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 1/12/2024.

Report to the FOMC on Economic Conditions and Monetary Policy

Book B

Monetary Policy Alternatives

January 25, 2018

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

(This page is intentionally blank.)

Monetary Policy Alternatives

Data received over the intermeeting period indicate that the labor market and the broader economy have continued to strengthen. Although job gains slowed somewhat in December, average job gains in recent months have been solid and remained well above estimates of the pace that is likely to be sustainable over the longer run. The unemployment rate remained quite low, and some broader measures of labor market conditions also point to high and rising levels of labor utilization. In addition, real GDP has been increasing at a rate that appreciably exceeds the staff's estimate of potential GDP growth and is projected to continue to do so through next year. Many forecasters, including the staff, have revised up their projections of economic growth in response to the recent data, more accommodative financial conditions, stronger expansion abroad, and the passage of the Tax Cuts and Jobs Act. Measures of 12-month headline and core inflation have continued to run below 2 percent, though both edged up since the summer and are projected to be close to 2 percent by mid-year, once last spring's unusually large decrease in the price of cell phone services no longer enters the calculation of 12-month inflation.[1]

The key question for the Committee at the January meeting is whether, in light of incoming information and its implications for the economic outlook, communications about the appropriate policy rate path should be altered, possibly in conjunction with an increase in the target range for the federal funds rate. Against this background, three alternative draft statements are given below for the Committee's consideration. The alternatives provide varying interpretations of the ongoing tension between the softness in inflation and the strength in economic activity and the labor market. Correspondingly, the alternatives differ on the target range to be announced next week and in the message conveyed about the federal funds rate path expected to be necessary to achieve the Committee's objectives.

Alternative B continues to note the solid performance of the labor market, and in light of incoming data, it upgrades the characterization of household spending and business investment. It indicates that economic conditions are likely to warrant "further" gradual increases in the federal funds rate but holds the current target range at 1¼ to 1½

[1] Note: The following data will be released before the FOMC meeting on January 30-31: GDP on 1/26; PCE on 1/29; and ECI on 1/31.

percent and retains language indicating that near-term risks to the outlook appear roughly balanced. Thus, Alternative B signals that the Committee now sees a somewhat steeper, ultimately higher, or both steeper and higher path for the federal funds rate as likely to be necessary to achieve its objectives.

Alternative C cites the same solid incoming real-side data and adds language to note recent increases in inflation. Moreover, Alternative C characterizes risks to the near-term outlook for economic activity as tilted to the upside. Alternative C includes a 25-basis-point increase in the target range for the federal funds rate in January and indicates that "further" gradual increases in the funds rate likely will be needed to achieve "sustainable" rates of expansion in economic activity and employment over the medium term. By combining these language changes with an immediate increase in the target range for the federal funds rate, Alternative C signals substantially greater conviction than Alternative B that a steeper, an ultimately higher, or both steeper and higher path for the federal funds rate than previously expected is needed.

In contrast, Alternative A emphasizes that inflation declined during 2017 and is still below the Committee's longer-term objective. In light of persistently low inflation, Alternative A indicates that the federal funds rate target will be maintained for the time being and opens the possibility that the target range may need to be lowered in order to achieve the Committee's inflation objective.

With regard to the specifics of the draft statement language:

- The three alternatives differ only slightly in their assessment of the strength of incoming real-side data. The bigger differences lie in the assessments of the state of the labor market.
  - Alternative B describes the labor market as having "continued to strengthen" and economic activity as having risen "at a solid rate." This characterization is informed by payroll gains that have exceeded the pace considered sustainable over the longer run as well as by broader indications of strength in the labor market. Gains in employment, household spending, and business fixed investment are characterized as having "been solid" while the unemployment rate "has stayed low."
  - Alternative C uses the same descriptions of the labor market and real activity.

