’s surveys. In particular, respondents appear to anticipate downgrades to the descriptions of household and business spending and a moderation of the Committee’s description of job gains; most respondents expect no substantial changes to the economic outlook or the “patient” language. Consequently, a statement along the lines of Alternative B seems unlikely to generate appreciable changes in asset prices.

## Monetary Policy Expectations and Uncertainty

Measures of the expected path for the federal funds rate based on financial market prices declined on net over the intermeeting period. Investors attributed these declines in part to the January FOMC communications that were perceived as more accommodative than expected, in particular the indication that the Committee would be “patient” in adjusting the stance of policy. These and subsequent communications from policymakers appeared to outweigh upward pressure on the market-based path of policy from improved risk sentiment and, on balance, positive responses to domestic data releases. Respondents to the Desk’s March surveys similarly revised down their federal funds rate projections.

Quotes on federal funds futures contracts imply that investors continue to attach virtually zero probability to a 25-basis-point increase in the target range for the federal funds rate at the March FOMC meeting (not shown). Looking further ahead, a straight read of the probability distribution for the federal funds rate at the end of 2019 implied by options quotes became noticeably less dispersed, with the mode of the distribution suggesting no change to the federal funds rate through the end of this year (figure 1). In contrast, the median of respondents’ modal expectations in the Desk’s March surveys points to one 25-basis-point rate hike in 2019, with the most likely timing of that rate hike the December FOMC meeting. Relative to the January surveys, the median respondent now expects one fewer rate hike this year (not shown).

Figure 2 compares the current level of various measures of the expected federal funds rate over the next few years. A straight read of forward rates derived from overnight index swap quotes (the solid blue line) suggests that investors expect the federal funds rate to remain close to its current level through 2019 and to decline about 20 basis points in 2020. In contrast, the latest path from a staff term structure model that adjusts for term premiums (the solid red line) continues to suggest further gradual increases in the federal funds rate; about 35 basis points in 2019 and additional increases thereafter. Of note, the path from the staff’s model beyond 2019 lies above the projections from the March Blue Chip survey (the yellow diamonds)<sup>1</sup>, as well as above the modal path reported by the median respondent to the Desk’s March surveys (the brown line). As shown by the dashed lines in figure 2, both the unadjusted and adjusted market-based paths declined about 10 basis points for end-2019 and end-2020.

Figure 3 shows the dispersion of respondents’ modal federal funds rate projections from the Desk’s March surveys (in blue) relative to the January surveys (in green). Each dot in the figure is centered on a different projected

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<sup>1</sup> The staff model incorporates the historical relationship between Blue Chip survey forecasts for the federal funds rate and contemporaneous OIS quotes. The model and surveys are therefore not entirely independent sources of information.

rate and is scaled in size by the number of respondents making that projection. While dispersion is low among respondents' modal projections for the federal funds rate at the end of 2019, projections become noticeably dispersed at longer horizons. A small number of respondents continue to have modal projections that decline substantially in 2020 and 2021.

Figure 4 shows measures of the longer-run expected federal funds rate. A straight read of forward rates at longer horizons implied by Treasury yields (the blue line) suggests that investors' current expectation for the average federal funds rate 5 to 10 years ahead declined a bit to about 2.8 percent. Adjusting for term premiums using various staff term structure models (with the light-red-shaded region showing a range of three such model estimates) continues to suggest that 5-to-10-year-ahead expectations are above the unadjusted forward rates, at between 3.1 and 3.9 percent, consistent with a negative term premium at those horizons. In contrast, surveys of professional forecasters suggest that longer-run expectations lie closer to the unadjusted forward rates; the average longer-run forecast from the December Blue Chip survey (the yellow diamonds) and the median forecast from the Desk's March surveys (the green diamonds) are 3 and 2.75 percent, respectively.

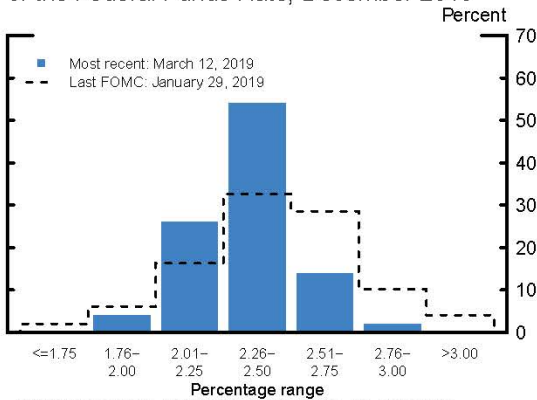
The Desk's March surveys again asked respondents for their projections of the par value of the SOMA portfolio at the end of 2019, conditional on different levels for the target federal funds rate at year-end. Figure 5 shows the medians and interquartile ranges of the individual responses. If the federal funds rate ends the year at or above its current level, the median respondent expects the value of the SOMA portfolio to decline from its end-February level of \$3.8 trillion (the dotted line) to about \$3.5 trillion by year-end (the blue bars), roughly \$100 billion higher than in the January surveys (the green bars). Respondents continue to expect the value of the SOMA portfolio to fall by less if the federal funds rate ends the year below its current level.

A new question in the Desk's March surveys asked respondents to provide their most likely timing for the announcement and initial implementation of a plan to stop reducing the Federal Reserve's asset holdings. The median of respondents' modal expectation is for such a plan to be announced at the March meeting with an initial implementation to occur in the third quarter of 2019 (not shown).

Figure 6 shows results from another new question which asked respondents to state their most likely timing for when they expect the domestic SOMA portfolio to first exhibit material quarter-over-quarter growth. Respondents generally expect growth to first occur in 2020, although respondents had disperse views about which quarter this initial growth is most likely to occur. In a repeat of a question last asked in the Desk's December 2018 surveys, the median respondent now expects reserve balances to reach a lowest average weekly level of \$1.2 trillion between now and the end of 2025, \$200 billion higher than in December.

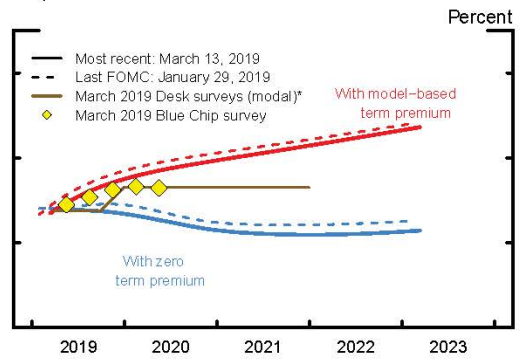


Figure 1: Market-Implied Probability Distribution of the Federal Funds Rate, December 2019



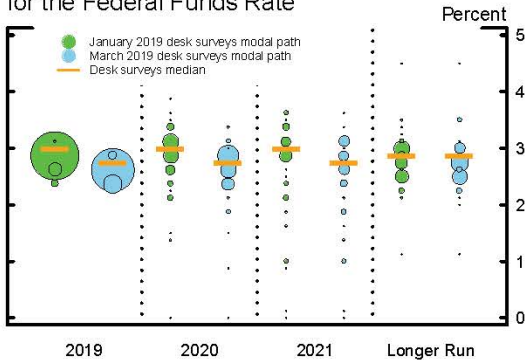
Note: Estimated from federal funds futures options, not adjusted for risk premiums.  
Source: CME Group; Federal Reserve Board staff estimates.

