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.

Please note that some material may have been redacted from this document if that material was received on a confidential basis. Redacted material is indicated by occasional gaps in the text or by gray boxes around non-text content. All redacted passages are exempt from disclosure under applicable provisions of the Freedom of Information Act.

Content last modified 1/16/2026.

Class I FOMC – Restricted Controlled (FR)

Report to the FOMC on Economic Conditions and Monetary Policy

Book B

Monetary Policy Alternatives

January 23, 2020

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

In terms of policy actions, all three of the alternative policy statements presented below maintain the target range for the federal funds rate at 1½ to 1¾ percent. However, the alternatives vary in their communications about the likely future path of monetary policy.

Alternative B differs in only small ways from the December postmeeting statement. It continues to state that the Committee judges that the current policy stance is appropriate to support its economic outlook. However, the language describing the outlook for inflation has been modified slightly. Rather than conveying an expectation that inflation will be "near the Committee's symmetric 2 percent objective," Alternative B sees inflation "returning to the Committee's symmetric 2 percent objective." It thereby more clearly states the Committee's resolve that, with the provision of appropriate monetary policy, inflation will in fact rise to 2 percent and not languish near, but somewhat below, that level.

Alternative A highlights that inflation "continue[s] to run" below the Committee's objective and notes that indicators of inflation expectations remain low. The statement then explicitly communicates—through forward guidance—the Committee's determination to achieve inflation of 2 percent. In particular, Alternative A states: "The Committee expects to keep the target range for the federal funds rate no higher than its current setting at least until inflation has returned to 2 percent on a sustained basis."

Alternative C is written in the spirit of prudent planning for future circumstances in which the FOMC wishes to signal that a rate hike may soon be forthcoming. Because such a statement may well come in response to a significantly stronger outlook for economic activity and inflation—a situation at variance with incoming data since the December meeting—the draft of Alternative C omits the first paragraph.

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 depiction of the incoming data on the labor market and economic activity. In particular, the two alternatives continue to describe economic growth as "moderate," and to portray the

labor market as "strong" and the unemployment rate as remaining "low." Both alternatives note that "business fixed investment and exports remain weak," and both downgrade their characterization of household spending from the December statement, noting that it has been rising at a "moderate," as opposed to "strong," pace.

- In discussing the incoming data on inflation, Alternative B notes that core and headline inflation rates "are running" below 2 percent, while Alternative A stresses that these measures "continue to run" below 2 percent. Regarding indicators of inflation expectations, Alternative B continues to say that market-based measures of inflation compensation "remain low" and that survey-based measures of longer-term inflation expectations are "little changed." Alternative A instead emphasizes that "indicators of longer-term inflation expectations remain low," thereby conveying a more definitive assessment that all indicators, including survey-based ones, are signaling low levels of inflation expectations.

- The outlook for economic activity, labor market conditions, and inflation:
  - Under all three alternatives, the outlook for "strong labor market conditions" is unchanged from the December statement, and all three anticipate a sustained expansion of economic activity.
  - In the outlook for both Alternatives A and B, inflation is seen as "returning to the Committee's symmetric 2 percent objective." The outlook for inflation under Alternative C is, as discussed above, based on an unspecified constellation of incoming data that could prompt the Committee to signal that a rate hike may soon be forthcoming. This alternative retains the December language characterizing the inflation outlook as running "near the Committee's symmetric 2 percent objective."
- The current policy decision and the outlook for policy:
  - As noted above, all three alternatives maintain the current target range for the federal funds rate.
  - Under Alternative B, the Committee judges that "the current stance of monetary policy is appropriate" to meet its objectives under its current economic outlook. As in the December post-meeting statement, this draft statement notes that the Committee will continue to monitor the

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implications of the incoming information for the economic outlook, with specific reference to "global developments and muted inflation pressures."

- As noted above, Alternative A provides explicit forward guidance on the outlook for the policy rate stating that the Committee expects the target range to be "no higher than its current setting at least until inflation has returned to 2 percent on a sustained basis." However, Alternative A also retains a proviso, similar to that of Alternative B, affirming data dependence.
- By contrast, Alternative C offers an illustrative formulation, applicable to circumstances in which "some reduction in the degree of monetary accommodation may soon become appropriate." Anticipating what some of those circumstances might be, Alternative C omits the specific reference to monitoring "global developments and muted inflation pressures."

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DECEMBER 2019 FOMC STATEMENT

1. Information received since the Federal Open Market Committee met in October indicates that the labor market remains strong and that economic activity has been rising at a moderate rate. Job gains have been solid, on average, in recent months, and the unemployment rate has remained low. Although household spending has been rising at a strong pace, business fixed investment and exports remain weak. On a 12-month basis, overall inflation and inflation for items other than food and energy are running below 2 percent. Market-based measures of inflation compensation remain low; 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. The Committee decided to maintain the target range for the federal funds rate at 1-1/2 to 1-3/4 percent. The Committee judges that the current stance of monetary policy is appropriate to support sustained expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective. The Committee will continue to monitor the implications of incoming information for the economic outlook, including global developments and muted inflation pressures, as it assesses the appropriate path of the target range for the federal funds rate.

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.

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ALTERNATIVE A FOR JANUARY 2020

1. Information received since the Federal Open Market Committee met in ~~October~~ **December** indicates that the labor market remains strong and that economic activity has been rising at a moderate rate. Job gains have been solid, on average, in recent months, and the unemployment rate has remained low. Although household spending has been rising at a ~~strong~~ **moderate** pace, business fixed investment and exports remain weak. On a 12-month basis, overall inflation and inflation for items other than food and energy ~~are running~~ **continue to run** below 2 percent. ~~Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed.~~ **Indicators of longer-term inflation expectations remain low.**

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee decided to maintain the target range for the federal funds rate at 1-1/2 to 1-3/4 percent. The Committee judges that the current stance of monetary policy is appropriate to support sustained expansion of economic activity, strong labor market conditions, and inflation ~~near~~ **returning to** the Committee's symmetric 2 percent objective. **The Committee expects to keep the target range for the federal funds rate no higher than its current setting at least until inflation has returned to 2 percent on a sustained basis. However,** the Committee will continue to monitor the implications of incoming information for the economic outlook, including global developments and muted inflation pressures, as it assesses the appropriate path of the target range for the federal funds rate.

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.

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ALTERNATIVE B FOR JANUARY 2020

1. Information received since the Federal Open Market Committee met in ~~October~~ **December** indicates that the labor market remains strong and that economic activity has been rising at a moderate rate. Job gains have been solid, on average, in recent months, and the unemployment rate has remained low. Although household spending has been rising at a ~~strong~~ **moderate** pace, business fixed investment and exports remain weak. On a 12-month basis, overall inflation and inflation for items other than food and energy are running below 2 percent. Market-based measures of inflation compensation remain low; 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. The Committee decided to maintain the target range for the federal funds rate at 1-1/2 to 1-3/4 percent. The Committee judges that the current stance of monetary policy is appropriate to support sustained expansion of economic activity, strong labor market conditions, and inflation ~~near~~ **returning to** the Committee's symmetric 2 percent objective. The Committee will continue to monitor the implications of incoming information for the economic outlook, including global developments and muted inflation pressures, as it assesses the appropriate path of the target range for the federal funds rate.

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 JANUARY 2020

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. The Committee decided to maintain the target range for the federal funds rate at 1-1/2 to 1-3/4 percent. The Committee judges that ~~the current stance~~ **some reduction in the degree** of monetary ~~policy is~~ **accommodation may soon become** appropriate to ~~support~~ sustain~~ed~~ **the** expansion of economic activity, strong labor market conditions, and inflation near the Committee's symmetric 2 percent objective. The Committee will continue to monitor the implications of incoming information for the economic outlook~~,~~ ~~including global developments and muted inflation pressures,~~ as it assesses the appropriate path of the target range for the federal funds rate.

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.