Alternatives

- In contrast, Alternative A describes the labor market as having "remained strong." This characterization of the labor market reflects the recent leveling off in the unemployment rate, and the absence of any firming in wage growth. As do Alternatives B and C, Alternative A acknowledges the recent strong spending data.

- The alternatives also differ in their characterization of inflation and measures of inflation compensation.
  - Alternative B states that on a 12-month basis, both total and core inflation have "continued to" run below 2 percent—deleting the mention of the decline over 2017. There is no change from the December FOMC statement in the description of market-based measures of inflation compensation or of survey-based measures of longer-term inflation expectations.
  - Alternative C also states that on a 12-month basis, both total and core inflation rates have "continued to" run below 2 percent—again omitting the mention of the decline over 2017. However, in contrast to Alternative B, Alternative C notes that inflation readings have increased since last summer. Similarly, Alternative C notes that market-based measures of inflation compensation "have increased in recent months" and drops the phrase that these measures "remain low." There is no change from the December FOMC statement in the description of survey-based measures of longer-term inflation expectations.
  - Alternative A retains the reference to the decline in total and core inflation rates (on a 12-month basis) in 2017 and omits mention of the mild upward trend in readings since last summer. As does Alternative B, the characterizations of inflation compensation and survey-based measures of inflation expectations are unchanged from the December FOMC statement.

- The outlook for economic activity and the labor market is somewhat different across the three alternatives, as is the inflation outlook. In addition, the outlook associated with each alternative is conditioned on a different expectation for monetary policy.
  - Alternative B indicates that economic activity will expand at a "moderate pace" and that labor market conditions will "remain strong," with "further" gradual adjustments in the stance of monetary policy. The inclusion of the qualifier "further" is intended to suggest that, in light of recent data, the policy rate path may need to be somewhat higher than previously anticipated.

- Alternative C indicates greater urgency for slowing the momentum of the economy by stating that economic activity and employment will expand at "sustainable rates over the medium term" with "further" gradual adjustments in the stance of monetary policy. This language is intended to signal that in the absence of a rate path that is either steeper, eventually higher, or both steeper and eventually higher than previously expected, overheating could pose risks to the continuation of the expansion. To reinforce the message that a higher policy path may be needed, Alternative C characterizes risks to the near-term outlook for economic activity as tilted to the upside.
- Alternative A focuses primarily on the persistent shortfall in inflation. It removes the sentence that said the Committee expects inflation "to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term." Instead, Alternative A indicates that inflation will "gradually rise" to 2 percent over the medium term—a formulation that could be taken as suggesting a Committee expectation of a slower convergence to the objective than previously anticipated. Moreover, Alternative A no longer conditions the Committee's outlook on "gradual adjustments in the stance of monetary policy," but rather on "appropriately accommodative monetary policy."

- With respect to the current policy decision and the outlook for monetary policy:
    - Alternative B leaves the target range at 1¼ to 1½ percent and signals an expectation that "further gradual increases" in the federal funds rate will be appropriate.
    - Alternative C raises the target range to 1½ to 1¾ percent and in addition conveys an expectation that "further gradual increases" will be necessary to achieve economic growth consistent with price stability. In addition, Alternative C drops the indication that the federal funds rate is likely to "remain, for some time, below levels that are expected to prevail in the longer run." This change conveys the messages that the Committee sees a need to raise rates more rapidly than previously anticipated and admits the possibility that the federal funds rate in the medium term will exceed levels expected to prevail in the longer run.
    - Alternative A leaves the target range at 1¼ to 1½ percent and suggests that the current range may be appropriate for longer than previously expected by tying

it to incoming data that bears on the outlook for inflation. Alternative A no longer describes how "the timing and size of future adjustments" to the target range will be determined; instead, it focuses on how the FOMC will determine "whether" to adjust the target range. This provides an additional signal that the federal funds rate may need to remain on hold at coming meetings—or even be reduced—in order to achieve the Committee's objectives.