Figure 2: Measures of Federal Funds Rate Expectations



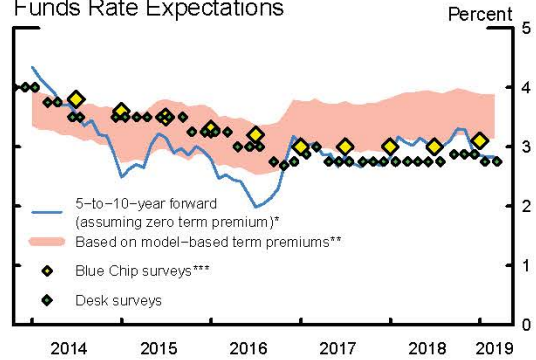
Note: Zero term premium path is estimated using overnight index swap quotes with a spline approach and a term premium of zero basis points. Model-based term premium path is estimated using a term structure model maintained by Board staff and corrects for term premium. The Blue Chip path is the average of respondents' expectations for the federal funds rate.  
\* Median of respondents' modal paths for the federal funds rate.  
Source: Bloomberg; Blue Chip; Board staff calculations; FRBNY.

Figure 3: Desk Surveys Modal Projections for the Federal Funds Rate



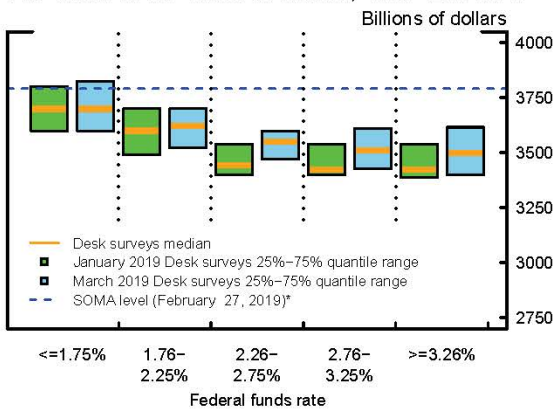
Note: Based on all responses from the January and March 2019 Desk surveys. Each dot is centered on a different projected rate and is scaled in size by the number of respondents making that projection.  
Source: FRBNY.

Figure 4: Measures of Longer-Run Federal Funds Rate Expectations



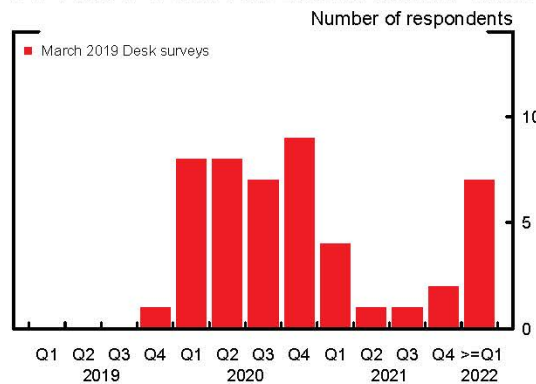
\* Monthly average 5-to-10-year forward rate derived from prices of Treasury securities.  
\*\* Monthly average 5-to-10-year forward rate adjusted for three alternative model-based term premium estimates using Kim and Wright (2005), D'Amico, Kim, and Wei (2018), and Priebsch (2017).  
\*\*\* Most recent long-run survey value is from the December 2018 Blue Chip survey.  
Source: Blue Chip; FRBNY; Federal Reserve Board staff estimates.

Figure 5: Desk Surveys Projections for the Par Value of the SOMA Portfolio, Year-End 2019



Note: Based on all responses from the January and March 2019 Desk surveys. Projections are shown conditional on different ranges of the target federal funds rate at year-end 2019.  
\* SOMA level is indicated at the time of the March 2019 Desk surveys.  
Source: FRBNY.

Figure 6: Expected Quarter in which the Par Value of the SOMA Portfolio First Exhibits Material Growth



Note: Conditional on not moving to the zero-lower bound at any point between now and the end of 2025. Based on all responses from the March 2019 Desk surveys.  
Source: FRBNY.



## THE CASE FOR ALTERNATIVE A

Alternative A conveys a more accommodative monetary policy posture than Alternative B. It emphasizes a more downbeat interpretation of current measures of longer-term inflation expectations, highlights that inflation is expected to run below the Committee's symmetric 2 percent objective in the near term, and directly links the Committee's intention to be patient with its goal of supporting a sustained return to 2 percent inflation. This would signal a reduction in the likelihood of future target range increases, particularly in the near-term, and perhaps increase the perceived odds of reductions in the policy rate down the road.

Policymakers may wish to express greater concern about inflation expectations. The most recent Michigan consumer survey reports that 5-10 year inflation expectations dropped 0.3 percentage points to 2.3 percent in February, a level reached only once before in the survey's history. Meanwhile, 5-to-10 year TIPS-based inflation compensation declined noticeably last fall and, while it has increased somewhat since the turn of the year, it remains about 25 basis points below its level at the time of the September FOMC. Policymakers could judge that market-based measures of forward inflation compensation "remain low" and that "some survey-based measures of longer-term inflation expectations have declined."

Policymakers may judge that solid job growth and gradually firming compensation data indicate that the labor market improved at a steady pace over the past few years without generating a sizable increase in inflation, which continues to run below the Committee's symmetric 2 percent objective. Meanwhile, recent data suggest that the growth rates of household and business spending have been slowing from their pace last year. Although the current drag on headline inflation from energy prices is expected to be transitory, policymakers may now see more significant risks that inflation could fail to return to the Committee's 2 percent objective on a sustained basis, particularly if resource utilization were to soften. If so, they may favor Alternative A, which notes that inflation "is expected to run below the Committee's symmetric 2 percent objective in the near term and then rise gradually toward 2 percent as labor market strength continues and the transitory effects of recent energy price declines dissipate."

If policymakers judge that the risk of inflation running persistently below target has increased, they may deem it prudent to emphasize their commitment to support a sustained return of inflation to the Committee's symmetric 2 percent objective.

Additionally, despite the recent improvement in financial conditions, the risks posed by global economic and financial developments remain significant. Alternative A states: “In light of global economic and financial developments and to support a sustained return to 2 percent inflation, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate.”

A statement from the Committee such as Alternative A could be seen by market participants as signaling a more accommodative path for the policy rate than had been anticipated. If this was perceived as a reaction to the worsening economic outlook, market expectations for the federal funds rate would likely fall, together with equity prices, the exchange value of the dollar, and possibly inflation compensation. However, if market participants judged Alternative A as indicating a more accommodative policy reaction function, then equity prices and inflation compensation would likely rise, while market expectations for the federal funds rate would fall.

## THE CASE FOR ALTERNATIVE C

Alternative C illustrates two possibilities the Committee could consider in circumstances in which the economy continues to perform well and the case for further increases in the target range for the federal funds rate has materially strengthened. Because Alternative C is primarily meant to spur thinking on future statement language in circumstances different from the current juncture, it omits the usual discussion of recent data in the first paragraph. Presumably, at a time when Alternative C became appropriate, the language of the first paragraph would signal a view of a strengthening economy or firming inflation; it is also possible that either of these signals would be in postmeeting statements prior to the removal of the “patient” language.