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ECONOMIC CONDITIONS AND OUTLOOK

- The data released during the intermeeting period suggest that economic activity continued to expand at a moderate pace in the fourth quarter. The staff projects real GDP growth to pick up this year from its pace in the fourth quarter, reflecting a rebound in household spending and renewed growth in business investment.
    - Data on retail sales indicate that consumer spending rose only moderately in the fourth quarter. Staff expect real PCE growth to pick-up from 1.5 percent in the fourth quarter of last year to 2.5 percent in the first half of this year, consistent with solid employment gains, high levels of household net worth, and the positive readings on consumer sentiment.
    - After declining in the second half of last year, business fixed investment is projected to increase at a 1.6 percent rate in the first half of this year, with the bulk of that increase coming in the second quarter.
    - Even with a decline in exports, the contribution of net exports to GDP growth is estimated to have been 1 percentage point in the fourth quarter of 2019, as imports fell sharply. The staff expects that net exports will be a slightly positive factor for GDP growth in 2020, reflecting an upgrade to the projection for real exports in light of the weaker dollar and the boost from the phase-one trade agreement with China.
- Available data indicate that the labor market continued to strengthen through the end of last year, but wage growth has remained moderate.
    - Published data indicate that monthly payroll gains averaged about 190,000 over the second half of 2019, up nearly 30,000 from the first-half pace. The BLS benchmark revision, which will be implemented with the next employment report, is expected to lower the level of payroll gains throughout 2019, but to do so by more for data in the first half of the year than in the second half.
    - The unemployment rate fell to 3.5 percent in November and remained at that level in December. With output growth in 2020 and 2021 projected to be a bit above the estimate of its potential rate, the staff expects the unemployment rate to hold steady at 3.5 percent through the middle of this year and to edge down a little further thereafter.

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    - The labor force participation rate (LFPR) was 63.2 percent in December, unchanged from its level in November. However, the LFPR increased 0.3 percentage point over the four quarters of 2019, as the LFPR for prime-age workers increased by slightly more than the overall measure, driven by a noteworthy increase in participation by women.
    - The incoming data suggest that labor compensation continues to rise at a moderate rate, and the staff expects the 12-month growth rate of average hourly earnings to fluctuate between 3.0 and 3.2 percent over the first half of 2020.

- Inflation remains subdued, despite the sustained low levels of the unemployment rate.
    - Both total and core PCE prices are estimated to have risen 1.6 percent over the 12 months ending in December. The staff projects that core PCE inflation will move up to 1.9 percent by March and remain near that level over the medium term.
    - The staff projects that energy prices will decline this year, and as a result, that total PCE price inflation will run below core PCE price inflation over that period.
    - Survey- and market-based measures of inflation expectations, while not always directly comparable, broadly indicate levels of inflation expectations which are in the lower ends of their respective historical ranges. Preliminary results for January from the University of Michigan Consumer Survey indicate that the median for expectations of inflation over the next 5 to 10 years increased by 0.3 percentage point from its historically low level in December. The Federal Reserve Bank of New York Survey of Consumer Expectations measure of median three-year-ahead expected inflation was unchanged in December and remains only slightly above its historically-low October reading. Similarly, market-based measures of far-forward inflation compensation have edged up on balance since early November but remain at low levels.

- Sentiment in financial markets was buoyed by a lessening of trade tensions over the intermeeting period and, reportedly, greater certainty that U.S. monetary policy would remain accommodative in the near term.[1]
    - Since the December FOMC meeting, domestic equity prices have risen markedly and Treasury yields have declined slightly. Although the January Quantitative Surveillance (QS) assessment reported overall vulnerabilities of the U.S. financial system to be moderate, the staff now judges that valuation pressures are elevated, reflecting a tightening in risk premiums in several large asset classes over the past few months.
    - Financing conditions for businesses and households remain supportive of spending and economic activity, on balance.
    - Model-based measures of recession risks have remained close to estimates at the time of the November Tealbook and are notably lower than they were in the middle of 2019.
- The staff estimates that foreign economic growth in the second half of 2019 was only 1.1 percent—well below its estimate of potential growth, and 0.2 percentage point below the November forecast. Growth abroad is projected to pick up to 2.3 percent later this year. This expected step-up in foreign growth reflects recent indicators that euro-area growth has stabilized and that economic growth in China has picked up. The staff projection is predicated on the assumptions that the global manufacturing slump will fade and that trade and political tensions will ease somewhat.[2]
- The staff continues to judge that the risks to its outlook for U.S. real GDP growth over the next year are tilted to the downside, although these risks appear to have diminished somewhat following recent trade developments and the two strong employment reports received since the November Tealbook. Trade tensions and foreign developments continue to be among the most salient risks.

[1] See the "Monetary Policy Expectations and Uncertainty" box, presented elsewhere in this Tealbook, as well as the "Financial Market Developments" section of the January Tealbook A, for additional discussion.

[2] In the Risks and Uncertainty section of Tealbook A, the staff explores an alternative scenario in which there is a decline in the level of foreign GDP of about 2 percent relative to baseline by the end of the medium term.

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Monetary Policy Expectations and Uncertainty

Financial market prices and results from the Desk's January surveys suggest that investors perceive the likelihood of near-term changes to the target range for the federal funds rate to have declined further over the intermeeting period. Even so, investors continue to assign notable odds to a possible 25-basis-point reduction in the target range later this year. Expectations for the path of the federal funds rate beyond this year were little changed, on net. Meanwhile, both market pricing and the results from the January Desk surveys indicate notable expectations for a technical adjustment to the interest on excess reserves (IOER) rate at the January meeting.

Figure 1 shows the probability distribution of the level of the federal funds rate following the January FOMC meeting, based on options quotes and assuming zero term premiums. A straight read of the distribution suggests that investors attach over 90 percent probability to the target range being left unchanged, an increase of over 10 percentage points since the December meeting. The corresponding average probability distribution from the January Desk surveys (not shown) suggests similar high odds on no change in the target range at the upcoming meeting.

Quotes on federal funds futures contracts, unadjusted for term premiums (not shown), imply that investors expect the effective federal funds rate to be 1.58 percent after the January meeting, which suggests that market participants attach notable odds to a technical adjustment to the IOER rate at the January FOMC meeting. The January Desk surveys provide support for this interpretation, as 25 of the 39 respondents who expressed a view indicated that they expect the spread between the top of the target range and the IOER rate to narrow by 5 basis points immediately following the January meeting.[1] A similar number of respondents expect an adjustment to the ON RRP rate, bringing it in line with the bottom of the target range.

The option-implied distribution for the level of the federal funds rate following the March meeting (figure 2) narrowed notably and now indicates no change in the target range as the most likely outcome.[2] The reduction in monetary policy uncertainty in the near term is reflected in figure 3, which shows the option-implied probabilities, unadjusted for term premiums, of the effective federal funds rate remaining in the current target range following each of the FOMC meetings through November 2020.[3] The probabilities of the current range for the federal funds rate remaining unchanged following the April and June meetings also increased to levels near or above 50 percent. In contrast, the option-implied distributions for the FOMC meetings in the

[1] The January Desk survey results incorporated responses from 24 primary dealers and 27 buy-side participants. However, 12 respondents did not provide expectations on this topic.

[2] Of note, two respondents to the January Desk surveys indicated a modal expectation for a rate cut by the March FOMC meeting, compared with 16 respondents in the December surveys.

[3] Each bar in figure 3 shows the probability of no net change in the target range between today and future meetings. The two left-most bars correspond to the modal outcomes in figures 1 and 2.

second half of this year (not shown) attach the highest odds to the federal funds rate falling in the 1.25 to 1.50 percent range.

Figure 4 shows the probability distribution for the level of the federal funds rate at the end of 2020, as reported by the average respondent to the January Desk surveys. Compared with the December surveys, the average respondent now places a higher probability, of about 50 percent, on the federal funds rate remaining in the current target range of 1.50 to 1.75 percent. Of note, however, respondents continue to assign much higher probability to the federal funds rate being reduced later this year (about 40 percent odds) than being raised (about 10 percent odds).

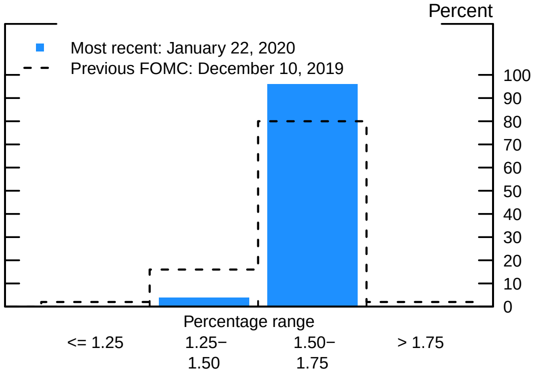
The blue lines in figure 5 show the expected federal funds rate path implied by quotes on overnight index swaps (OIS) under the assumption of zero term premiums. Since the December FOMC meeting, the end-2020 forward rate ticked up while end-2021 and end-2022 forward rates declined a bit. A straight read of these market-implied forward rates suggests that investors expect the federal funds rate to decline about 20 basis points by the end of 2020 and then to remain little changed, on net, over the subsequent few years. The median respondent to the Desk's January surveys (the black crosses) reported no change in the target range as the most likely outcome through end-2022. The mean expected path implied by the average respondent (the brown diamonds) moved up a bit but remains close to the staff's macro-finance model and the current unadjusted forward rate path.[4] In contrast, the staff term structure model that adjusts OIS forward rates with the model-based estimates of term premiums (the purple lines) suggests that the federal funds rate is expected to rise gradually.