Alternatives

DECEMBER 2017 FOMC STATEMENT

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

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

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

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

ALTERNATIVE A FOR JANUARY 2018

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

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

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

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

Alternatives

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

Alternatives

ALTERNATIVE B FOR JANUARY 2018

1. Information received since the Federal Open Market Committee met in ~~November~~ **December** indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. ~~Averaging through hurricane-related fluctuations, job~~ Gains **in employment, household spending, and business fixed investment** have been solid, and the unemployment rate ~~declined further~~ **has stayed low**. ~~Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters.~~ On a 12-month basis, both overall inflation and inflation for items other than food and energy have ~~declined this year and are~~ **continued to** run~~ning~~ below 2 percent. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

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

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

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

Alternatives

ALTERNATIVE C FOR JANUARY 2018

1. Information received since the Federal Open Market Committee met in ~~November~~ **December** indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. ~~Averaging through hurricane-related fluctuations, job~~ Gains **in employment, household spending, and business fixed investment** have been solid, and the unemployment rate ~~declined further~~ **has stayed low**. ~~Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters.~~ On a 12-month basis, both overall inflation and inflation for items other than food and energy have ~~declined this year and are~~ **continued to** run~~ning~~ below 2 percent **but have increased since last summer**. Market-based measures of inflation compensation ~~remain low~~ **have increased in recent months**; survey-based measures of longer-term inflation expectations are little changed, on balance.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. ~~Hurricane-related disruptions and rebuilding have affected economic activity, employment, and inflation in recent months but have not materially altered the outlook for the national economy. Consequently,~~ The Committee ~~continues to~~ expect**s** that, with **further** gradual adjustments in the stance of monetary policy, economic activity **and employment** will expand at ~~a moderate pace and labor market conditions will remain strong~~ **sustainable rates over the medium term**. Inflation on a 12-month basis is expected to ~~remain somewhat below 2 percent in the near term but~~ **move up this year and** to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the ~~economic~~ outlook **for economic activity** appear ~~roughly balanced,~~ **tilted to the upside** ~~but the Committee is monitoring inflation developments closely~~.

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

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

~~to remain, for some time, below levels that are expected to prevail in the longer run~~. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

The Case for Alternative B

Economic Conditions and Outlook

- Available data indicate that the labor market has continued to strengthen.
  - Payroll gains averaged 162,000 per month from September through December, only slightly below their average pace earlier in the year. Both the average level of job gains and the job gains reported in December (148,000) were well above the staff's estimate of the pace that is sustainable over the longer run.
  - The unemployment rate remained at 4.1 percent in December (the same as in October and November), below all FOMC participants' estimates of the longer-run normal rate of unemployment in the December Summary of Economic Projections (SEP). The share of workers who reported being part time for economic reasons and the share of the population out of the labor force, but who reported wanting a job, also held steady. In addition, the labor force participation rate was flat despite downward pressure from secular factors such as aging of the population.
  - Notwithstanding the strong pace of job gains and the low unemployment rate, compensation data continued to point to little acceleration in wages.
- Although readings on headline and core inflation have continued to run below 2 percent, both rates are projected to be near 2 percent by mid-2018.
  - Over the 12 months ending in November, the core PCE inflation rate was 1.5 percent, up about 0.2 percentage point from its low last summer. The staff projects that 12-month core PCE inflation will rise to 1.8 percent in March, when the unusual decline in core prices recorded for March 2017 drops out of the 12-month window. The projected increase over the medium term also reflects the tightening economy and recent depreciation of the dollar.
  - Over the 12 months ending in November, headline PCE inflation was 1.8 percent, up 0.4 percentage point since last summer. The staff projects that 12-month headline PCE inflation will rise to 2.0 percent in March. The projected increase in headline inflation reflects in part the anticipated effect of the recent increase in the price of oil on gasoline prices.
  - The staff forecasts that the 12-month rates of both core and headline inflation will be 1.9 percent at the end of 2018, close to the Committee's longer-run

objective of 2 percent. This aspect of the staff forecast coincides with the median projection in the December SEP.