If policymakers see a growing likelihood for another increase in the target range and believe that the “patient” language may no longer be appropriate, one option may be to simply eliminate the sentence stating that “In light of global economic and financial developments and muted inflation pressures, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes.” Policymakers may see the characterization of the incoming economic data in paragraph 1 as the primary way to signal that the economic outlook has changed. They may therefore simply prefer to omit the sentence,

particularly if policymakers wish to avoid any form of explicit forward guidance about policy rate decisions, even in the near-term.

Alternative C includes a second option, which is to replace the “patient” sentence with “The Committee anticipates that some further policy firming may be become appropriate to support these outcomes.” This alternative represents a more direct acknowledgment of the potential for rate hikes, and it borrows the “some further policy firming” language from FOMC statements used at the end of the previous tightening cycle in 2006. Policymakers may see this option as addressing a need to provide more clarity than is given by simply deleting the sentence containing the “patient” language. While the sentence indicates a bias toward an increase in the target range in the future, the inclusion of the phrase “may become” limits the commitment implied by the change in language. The Committee may feel that this kind of guidance implies less risk of a policy surprise, while preserving optionality for future rate hikes.

## IMPLEMENTATION NOTE

Under any of the Alternatives, the Committee would issue an implementation note that indicates no change to the Federal Reserve's administered rates—the interest rate on required and excess reserve balances, the offering rate on overnight reverse repurchase agreements, and the primary credit rate. In the draft implementation note on the following pages, two versions of the paragraph that directs the Desk's Treasury securities redemptions are provided: One that corresponds to a decision to continue Treasury securities redemptions at their current pace and one that corresponds to a decision to taper the cap on Treasury securities redemptions to \$20 billion per month on April 1. As usual, 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.

## Implementation Note for March 2019 (all Alternatives)

*Release Date: March 20, 2019*

### 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 30, 2019~~ **March 20, 2019**:

- The Board of Governors of the Federal Reserve System voted [ unanimously ] to maintain the interest rate paid on required and excess reserve balances at 2.40 percent, effective ~~January 31, 2019~~ **March 21, 2019**.
- 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 ~~January 31, 2019~~ **March 21, 2019**, 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 2-1/4 to 2-1/2 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 2.25 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 that exceeds \$30 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 that exceeds \$20 billion. Small deviations from these amounts for operational reasons are acceptable.

\*\* OR \*\*

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 \$30 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 \$20 billion.** ~~and~~ **The Committee directs the Desk** 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 that exceeds \$20 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 3.00 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](#).

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## Balance Sheet and Income Projections

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

As in the January Tealbook, the projections assume that the reduction of the size of the balance sheet continues until reserve balances decline to \$1 trillion, about \$700 billion lower than their current level.<sup>1</sup> In the current Tealbook, the staff kept policy assumptions regarding the near-term evolution of the Federal Reserve's balance sheet unchanged from the January Tealbook. However, the projections incorporate revisions to several technical assumptions as explained below.

First, the assumptions for the paths of various liability items have been revised. Previously, all liability items other than reserves, Federal Reserve notes, and the Treasury General Account (TGA) were assumed to remain constant at their most recent monthly values throughout the projection period, and reserve balances were assumed to remain constant once they reached \$1 trillion.<sup>2</sup> As a result, along the projection contour, liabilities other than Federal Reserve notes and the TGA were declining as a share of nominal GDP. The projections now assume that all liability items, including reserve balances, the foreign repo pool, and DFMU balances, grow in line with nominal GDP after the level of reserve balances reaches \$1 trillion in order to accommodate increasing demand for Federal Reserve liabilities.<sup>3</sup> This change implies that the size of the

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<sup>1</sup> For illustrative purposes, the current projections continue to assume that the average level of reserves will stabilize at \$1 trillion. However, as discussed in the March FOMC memo "Transitioning to an Ample Reserves Regime with Lower Reserves," the actual level at which reserves stabilize will need to be chosen in light of information on banks' reserve demand.

<sup>2</sup> Reflecting historical growth over recent years, Federal Reserve notes in circulation are assumed to increase at an average annual pace of about 6 percent through 2021, and to grow at the same pace as nominal GDP thereafter. The value of the TGA balance at the start of the projection period is now set to the most recent three-month historical average that would exclude those months within debt-limit episodes, whereas in the January Tealbook the TGA balance at the start of the projection was set to its most recent monthly average. This revised assumption smooths the effects of historical monthly swings in the TGA balance on its projected levels and, at the same time, prevents large changes that occur during debt-limit episodes from affecting the projected longer-run path for the TGA. For the remainder of the projection period, we continue to assume that the TGA grows in line with nominal GDP.

<sup>3</sup> Historically, reserves have not grown in line with nominal GDP. However, in an ample reserves operating regime with reserves remunerated at a rate close to that on other short-term investments, it seems likely that banks' demand for reserves will expand over time roughly in line with the expansion of total bank assets. We assume that bank assets, in turn, will grow in line with nominal GDP.



Federal Reserve's balance sheet relative to nominal GDP is projected to be constant in the long run.

Second, the staff has adopted a new methodology to calculate the effect of SOMA securities holdings on the term premium embedded in longer-term interest rates. Going forward, Tealbook projections will report the total effect of all SOMA securities holdings, rather than focusing solely on the effect of the holdings accumulated as a result of the Federal Reserve's asset purchase programs. Further details of this new methodology and its implications for the projections are discussed in the last section "Total Term Premium Effect."

***Evolution of the SOMA portfolio.*** The staff projects that, under the balance sheet normalization program initiated in October 2017, redemptions through 2019:Q1 will total \$316 billion of Treasury securities and \$218 billion of agency securities (see the table in the exhibit "Redemptions and Reinvestments of SOMA Principal Payments"). During this same period, reinvestments of principal payments on Treasury and agency securities are projected to be \$250 billion and \$152 billion, respectively.<sup>4</sup> Under the current assumptions, redemptions would total about \$950 billion by the time they cease in the first quarter of 2020. Of this total, redemptions of Treasury and agency securities comprise about \$565 billion and \$383 billion, respectively.

By the time the decline in reserves ends, the size of the SOMA portfolio is projected to be slightly less than \$3.4 trillion, consisting of about \$1.9 trillion in Treasury securities and \$1.4 trillion in agency securities. At that time, the size of the balance sheet is projected to stand at roughly 16 percent of nominal GDP, with nonreserve liabilities totaling 11 percent (see the bottom panels of the exhibit titled "Total Assets and Selected Balance Sheet Items"). Because of the new assumption for the evolution of liability items, once the decrease in reserves is halted, the size of the balance sheet is projected to remain at a constant 16 percent share of GDP. For comparison, the size of the balance sheet as a share of GDP peaked at about 25 percent in the fourth quarter of 2014 and averaged about 5 percent over the decade prior to the crisis.

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<sup>4</sup> Further reinvestments of agency MBS are unlikely to occur and future reinvestments of principal from maturing Treasury securities will take place primarily in the middle month of each quarter (see the bottom panel in the exhibit "Redemptions and Reinvestments of SOMA Principal Payments"). However, the projections for agency MBS are subject to considerable uncertainty because of unscheduled prepayments.