The January Desk surveys also asked respondents for their estimates of the current and future levels of the neutral real federal funds rate. Figure 6 shows a median estimate for the current neutral rate of 0.5 percent (in orange), unchanged from the July 2019 surveys, when this question was last asked. Median estimates for end-2020 and end-2021 were also little changed. Compared with the July surveys, the dispersion of views among respondents increased and the range of estimates shifted lower. The median end-2022 estimate, which was asked for the first time, was also 0.5 percent.

Respondents were again asked to estimate the amount of reserve management purchases of Treasury bills through June. The median respondent continues to expect bill purchases of $60 billion per month through March. Compared with the December surveys, however, median expectations for purchases in April, May and June increased between $5 and $10 billion each, to $60 billion in April and $30 billion in both May and June. While the dispersion of views around estimates beyond April is large, the dispersion is little changed from the December surveys.

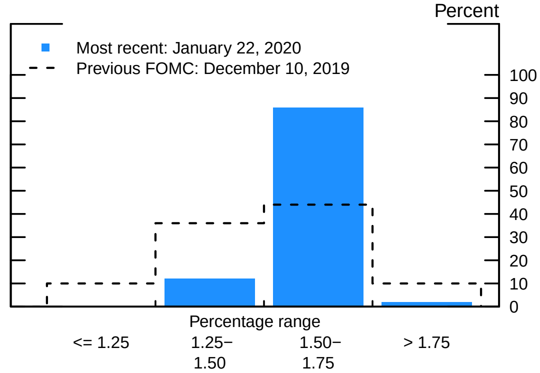
[4] The survey mean path is estimated from respondents' unconditional probability distributions for the year-end federal funds rate. The difference between the survey mean and modal expected federal funds rate for end-2020 reflects the left-skewed distribution in figure 4.

Figure 1: Market−Implied Probability Distribution of the Federal Funds Rate After January FOMC



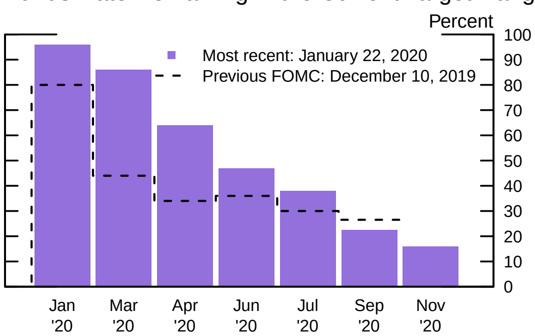
Note: Estimated from federal funds futures options, not adjusted for risk premiums. The distribution for February 2020 is used to provide a read on the distribution following the January FOMC meeting.
Source: CME Group; Board staff calculations.

Figure 2: Market−Implied Probability Distribution of the Federal Funds Rate After March FOMC



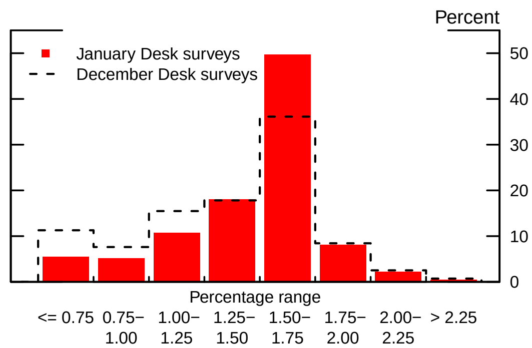
Note: Estimated from federal funds futures options, not adjusted for risk premiums. The distribution for April 2020 is used to provide a read on the distribution following the March FOMC meeting.
Source: CME Group; Board staff calculations.

Figure 3: Market−Implied Probability of the Federal Funds Rate Remaining in the Current Target Range



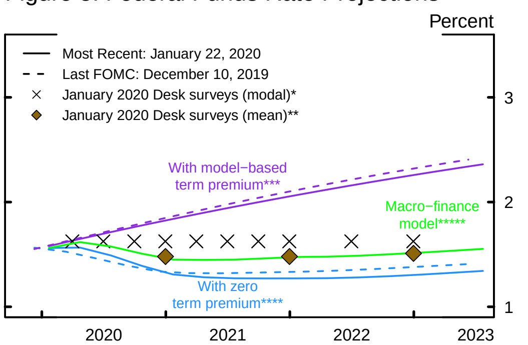
Note: Shows the probabilities of the federal funds rate falling between 1.50 percent and 1.75 percent after each FOMC meeting. Estimated from federal funds futures options, not adjusted for risk premiums.
Source: CME Group; Board staff calculations.

Figure 4: Desk Surveys Probability Distribution of the Federal Funds Rate, Year−End 2020



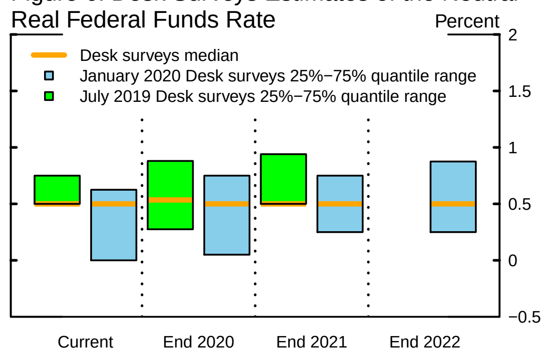
Note: Probabilities are the averages of the probabilities assigned by respondents to the Survey of Market Participants and Survey of Primary Dealers to different ranges of the federal funds rate at the end of 2020.
Source: FRBNY.

Figure 5: Federal Funds Rate Projections



* Median of respondents' modal paths for the federal funds rate.
** Estimated from respondents' unconditional year−end probability distributions.
*** Adjusting for premiums using a term structure model maintained by Board staff.
**** Estimated using overnight index swap quotes with a spline approach and a term premium of zero basis points.
***** Macro−finance model path is estimated by averaging over regressions of term premiums on covariances between real and nominal variables based on Diercks and Carl (2019).
Source: Bloomberg; Federal Reserve Board staff estimates; FRBNY.

Figure 6: Desk Surveys Estimates of the Neutral Real Federal Funds Rate



Note: Based on all responses from the January 2020 and July 2019 Desk surveys.
Source: FRBNY.

THE CASE FOR ALTERNATIVE B

In easing the stance of monetary policy over the course of 2019, the FOMC cited significant global growth and trade policy headwinds as well as disinflationary pressures. In recent months, economic activity has been expanding at a moderate pace, despite weak global growth and the adverse effects of trade uncertainty on business fixed investment, exports, and manufacturing. The labor market has remained strong. Inflation, while continuing to run below 2 percent, has been in line with expectations. In the period since the December FOMC meeting, downside risks to the economic outlook seem to have diminished somewhat.

Policymakers may consequently judge that the current stance of monetary policy remains appropriate. Taking account of the lags in the effects of the accommodation provided over the course of last year, policymakers may assess that maintaining the current stance of policy at this meeting is appropriate to support a return of inflation to 2 percent. Policymakers may also note that, with sustained moderate growth in nominal wages and no sign of price pressures from the cost side, the signal from labor market suggests no need to adjust policy for the time being. Policymakers may agree with the staff's assessment that the current unemployment rate, at close-to 50-year lows, is sustainable without undue wage pressures as additional participants continue to be drawn into the labor force.

When considering the risks to the outlook, policymakers may observe that, over this intermeeting period, the likelihood of recession in the next 12 months reported from various recession-probability models has edged down, and that the yield curve steepened slightly. They may see these developments as reinforcing their view that the stance of policy is currently appropriate—even taking into account the asymmetric risks associated with the effective lower bound on the policy rate. Although trade policy news over the intermeeting period—including the signing of the phase-one trade agreement between the United States and China—has been positive, a significant amount of uncertainty remains. Hence, the Committee may wish to indicate that it will continue to monitor the implications of incoming information for the economic outlook, explicitly referencing "global developments and muted inflation pressures."

If policymakers were to choose Alternative B, the financial market response would likely be modest. Market prices, along with responses to the Desk's latest surveys of primary dealers and market participants indicate that investors are nearly certain that the target range for the federal funds rate will be unchanged at the January meeting. Furthermore, the modest updates to the statement language, including the indication that the current stance of policy is appropriate to support "inflation returning to the Committee's symmetric 2 percent objective," are unlikely to appear to market participants to be at odds with recent communications.

THE CASE FOR ALTERNATIVE A

In light of the ongoing weakness in inflation and concerns about low inflation expectations, policymakers may wish to be more explicit regarding their resolve to achieve 2 percent inflation. If so, they may deem it appropriate to note more directly the continued underperformance of inflation, as well as the associated low readings for inflation expectations, and convey clearly that the Committee expects to keep the target range at or below its current level until inflation returns to 2 percent on a sustained basis.

With inflation continuing to run below the Committee's symmetric 2 percent objective and low readings of longer-term inflation expectations from market- and survey-based measures, policymakers may be concerned that inflation expectations have slipped below levels consistent with the Committee's symmetric 2 percent inflation objective. Policymakers might also argue that achieving 2 percent inflation on a sustained basis before the next recession is particularly important as a means to anchor inflation expectations more solidly at 2 percent, thereby better enabling monetary policy to provide accommodation in a future downturn. Policymakers may wish to avoid a decline in inflation expectations as it would represent an increase in the real interest rate, and because well anchored inflation expectations at the 2 percent objective help preserve scope for the Committee to ease policy by keeping nominal interest rates further away from the effective lower bound. Policymakers may want to combat this potential decline in inflation expectations by explicitly conditioning any future tightening of monetary policy on first achieving a sustained return to 2 percent inflation.

Policymakers may also judge that the kind of explicit guidance provided in Alternative A is well-suited to the current economic environment. For example, they may perceive that the risk of labor market overheating, which in other periods may have made them hesitant to use this kind of forward guidance, is not currently a significant concern. Policymakers may also see valuation pressures in financial markets as not yet being a significant source of risk, or alternatively judge that monetary policy is neither a major driver of these pressures nor the appropriate mechanism by which to address such risks. Under such circumstances, policymakers may view the communications in Alternative A as a more effective way to pursue their dual mandate.

A statement such as Alternative A would likely be seen by market participants as even further reducing the likelihood of increases in the target range for the policy rate—and perhaps be taken as a signal to expect a more accommodative path for the policy rate than had been anticipated ahead of the January meeting. If market participants were to interpret Alternative A as expressing the Committee's desire to provide additional accommodation, then equity prices and measures of inflation compensation may rise, and the exchange value of the dollar and corporate bond spreads could fall.

THE CASE FOR ALTERNATIVE C

Alternative C illustrates an approach the Committee could consider in circumstances in which the economy continues to perform well and the case for some reduction in the degree of monetary accommodation has materially strengthened. Alternative C thus signals that a rate hike is likely forthcoming.

Policymakers may note that many longer-term estimates of the real federal funds rate from time-series models and surveys currently range between 0.3 and 1.3 percent.[3] If real GDP growth were to continue to run above its potential rate, and the labor market were to tighten further, policymakers may choose to return policy to a more neutral stance over time. If, as well, the downside risks to the outlook were to diminish further, then to the extent that policymakers view the reductions in the target range for the federal funds rate last year as having been motivated by insurance against downside risks, a more balanced outlook would suggest that some removal of accommodation would be appropriate.

In such an environment, policymakers may judge that the risk of inflation being below the 2 percent objective is not particularly high. Indeed, they may see upside risks to inflation, which could further strengthen the case for firming the stance of monetary policy.

In addition, if policymakers see an important link between the duration of accommodative policy and the total volume and credit quality of interest-sensitive debt,

[3] For details see the exhibit titled "Estimates of the Equilibrium Real Federal Funds Rate in the Longer Run" in the "Monetary Policy Strategies" section of Tealbook A for November 2019.

they may regard keeping interest rates low for an extended period as endangering financial stability and thus posing risks to the economic outlook. They may view an environment of persistently low interest rates as one that elicits reach-for-yield behavior by investors, and that this behavior could be driving valuation pressures in assets held, or financed, by leveraged financial institutions that are important for the transmission of monetary policy. Such a situation could amplify a macroeconomic downturn, and thus policymakers may come to judge that financial-stability considerations increasingly strengthen the case for beginning to remove the accommodation added last year.

If policymakers see a growing likelihood of a reduction in the degree of policy accommodation, the characterization of the incoming economic data in paragraph 1 would presumably be an important means by which to signal that the economic outlook has changed. Furthermore, in such circumstances, they may also assess that it is appropriate to signal that “some reduction in the degree of monetary accommodation may soon become appropriate.” The Committee may judge that this kind of guidance is associated with a reduced risk of generating a policy surprise, while preserving optionality with regard to future rate hikes.

IMPLEMENTATION NOTE

Under any of the alternatives, the Committee would not change the target range for the federal funds rate and the Board would not change the primary credit rate. However, the draft implementation note on the following pages assumes that a technical adjustment to the interest rate paid on required and excess reserve balances and the offered rate on overnight reverse repurchase (ON RRP) agreements would be made at the January meeting. The draft also announces that the Desk will continue to conduct term and overnight repurchase agreement operations at least through April 2020. As usual, struck-out text indicates language deleted from the December implementation note, bold red underlined text indicates added language, and blue underlined text indicates links to websites.

Alternatives

Implementation Note for January 2020, All Alternatives

Release Date: January 29, 2020

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 ~~December 11, 2019~~ **January 29, 2020**:

- The Board of Governors of the Federal Reserve System voted **[** unanimously **]** to ~~maintain~~ **set** the interest rate paid on required and excess reserve balances at ~~1.55~~ **1.60** percent, effective ~~December 12, 2019~~ **January 30, 2020**. **Setting the interest rate paid on required and excess reserve balances 10 basis points above the bottom of the target range for the federal funds rate is intended to foster trading in the federal funds market at rates well within the FOMC's target range.**

- 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 ~~December 12, 2019~~ **January 30, 2020**, 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 1-1/2 to 1-3/4 percent. In light of recent and expected increases in the Federal Reserve's non-reserve liabilities, the Committee directs the Desk to continue purchasing Treasury bills at least into the second quarter of 2020 to maintain over time ample reserve balances at or above the level that prevailed in early September 2019. The Committee also directs the Desk to continue conducting term and overnight repurchase agreement operations at least through ~~January~~ **April** 2020 to ensure that the supply of reserves remains ample even during periods of sharp increases in non-reserve liabilities, and to mitigate the risk of money market pressures that could adversely affect policy implementation. In addition, the Committee directs the Desk to conduct 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 ~~1.45~~ **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 all principal payments from the Federal Reserve's holdings of Treasury securities and to continue reinvesting all principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month. Principal payments from agency debt and agency mortgage-backed securities up to $20 billion per month will continue to be reinvested in Treasury securities to roughly match the maturity composition of Treasury securities outstanding; principal payments in excess of $20 billion per month will continue to be reinvested in agency mortgage-backed securities. 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 2.25 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.

Balance Sheet and Income Projections

The staff has prepared projections of the Federal Reserve's balance sheet and the associated income statement that are consistent with the projections in Tealbook A. Compared with the previous Tealbook, the federal funds rate projection is somewhat lower in the near term, while projections of longer-term interest rates are about unchanged.

Reserve balances. As of December 2019, the level of reserve balances stood at \$1.55 trillion. Reserves are assumed to remain at or above \$1.5 trillion, the average level that prevailed in early September (see the upper panel in the exhibit titled "SOMA Open Market Operations and Their Near-Term Effect on Reserve Balances").[1] This level reflects assumed paths of reserve management purchases of Treasury bills and repo operations through June 2020; thereafter, reserves are projected to grow roughly in line with nominal GDP.[2] All told, the projected path for reserves is a bit higher compared to the previous Tealbook.[3]

Evolution of the SOMA portfolio. At the end of December 2019, about \$3.7 trillion of securities were held outright in the SOMA portfolio (excluding outstanding repo amounts), consisting of about \$2.3 trillion of Treasury securities and \$1.4 trillion of agency securities (see the exhibit titled "Federal Reserve Balance Sheet Month-end Projections—January Tealbook").[4] Consistent with the Committee's October 2019 Statement Regarding Monetary Policy Implementation, we assume that the Desk

[1] Although a minimum level of \$1.5 trillion of reserve balances is likely to ensure that they remain ample through the near term, the minimum level of reserves consistent with remaining in an ample-reserves regime is uncertain and will be reassessed as information accrues about banks' demand for reserve balances. These issues were discussed in the March 2019 memo to the FOMC, "Transitioning to an Ample Reserves Regime with Lower Reserves."