## Redemptions and Reinvestments of SOMA Principal Payments

Projections for Treasury Securities  
(Billions of dollars)

	Redemptions		Reinvestments	
	Period	Since	Period	Since
		Oct. 2017		Oct. 2017
2019: Q1	68.7	315.7	26.1	250.3
2019: Q2	81.5	397.2	30.5	280.8
2019: Q3	64.5	461.7	39.5	320.3
2019: Q4	56.2	517.9	18.2	338.4
2018	229.1	247.1	197.1	224.2
2019	270.8	517.9	114.2	338.4
2020*	47.3	565.1	23.6	362.0

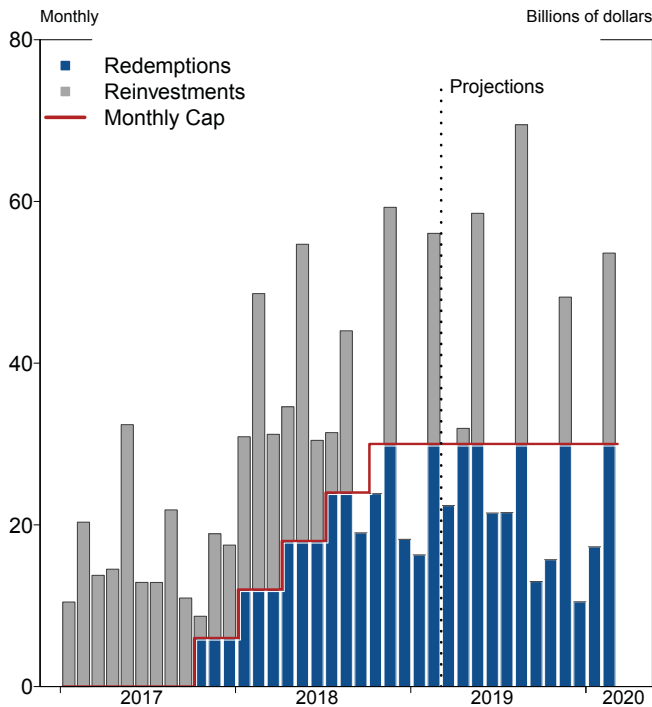
\*Until projected normalization in February 2020.

Projections for Agency Securities  
(Billions of dollars)

	Redemptions		Reinvestments	
	Period	Since	Period	Since
		Oct. 2017		Oct. 2017
2019: Q1	45.3	218.1	0	152.3
2019: Q2	52.3	270.4	0	152.3
2019: Q3	47.3	317.7	0	152.3
2019: Q4	40.6	358.4	0	152.3
2018	160.8	172.8	87.6	152.3
2019	185.6	358.4	0.0	152.3
2020*	24.4	382.7	0.0	152.3

\*Until projected normalization in February 2020.

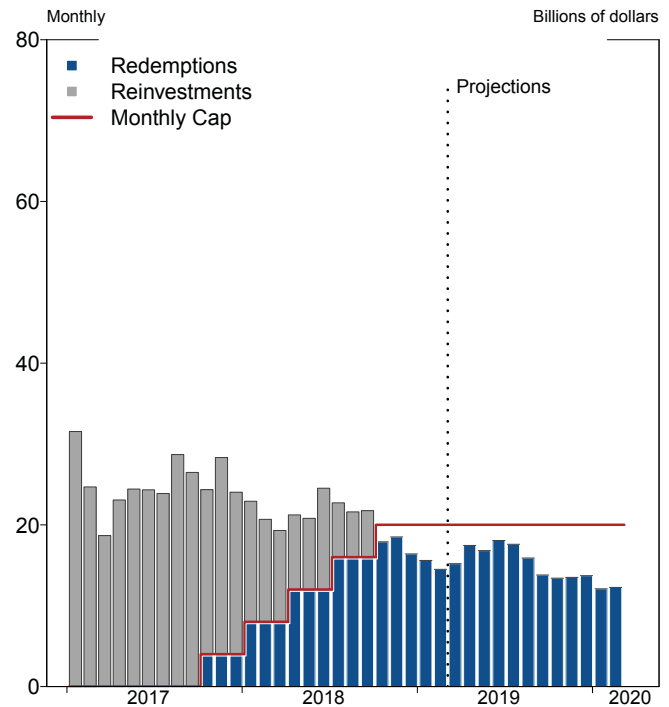
### SOMA Treasury Securities Principal Payments



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

Source: Federal Reserve Board staff calculations

### SOMA Agency Debt and MBS Principal Payments

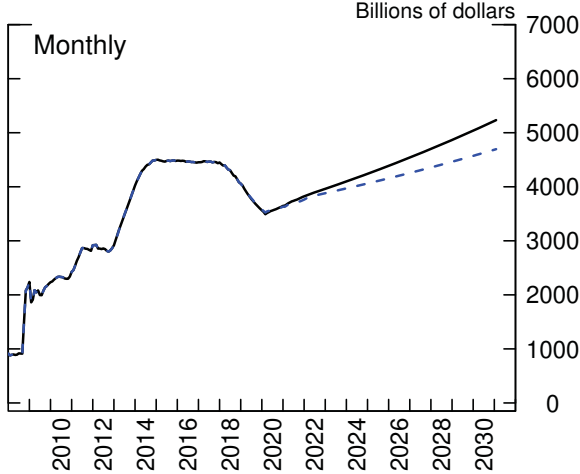


Note: Projection dependent on future interest rates and housing market developments.

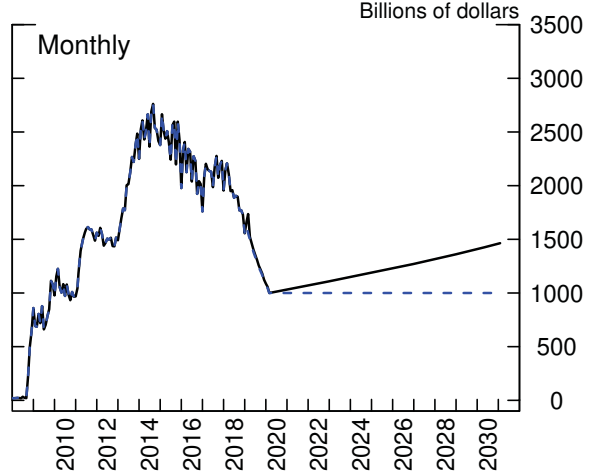
### Total Assets and Selected Balance Sheet Items

— March Tealbook baseline    - - - January Tealbook baseline

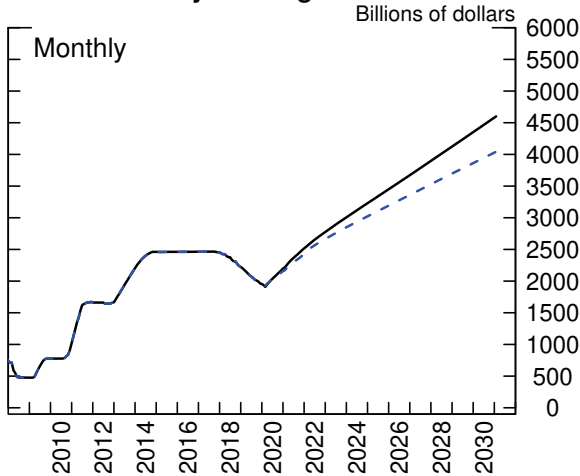
**Total Assets**



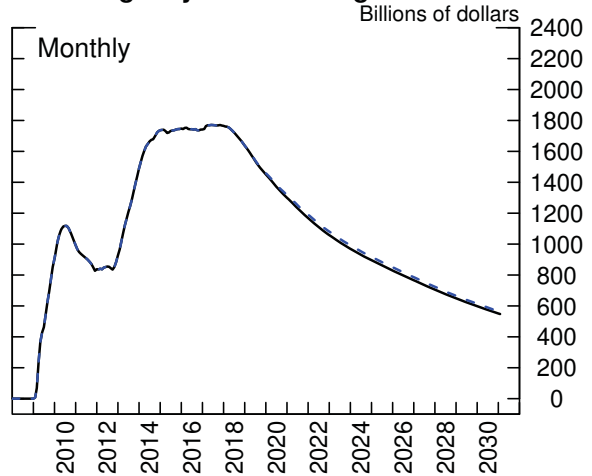
**Reserve Balances**



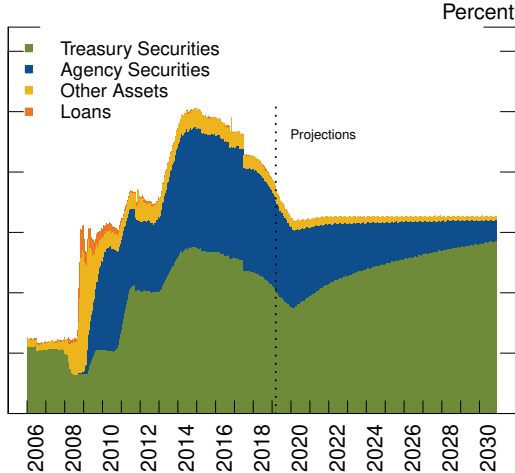
**SOMA Treasury Holdings**



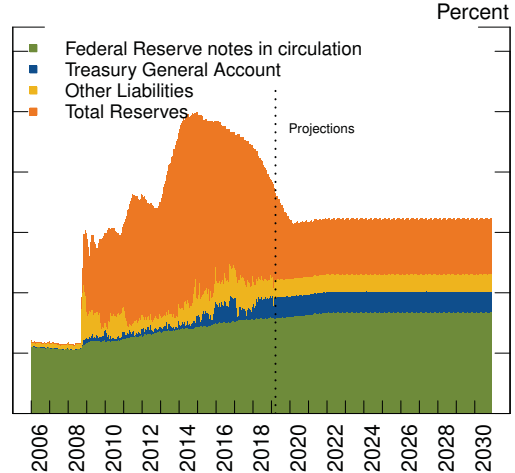
**SOMA Agency MBS Holdings**



**Assets as a Share of GDP**



**Liabilities as a Share of GDP**



Balance Sheet & Income

**Federal Reserve Balance Sheet**  
**Month-end Projections -- March Tealbook**  
(Billions of dollars)

	Historical*			Projections				
	Aug 2014	Sep 2017	Feb 2019	Dec 2019	Dec 2020	Dec 2022	Dec 2025	Dec 2030
Total assets	4,416	4,460	3,968	3,565	3,646	3,962	4,387	5,218
Selected assets								
Loans and other credit extensions**	2	6	0	0	0	0	0	0
Securities held outright	4,157	4,240	3,785	3,407	3,501	3,835	4,280	5,134
U.S. Treasury securities	2,437	2,465	2,175	1,954	2,199	2,775	3,449	4,580
Agency debt securities	42	7	2	2	2	2	2	2
Agency mortgage-backed securities	1,678	1,768	1,608	1,450	1,300	1,058	829	551
Unamortized premiums	209	162	137	123	109	88	66	41
Unamortized discounts	-19	-14	-13	-12	-11	-8	-7	-5
Total other assets	66	66	59	47	47	47	47	47
Total liabilities	4,360	4,419	3,929	3,525	3,606	3,918	4,337	5,154
Selected liabilities								
Federal Reserve notes in circulation	1,249	1,532	1,665	1,748	1,856	2,041	2,259	2,684
Reverse repurchase agreements	277	557	256	255	264	283	313	372
Deposits with Federal Reserve Banks	2,825	2,323	2,003	1,519	1,483	1,591	1,761	2,092
Reserve balances held by depository institutions	2,762	2,073	1,736	1,088	1,034	1,110	1,228	1,460
U.S. Treasury, General Account	49	159	202	371	386	414	458	545
Other deposits	15	91	66	60	62	67	74	88
Earnings remittances due to the U.S. Treasury	3	2	2	0	0	0	0	0
Total Federal Reserve Bank capital***	56	41	39	39	40	44	50	63

Source: Federal Reserve H.4.1 daily data and staff calculations.

Note: Components may not sum to totals due to rounding.

\*August 2014 corresponds to the peak month-end value of reserve balances; September 2017 corresponds to the last month-end before the initiation of the normalization program; February 2019 is the most recent historical value.

\*\*Loans and other credit extensions includes discount window credit; central bank liquidity swaps; and net portfolio holdings of Maiden Lane LLC.

\*\*\*Total capital includes capital paid-in and capital surplus accounts.

After reserves reach \$1 trillion, which is projected to occur in the first quarter of 2020, SOMA holdings are projected to start rising, keeping pace with increases in Federal Reserve liabilities and Federal Reserve Bank capital. Relative to the January Tealbook, SOMA holdings are projected to increase at a faster pace after reserves reach \$1 trillion. This upward revision to the path of SOMA holdings primarily reflects the steeper path of reserve balances, as a result of the new assumption that all liabilities grow in line with nominal GDP once reserve balances reach \$1 trillion.

The share of agency MBS in the SOMA portfolio, which currently stands at 42 percent, is expected to rise slightly in the near term, reflecting the faster pace of Treasury roll-offs. This share begins to decline once redemptions end, reaching a little less than 20 percent by the end of 2025.

***SOMA portfolio characteristics.*** The weighted-average duration of the SOMA Treasury portfolio is currently about six years (see the top panel of the exhibit titled “Projections for the Characteristics of SOMA Treasury Securities Holdings”). This measure is projected to increase until early 2020 as redemptions continue and longer-duration securities become a larger share of the portfolio. After the level of reserves reaches \$1 trillion, the duration of the SOMA Treasury portfolio is projected to decline as the Desk is assumed to add Treasury bills to the portfolio, reflecting the reinvestment of maturing securities and growth in liabilities. Once Treasury bills are one-third of the Federal Reserve’s Treasury securities portfolio, close to their pre-crisis share, further purchases of Treasury securities are assumed to be spread across the maturity spectrum (see the bottom panel of the exhibit).<sup>5</sup>

***Federal Reserve remittances.*** Remittances to the Treasury are projected to decline to \$43 billion this year from \$65 billion in 2018, reflecting the increases in the interest rate paid on reserve balances in 2019 (see the “Income Projections” exhibit).<sup>6</sup>