[2] The projection incorporates the staff's near-term forecasts for TGA balances through April 2020 and currency through December 2021. Thereafter, TGA balances and currency are assumed to grow in line with nominal GDP. We assume that liability items other than reserves, currency, and the TGA, such as the foreign repo pool and DFMU balances, grow in line with nominal GDP from the start of the projection period.

[3] The staff assumes that reserve management purchases of Treasury bills continue through June 2020, compared to mid-April 2020 in the previous Tealbook. Additionally, the staff assumes that take-up in repo operations will decline to zero beginning in July 2020, compared to February 2020 in the previous Tealbook.

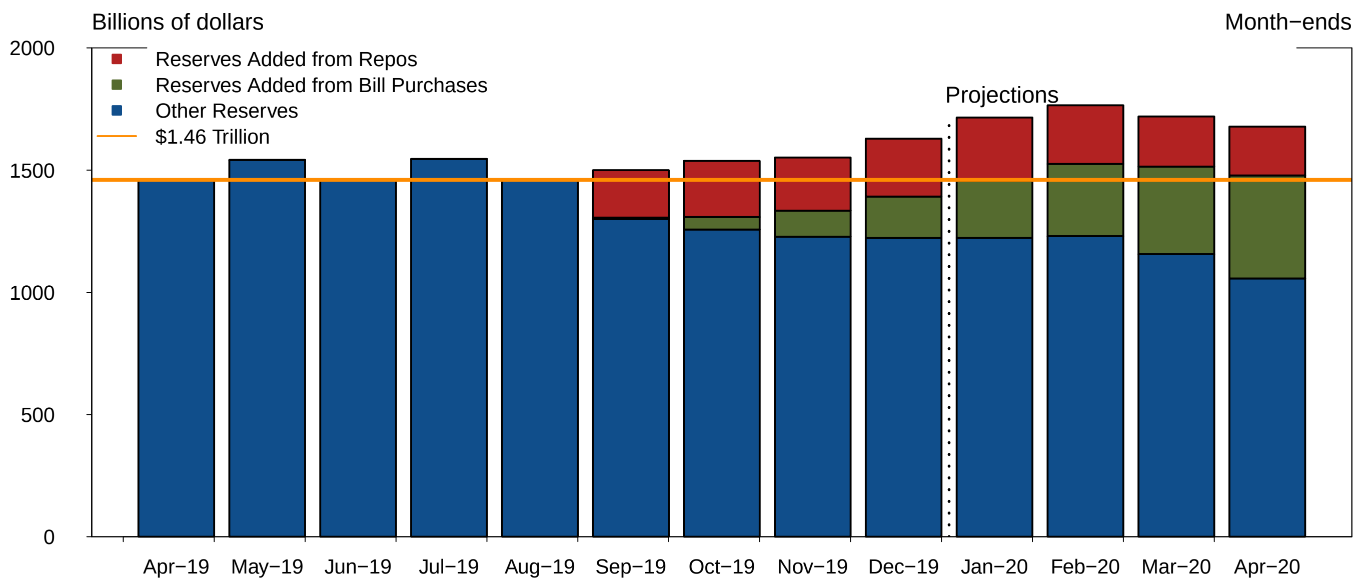
[4] SOMA securities held outright include bills purchased for reserve management, but do not include securities held temporarily through the Desk's overnight and term repo operations.

Balance Sheet & Income

Balance Sheet & Income

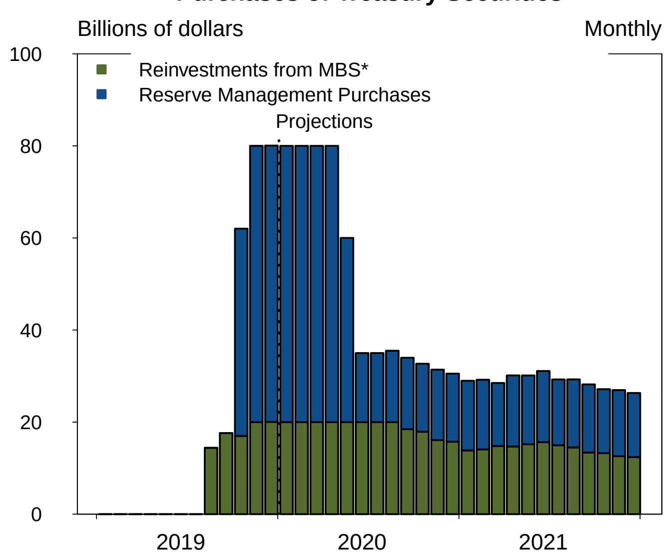
SOMA Open Market Operations and Their Near-Term Effect on Reserve Balances

Decomposing the Path of Reserve Balances

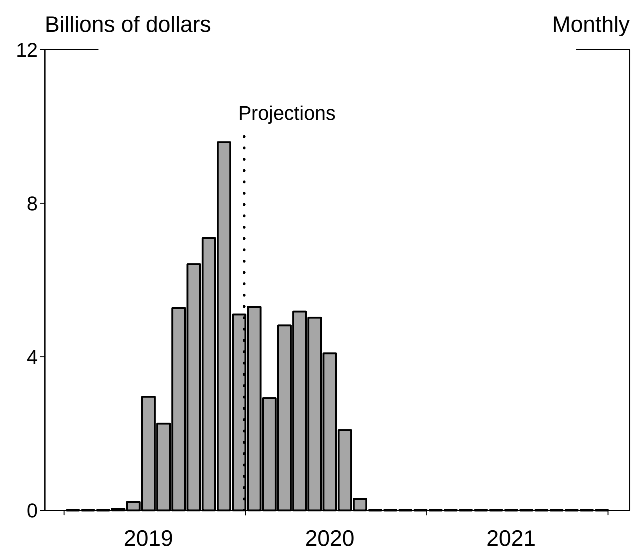


	Reserve Management Purchases of Treasury Securities		Reinvestments from Agency Securities*			
			to Treasury Securities		to Agency MBS	
Date	Period	Since Oct 2019	Period	Since Aug 2019	Period	Since Aug 2019
2019: October	45.0	45.0	17.0	49.0	7.1	18.8
2019: November	60.0	105.0	20.0	69.0	9.6	28.4
2019: December	60.0	165.0	20.0	89.1	5.0	33.5
2020:Q1	180.0	345.0	60.0	149.1	13.0	46.5
2019	165.0	165.0	89.1	89.1	38.9	33.5
2020	385.8	550.9	228.2	317.3	29.7	63.2
2021	175.8	726.6	169.5	486.8	0.0	63.2
2022	170.6	897.2	140.2	627.1	0.0	63.2

Purchases of Treasury Securities



MBS Reinvestments*



* Principal payments from holdings of agency securities below $20 billion per month are reinvested into Treasury securities, while those above are reinvested into agency MBS.

Federal Reserve Balance Sheet
Month-end Projections – January Tealbook
(Billions of dollars)

	Historical*			Projections				
	Aug 2014	Sep 2017	Dec 2019	Dec 2020	Dec 2021	Dec 2023	Dec 2025	Dec 2030
Total assets	4,416	4,460	4,155	4,309	4,479	4,821	5,151	6,092
Selected assets								
Loans and other credit extensions**	2	6	4	0	0	0	0	0
Securities held outright	4,157	4,240	3,740	4,133	4,312	4,671	5,016	5,984
U.S. Treasury securities	2,437	2,465	2,329	2,945	3,295	3,915	4,461	5,748
Agency debt securities	42	7	2	2	2	2	2	2
Agency mortgage-backed securities	1,678	1,768	1,409	1,185	1,015	753	552	233
Unamortized premiums	209	162	125	115	105	88	72	43
Unamortized discounts	-19	-14	-13	-11	-10	-10	-9	-7
Total other assets	66	66	300	72	72	72	72	72
Total liabilities	4,360	4,419	4,117	4,270	4,439	4,778	5,104	6,032
Selected liabilities								
Federal Reserve notes in circulation	1,249	1,533	1,759	1,874	1,989	2,141	2,286	2,695
Reverse repurchase agreements	277	432	273	281	293	315	336	397
Deposits with Federal Reserve Banks	2,825	2,447	2,081	2,112	2,154	2,318	2,477	2,935
Reserve balances held by depository institutions	2,762	2,190	1,629	1,609	1,631	1,755	1,876	2,227
U.S. Treasury, General Account	49	176	382	433	451	485	518	610
Other deposits	15	82	70	69	72	77	83	98
Earnings remittances due to the U.S. Treasury	3	2	0	0	0	0	0	0
Total Federal Reserve Bank capital***	56	41	39	39	40	44	48	60

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; All historical month-end values reflect the value on the first business day of the following month in order to capture settlement of securities.
**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.

will continue to purchase Treasury bills at a pace of $60 billion per month through April.[5] Subsequently, we assume that the pace of Treasury bill purchases will slow to $40 billion in May and $15 billion in June. Thereafter, we assume that Treasury securities held outright in SOMA increase, initially by about $15 billion per month, in order to expand in line with trend increases in reserves and in other Federal Reserve liabilities (see the exhibit titled "Total Assets and Selected Balance Sheet Items").[6] With these liabilities assumed to grow roughly at the pace of nominal GDP, the size of the balance sheet as a share of nominal GDP remains near its current level of about 19 percent throughout the projection horizon, just as in the previous Tealbook.