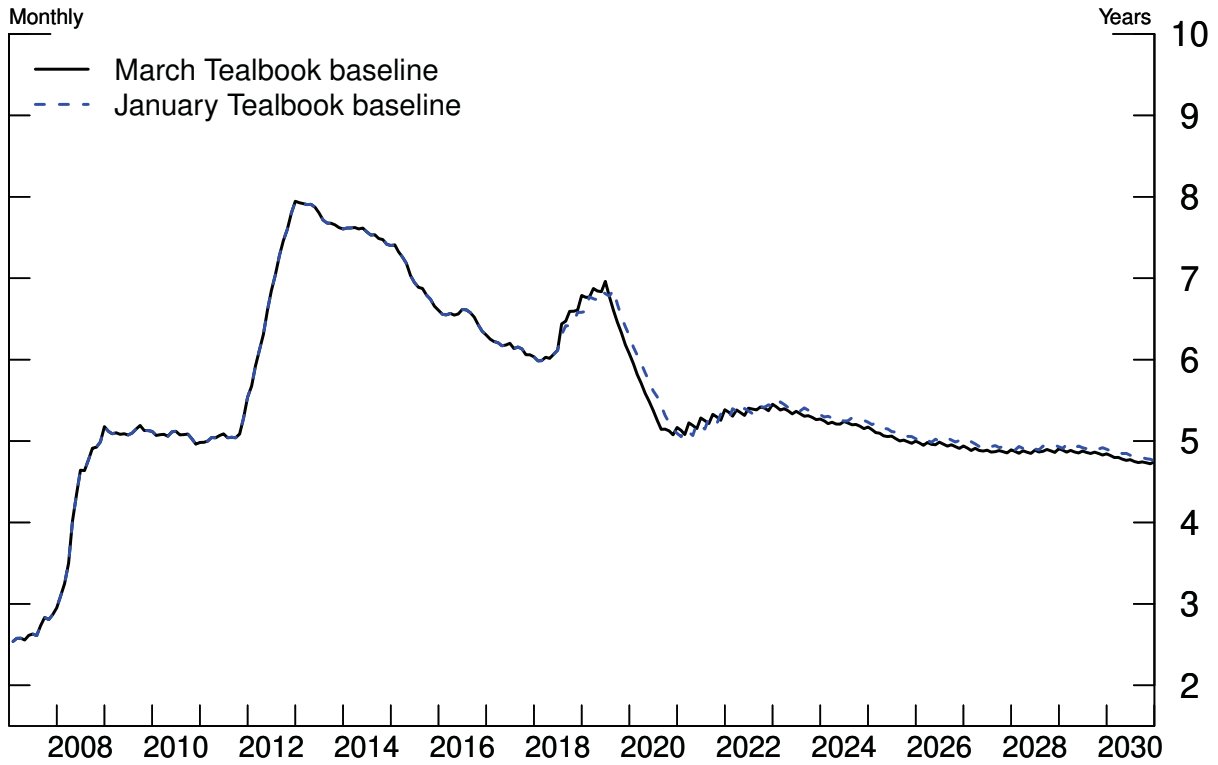
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<sup>5</sup> Excluding securities acquired through small-value test operations, the SOMA portfolio currently contains no Treasury bills.

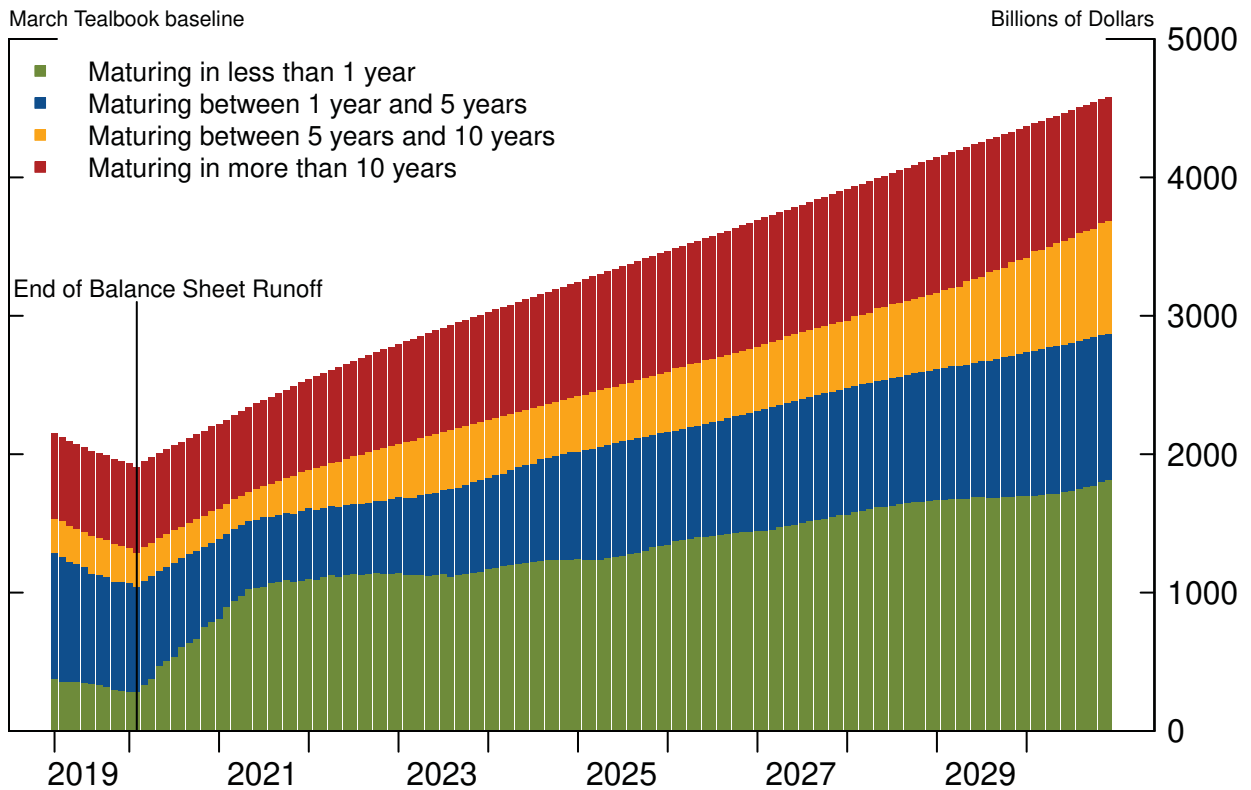
<sup>6</sup> Remittances in 2018 include two mandated transfers to the Treasury due to reductions to the statutory limit on aggregate Reserve Bank surplus. First, \$2.5 billion was transferred in February 2018 following an amendment to Section 7 of the Federal Reserve Act by the Bipartisan Budget Act of 2018, enacted in that month. Second, \$675 million was transferred in June 2018, reflecting another amendment to Section 7 by the Economic Growth, Regulatory Relief, and Consumer Protection Act, enacted in May 2018.

### Projections for the Characteristics of SOMA Treasury Securities Holdings

#### SOMA Weighted-Average Treasury Duration



#### Maturity Composition of SOMA Treasury Portfolio

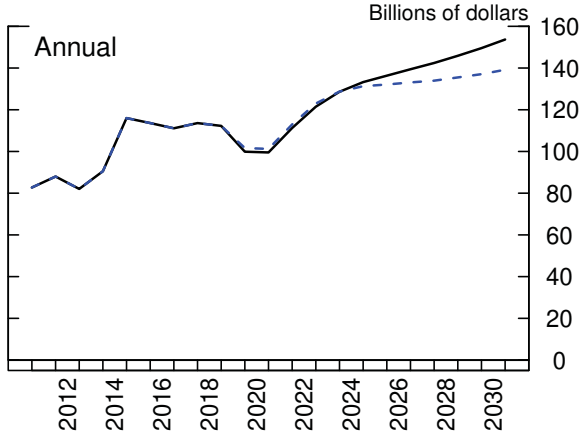


Balance Sheet & Income

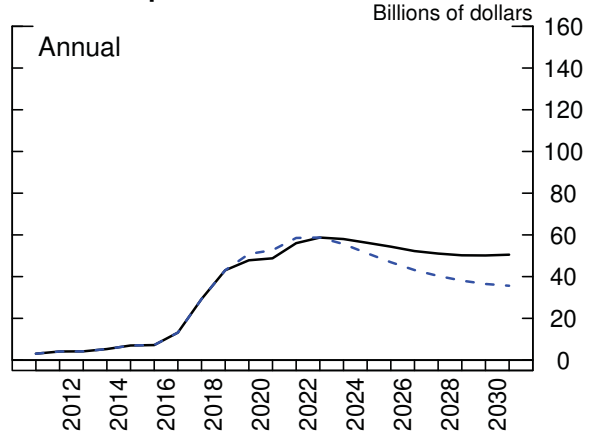
### Income Projections

— March Tealbook baseline    - - - January Tealbook baseline

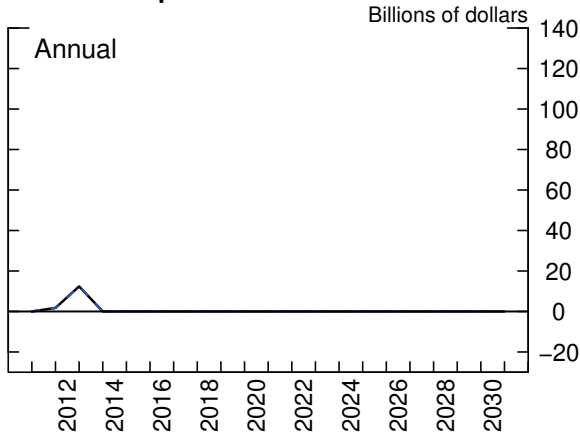
**Interest Income**



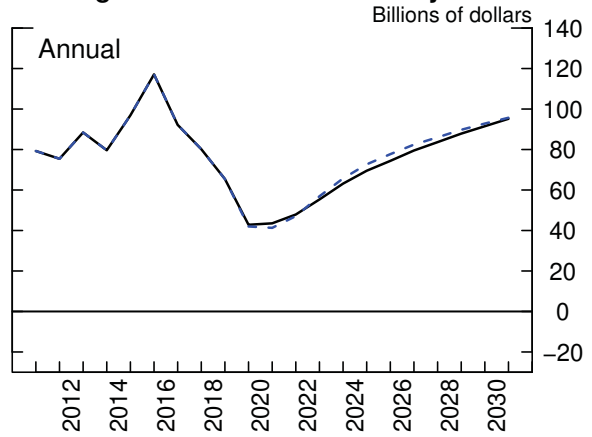
**Interest Expense**



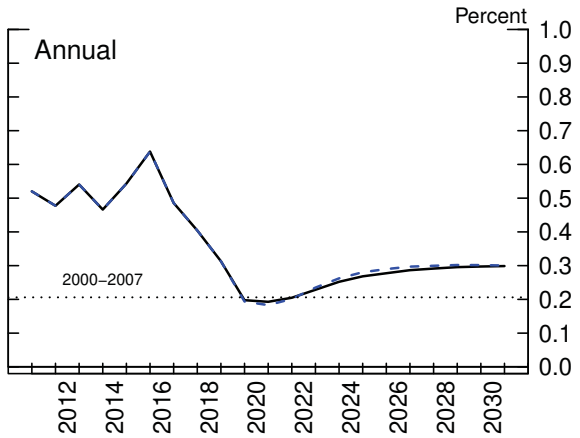
**Realized Capital Gains**



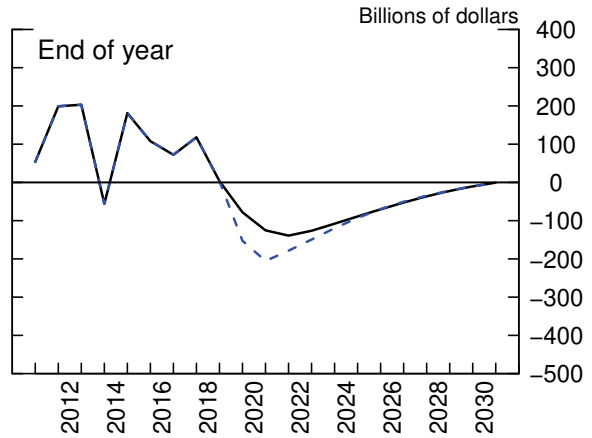
**Earnings Remittances to Treasury**



**Remittances as a Percent of GDP**



**Memo: Unrealized Gains/Losses**



Balance Sheet & Income

Total interest expense is projected to rise by \$5 billion this year, to \$48 billion.<sup>7</sup> In addition, the reduction in SOMA securities holdings results in a slight decrease in projected interest income to \$100 billion this year. Remittances are expected to increase slightly to \$44 billion in 2020. Thereafter, remittances rise reflecting an increase in interest income associated with a growing balance sheet.

In comparison to the January Tealbook, the relatively larger size of the Federal Reserve's balance sheet over the projection period as a result of the revised assumption for the growth of liabilities leads to both higher interest income and higher interest expense after reserves reach \$1 trillion. Because the levels of the interest rates earned on asset holdings and the interest rate paid on liabilities are generally close over the projection horizon, the higher contours of interest income and interest expense offset each other, leaving the projected path for remittances little changed relative to the January Tealbook. As shown in the bottom left panel of the "Income Projections" exhibit, annual remittances are projected to remain about 0.2 percent of nominal GDP over the next few years, similar to their pre-crisis average, and to rise to about 0.3 percent thereafter.

***Unrealized gains or losses.*** The SOMA portfolio was in a net unrealized loss position of about \$6 billion at the end of February.<sup>8</sup> With longer-term interest rates projected to rise over the next few years, the unrealized loss position is expected to peak at \$143 billion in 2021:Q4. Of this amount, \$54 billion is attributable to Treasury securities and \$89 billion to agency MBS. The net unrealized loss position subsequently narrows, as securities acquired under the Federal Reserve's large-scale asset purchase programs approach maturity. Compared with the January Tealbook, the unrealized loss position is projected to be moderately less negative in the near term due to a lower projected path for longer-term interest rates.

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<sup>7</sup> We continue to assume that the FOMC will set a 25-basis-point-wide target range for the federal funds rate throughout the projection period. Consistent with the FOMC's December Implementation Note, we assume that the interest rates paid on reserve balances will be set 10 basis points below the top of the target range. We continue to assume that the offering rate on overnight RRP's will be set at the bottom of the range.

<sup>8</sup> See the Tealbook B box titled "What Does it Mean for the SOMA Portfolio to be in an 'Unrealized Loss' Position?" (June 2018) for an explanation of the accounting notions of unrealized and realized gain and loss positions, as well as their implications for the Federal Reserve's ability to meet its obligations.