The weighted-average duration of the SOMA Treasury portfolio is currently about 6.3 years. As shown in the exhibit titled "Projections for the Characteristics of SOMA Treasury Securities Holdings," the path for duration is similar to that in the previous projection. Duration is projected to decline to about 6 years by March 2020, as the share of bills increases to 14 percent of the SOMA Treasury portfolio. The decline in duration then slows, reflecting the slower pace of bill purchases.[7] All told, the SOMA Treasury portfolio attains its assumed longer-run composition, consisting of one-third Treasury bills, in 2025:Q1, two quarters earlier than in the previous Tealbook.

Principal payments from holdings of agency securities are projected to exceed the $20 billion cap on reinvestment into Treasury securities into the third quarter of 2020, and to fall a little under $20 billion for the remainder of the year (see the table and lower charts in the exhibit titled "SOMA Open Market Operations and Their Near-Term Effect on Reserve Balances"). Accordingly, reinvestments of agency MBS into agency MBS are expected to continue into the third quarter of 2020. The share of agency MBS in the SOMA portfolio, which currently stands at 38 percent, is expected to decline to about

[5] Median expectations from the Desk's January surveys were for bill purchases to continue at a pace of $60 billion per month through April, and then step down to a pace of $30 billion in May and June.

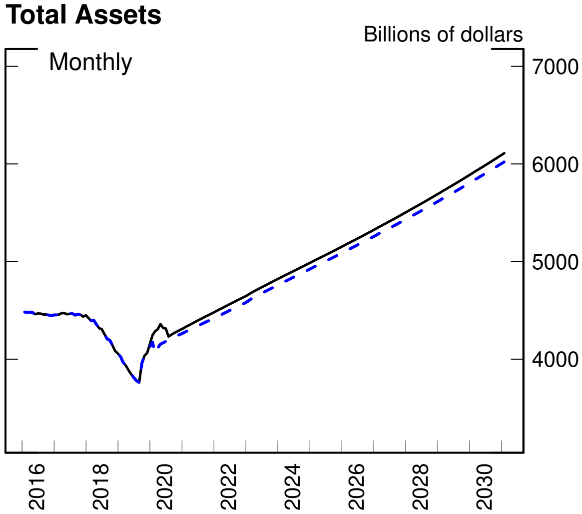
[6] We assume that rollovers of maturing Treasury securities will continue to be directed toward newly issued securities at Treasury auctions in proportion to the maturity distribution of Treasury debt issued at the time of rollover.

[7] We continue to assume that purchases aimed at accommodating trend growth in Federal Reserve liabilities will be directed entirely toward Treasury bills until bills constitute approximately one-third of the Federal Reserve's portfolio of Treasury securities, close to the pre-crisis composition. Once that composition is reached, further purchases aimed at accommodating growth in Federal Reserve liabilities are assumed to reflect the projected maturity distribution of Treasury securities outstanding at that time.

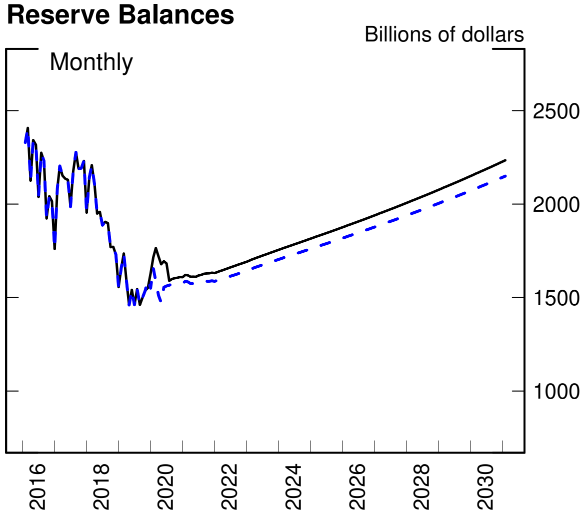
Total Assets and Selected Balance Sheet Items

January Tealbook baseline — December Tealbook baseline

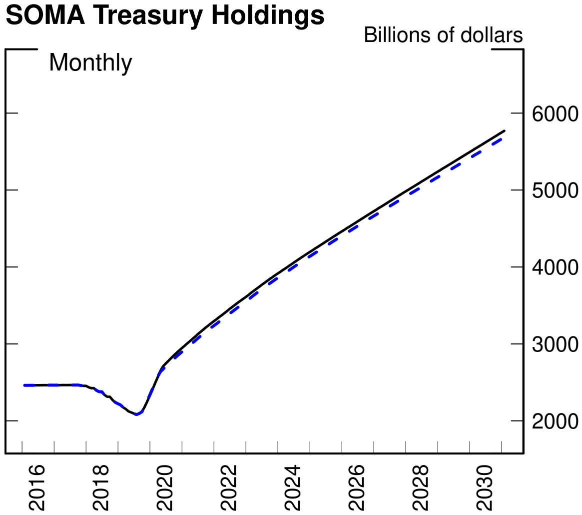
Total Assets



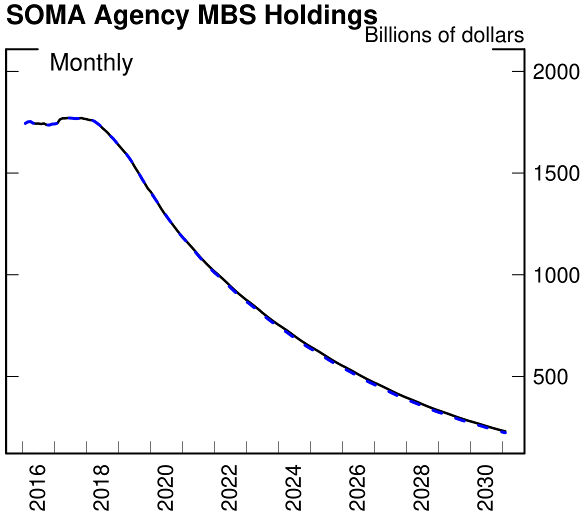
Reserve Balances



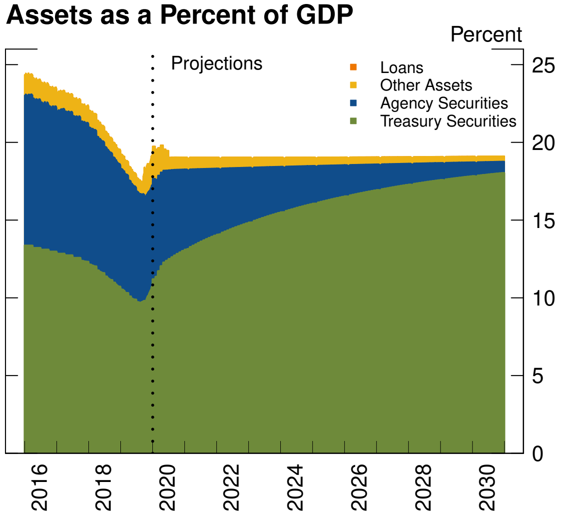
SOMA Treasury Holdings



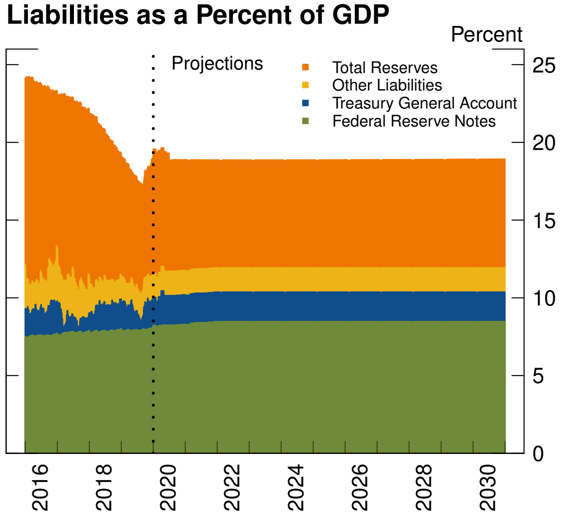
SOMA Agency MBS Holdings



Assets as a Percent of GDP

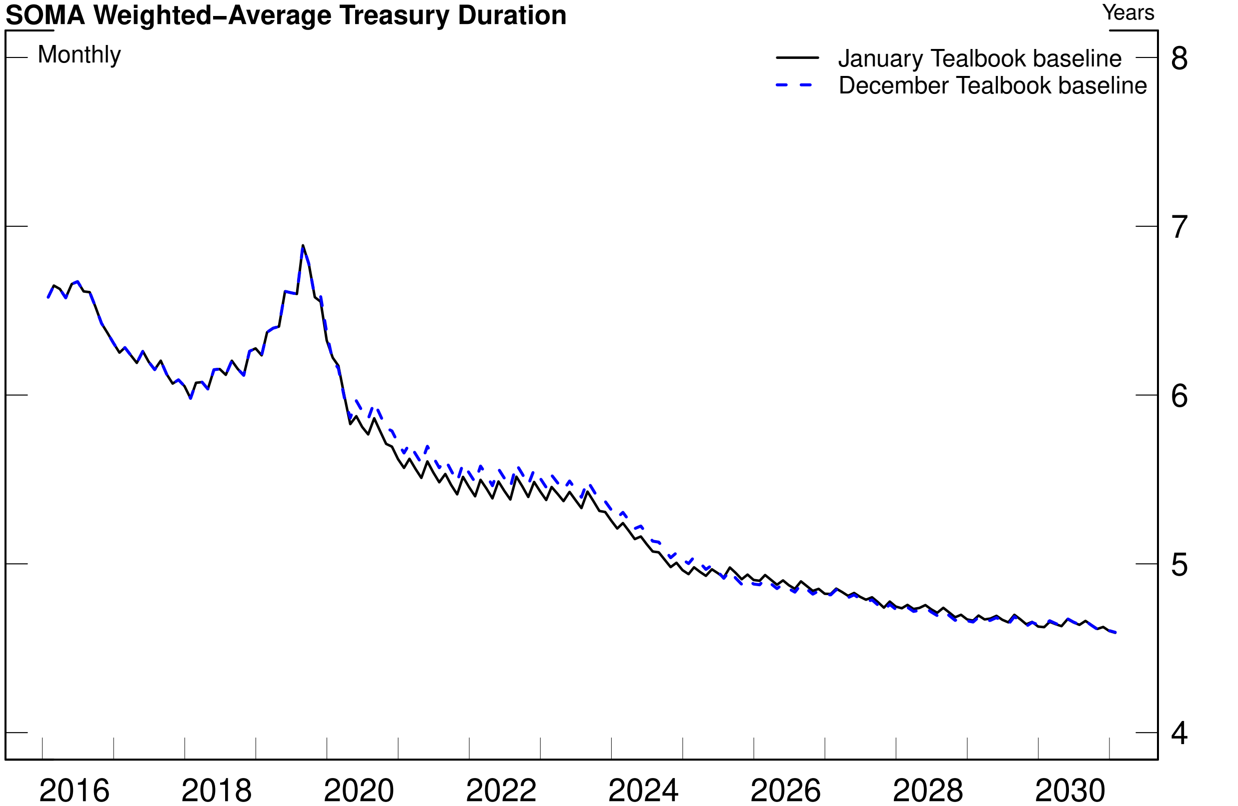


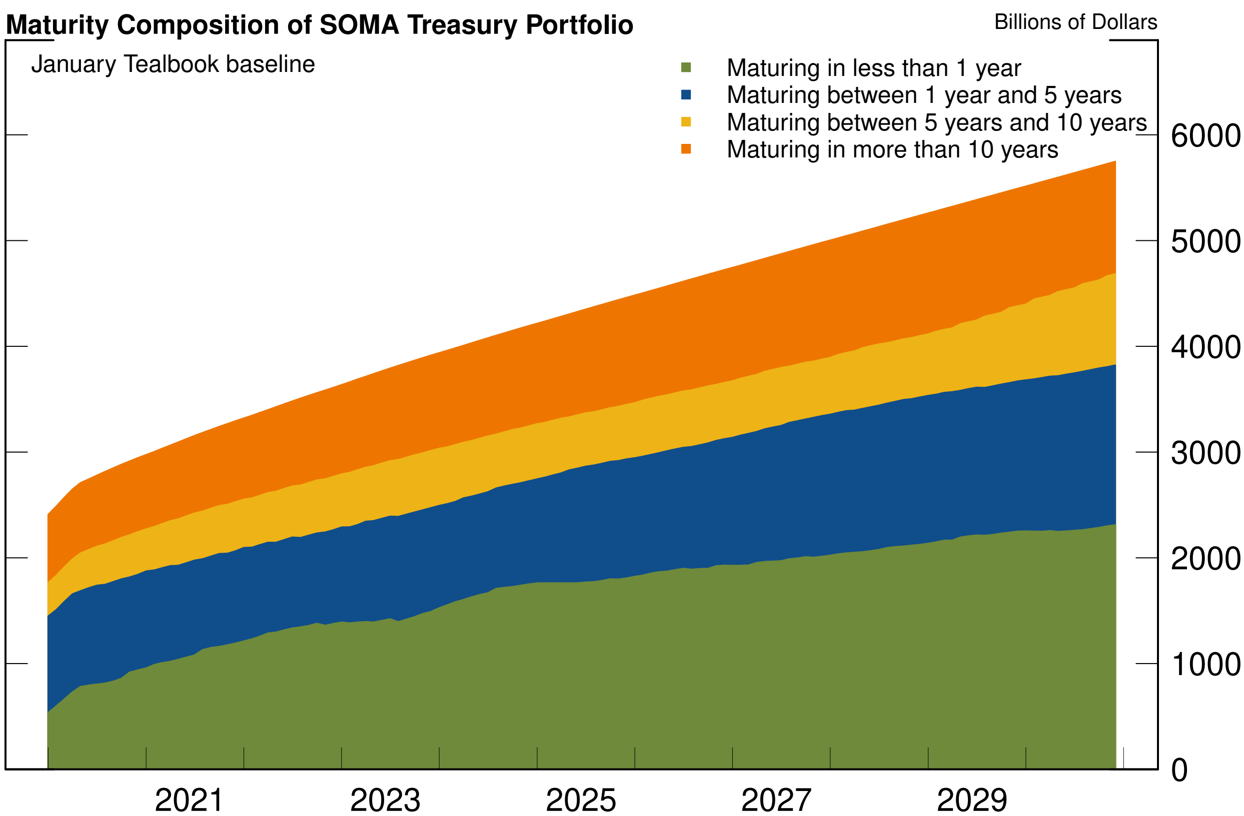
Liabilities as a Percent of GDP



Balance Sheet & Income

Projections for the Characteristics of SOMA Treasury Securities Holdings





11 percent by the end of 2025 (see the lower-left panel in the exhibit titled "Total Assets and Selected Balance Sheet Items").[8]

Unrealized gains or losses. The path for the unrealized position of the SOMA portfolio is largely unchanged from the previous Tealbook (see the two bottom charts in the exhibit titled "Income Projections"). The SOMA portfolio was in a net unrealized gain position of about $161 billion at the end of December. With longer-term interest rates projected to rise, the unrealized gain position is expected to decline over the next few years before turning into an unrealized loss position by 2023:Q1. The position bottoms out at an unrealized loss of around $48 billion in 2025:Q3.[9]

Total Term Premium Effect. As shown in the table "Projections for the 10-Year Treasury Total Term Premium Effect (TTPE)," the securities held in the SOMA portfolio are estimated to be reducing the term premium embedded in the 10-year Treasury yield by 135 basis points in the current quarter, about the same as in the previous Tealbook.[10] Over the projection horizon, the magnitude of the downward pressure exerted on the term premium in longer-term Treasury yields is estimated to diminish gradually, at an average pace of about 2 basis points per year. The gradual decline reflects the decrease in the duration of the Federal Reserve's securities holdings over the projection horizon. At the end of the projection horizon in 2030, the total term premium effect of the SOMA portfolio on the 10-year Treasury yield is estimated to be about 111 basis points.