**Total term premium effect:** In previous Tealbooks, the staff reported the term premium effect (TPE) embedded in the 10-year Treasury yield of SOMA securities holdings resulting from the Large Scale Asset Purchases (LSAPs) and the Maturity Extension Program (MEP). The estimated path of this term premium effect depended on the deviation of the projected path of the Federal Reserve’s balance sheet over coming years from a “counterfactual” projection based on the configuration of the Federal Reserve’s balance sheet that would have prevailed if the LSAPs and MEP had not occurred.

Because the configuration of assets and liabilities on the Federal Reserve’s balance sheet has evolved since the crisis for reasons unrelated to the LSAPs and MEP, defining the counterfactual projection required for this methodology has become increasingly challenging. One example is nonreserve liabilities other than currency, which in the counterfactual projection were assumed to remain at their levels prevailing before the crisis. While one could argue that these liabilities would have not reached their current levels without the asset purchase programs, many factors other than asset purchases have likely affected the demand for Federal Reserve liabilities. Trying to identify the extent to which liability items would have changed in the absence of asset purchase programs required increasingly strong assumptions that have had sizable implications for the reported estimates of the term premium effect.

Starting from the current Tealbook, the staff will report the total effect of all SOMA securities holdings on the term premium embedded in longer-term interest rates. This new measure, labeled the “total term premium effect” (TTPE), gauges how the Federal Reserve’s total securities holdings affect the term premium relative to a counterfactual scenario in which the Federal Reserve would hold a securities portfolio of the same size but with zero duration and, thus, no effect on term premiums embedded in long-term interest rates.<sup>9</sup>

The TTPE will allow the staff to measure the effects of any policy change that affects the balance sheet, including not only potential new LSAPs or MEPs, but also changes in the composition of securities holdings. Moving forward, to evaluate the effects of a policy change, the staff will compare the TTPE estimates under two

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<sup>9</sup> As was the case for the TPE, the TTPE measure is reported under the assumption that the Treasury does not change its issuance patterns in response to the Federal Reserve’s securities holdings. As such, the TTPE provides an upper bound for the magnitude of the effect of SOMA securities holdings on longer-term interest rates.

scenarios: one with the change and one without. With this practice, estimates will be easy to compare over time without the need to adjust for differences in the assumptions underlying a counterfactual projection.

Currently, the TTPE of the overall SOMA securities portfolio is estimated to be reducing the term premium in the 10-year Treasury yield by about 130 basis points, as opposed to reducing it by 77 basis points for just the LSAPs and the MEP (see the “Projections for the 10-Year Treasury (Total) Term Premium Effect” exhibit). The magnitude of the TTPE is estimated to become less negative by about 2 basis points per year, on average, through 2030, generally as a result of a decrease in the duration of the Federal Reserve’s securities holdings.

Over the entire projection period, the path of the TTPE is more negative relative to the path of the TPE reported in the January Tealbook. The difference between these two paths is primarily driven by two factors. First, the TTPE estimate based on the overall effect of the Federal Reserve’s balance sheet results in a parallel downward shift of about 50 basis points relative to the TPE calculated on the basis of a comparison between the pre- and post-crisis balance sheet configurations. This factor is shown by the difference between the dotted red line and the dashed blue line in the chart “(Total) Term Premium Effect.” Specifically, the more negative TTPE estimate reflects the greater downward pressure exerted on longer-term interest rates by the total securities holdings in the Federal Reserve’s portfolio, rather than solely reporting the effects of the securities held as a result of the asset purchase programs as under the TPE measure. Second, because of the new assumption for the growth of liabilities, the TTPE implied by the March Tealbook projection is more negative and flatter, as can be observed by comparing the black line with the dashed blue line in the exhibit. As liability items are now assumed to grow at the same pace as nominal GDP after reserve balances reach \$1 trillion, the balance sheet is correspondingly larger, which results in an increasingly more negative TTPE path than would otherwise be the case. Consequently, the TTPE estimate is about 2 basis points more negative at the start of the projection and about 15 basis points more negative by 2030 than would be the case without the change in the assumption for the growth of liabilities.

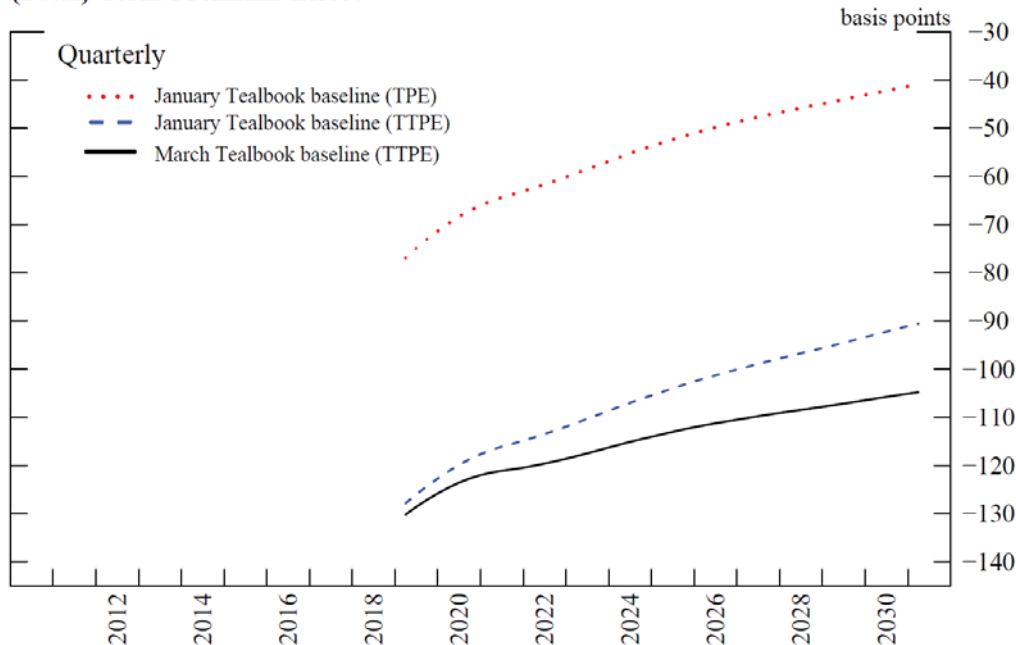
**Projections for the 10-Year Treasury (Total) Term Premium Effect \***  
(Basis Points)

Date	March Tealbook TTPE	January Tealbook TTPE	January Tealbook TPE
Quarterly Averages			
2019:Q1	-130	-128	-77
Q2	-129	-126	-75
Q3	-127	-124	-73
Q4	-126	-123	-71
2020:Q4	-122	-118	-66
2021:Q4	-120	-115	-63
2022:Q4	-119	-112	-60
2023:Q4	-116	-109	-57
2024:Q4	-114	-105	-54
2025:Q4	-112	-103	-51
2026:Q4	-110	-100	-49
2027:Q4	-109	-98	-47
2028:Q4	-108	-96	-45
2029:Q4	-106	-93	-43
2030:Q4	-105	-91	-41

\* The figures show estimated effects on the 10-year Treasury term premium.

Balance Sheet & Income

**(Total) Term Premium Effect**



## Abbreviations

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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
EFFR	effective federal funds rate
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