Remittances. Remittances to the Treasury are projected to increase to $65 billion this year from $55 billion in 2019 (see the middle-left chart in the exhibit titled "Income Projections"). This increase mainly reflects the decline in projected total interest expense to $34 billion in 2020, down $8 billion from 2019. The lower interest expense is the result of the decline in IOER from 2019 to 2020.[11] Similar to the previous Tealbook,

[8] We assume that reinvestments of principal payments from agency securities holdings into Treasury securities continue to be spread across the maturity spectrum of outstanding Treasury securities for the entire projection period.

[9] 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 concepts underlying unrealized and realized gain and loss positions, as well as their implications for the Federal Reserve's ability to meet its obligations.

[10] The overall 10-year Treasury term premium is assumed to gradually approach its long-run value of 50 basis points.

[11] 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 September 2019 Implementation Note, we assume that the IOER rate will be set 20 basis points below the top of the target range, and the

Balance Sheet & Income

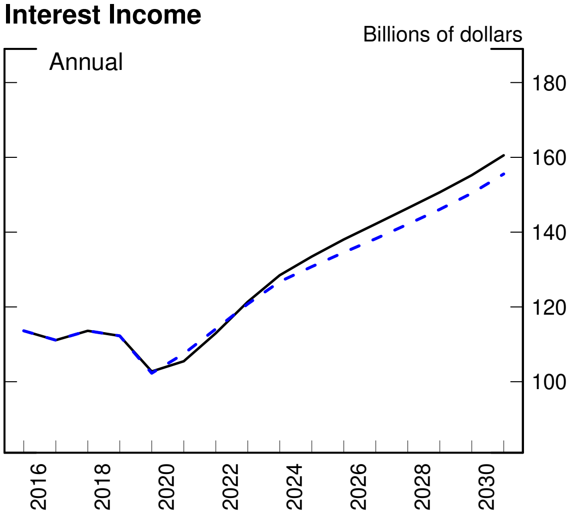
remittances are expected to remain roughly flat through 2022 and then increase for the rest of the projection period, reflecting higher net interest income associated with a growing balance sheet, as yields on longer-term securities in the SOMA portfolio exceed the rate paid on reserve balances.

offering rate on overnight RRPs will be set 5 basis points below the bottom of the range for the rest of the projection period.

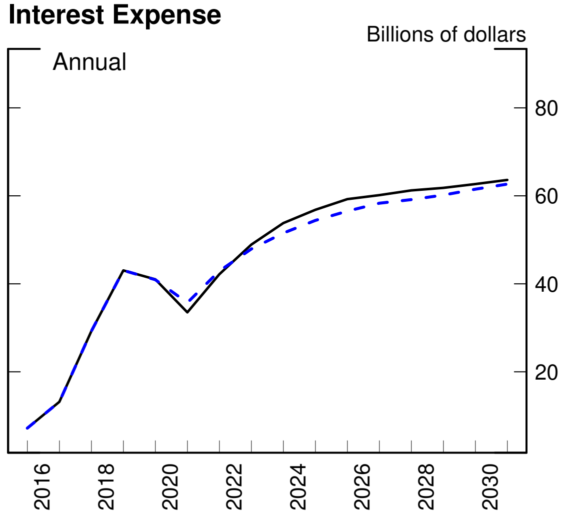
Income Projections

January Tealbook baseline
December Tealbook baseline

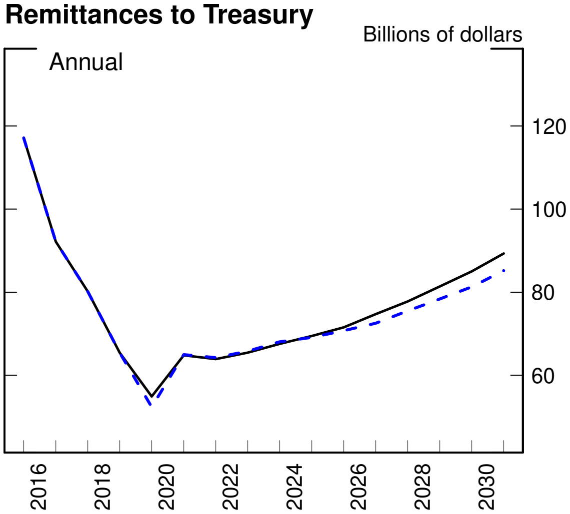
Interest Income



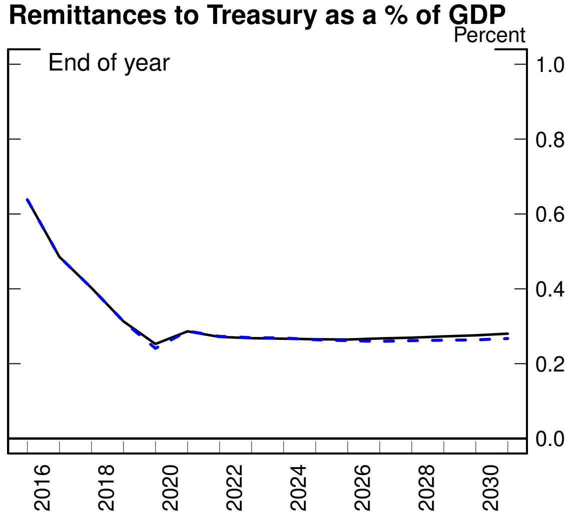
Interest Expense



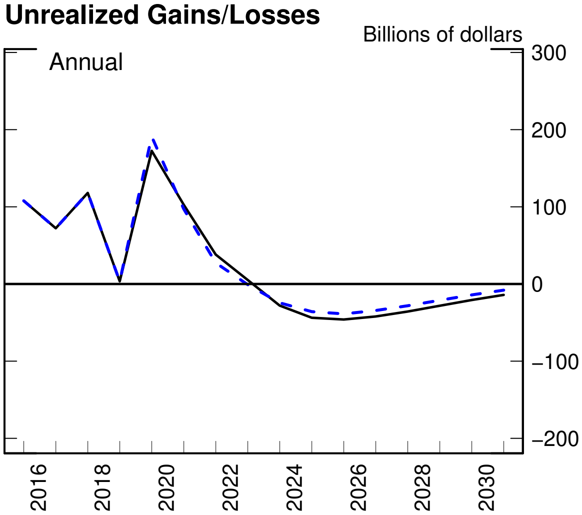
Remittances to Treasury



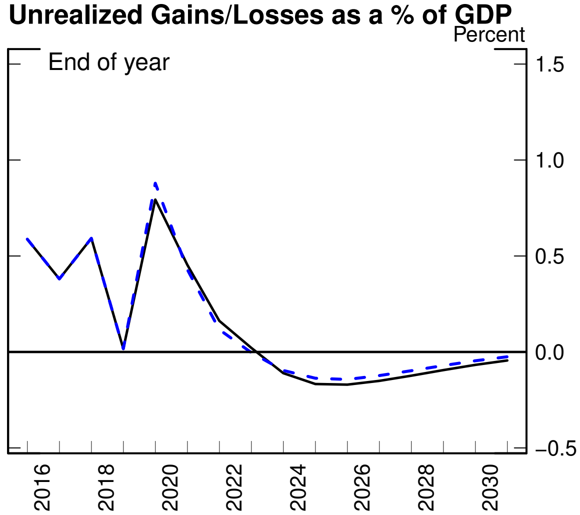
Remittances to Treasury as a % of GDP



Unrealized Gains/Losses



Unrealized Gains/Losses as a % of GDP



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

Date	January Tealbook	December Tealbook
	Quarterly Averages	
2020:Q1	-135	-135
Q2	-135	-134
Q3	-134	-133
Q4	-133	-132
2021:Q4	-130	-129
2022:Q4	-127	-126
2023:Q4	-124	-122
2024:Q4	-121	-119
2025:Q4	-119	-117
2026:Q4	-117	-116
2027:Q4	-116	-114
2028:Q4	-114	-113
2029:Q4	-113	-111
2030:Q4	-111	-110

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
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
MEP	Maturity Extension Program
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
TTPE	Total Term Premium Effect
WAM	Weighted Average Maturity
ZLB	zero lower bound