  - Survey measures of inflation expectations changed little over the intermeeting period. The 5-year, 5-year forward TIPS-based measure of inflation compensation is now 13 basis points higher than at the time of the December FOMC meeting.

- Real GDP growth appears to have exceeded 3 percent at an annual rate in the third and fourth quarters of 2017. Furthermore, the staff forecasts GDP to increase at an annual rate of 3 percent in the first half of this year—a pace well in excess of the staff's estimate of potential GDP growth and of the median December SEP estimate of the economy's longer-run growth rate.

- While the macroeconomic effects of the recent tax reform are uncertain, the staff now estimates that the tax policy changes imply a larger fiscal stimulus than anticipated on the basis of information available at the time of the December Tealbook or FOMC meeting.

- Since the December FOMC meeting, information on economic activity abroad has been upbeat and stronger than expected, and the broad dollar index has declined 4¾ percent.

Policy Strategy

- Policymakers may view the economy as having somewhat exceeded its full-employment level, and they might anticipate that the labor market will continue to tighten this year as the recent easing in financial conditions and tax cuts support strong growth in demand for goods and services. That being so, they may see a somewhat steeper or higher path for the federal funds rate as likely to be appropriate to achieve the outlook for moderate growth and a return to 2 percent inflation, but not regard an increase in the target range for the federal funds rate as necessary at this meeting.

- The recent strength in economic activity may have bolstered policymakers' confidence that inflation will gradually rise to 2 percent. Consequently, policymakers may judge it prudent to continue with a gradual removal of accommodation even against a background of low current inflation readings. However, inflation has been persistently below the Committee's 2 percent objective. Policymakers may therefore

Alternatives

view Alternative B as preserving flexibility to respond appropriately should inflation fail to rise as anticipated.

- Policymakers may wish to acknowledge the strength in incoming real-side data and continue to signal that the FOMC no longer sees additional tightening in the labor market as necessary to achieve its employment and inflation objectives. However, with nominal wage growth having picked up only gently over the past few years, and with job gains having moderated somewhat during the same period, policymakers may see no need for an indication that the FOMC is seeking to bring about less-tight labor market conditions.
- As shown in the "Monetary Policy Expectations and Uncertainty" box, federal funds futures quotes imply that market participants, on average, regard the odds of a rate hike at the upcoming meeting as negligible but see a high probability that the federal funds rate will be raised at the March meeting. Respondents to the Desk's latest surveys have broadly similar expectations. Predicting the market response to the statement in Alternative B is difficult. Maintaining the current target range while conveying a stronger outlook for the economy and the possibility of a somewhat steeper policy rate path than suggested by December's language—by inserting "further" before "gradual" in paragraphs 2 and 4—would probably boost interest rates and the foreign exchange value of the dollar modestly and put some downward pressure on stock prices. The upward pressure on interest rates would be more pronounced if market participants viewed the language as signaling a higher funds rate path over coming years. On the other hand, the effects on stock prices could be small or even positive if investors focused on the relatively upbeat assessment of the U.S. economic outlook.

THE CASE FOR ALTERNATIVE C

Economic Conditions and Outlook

- Policymakers may judge that the labor market is already appreciably beyond full employment and that economic activity—which was already growing at a faster-than-sustainable rate—will be further spurred by the recently enacted tax cuts and by financial conditions that continue to be, on balance, accommodative.
    - The unemployment rate declined in October to 4.1 percent and has remained at that level, below all FOMC participants' estimates of its longer-run normal level in the December SEP.

Alternatives

Monetary Policy Expectations and Uncertainty

Over the intermeeting period, market participants appeared to become increasingly confident that the Committee will keep the target range for the federal funds rate unchanged at the upcoming FOMC meeting and announce a 25-basis-point rate increase at the March meeting. As shown by the black line in figure 1, a straight read of quotes on federal funds futures contracts suggests that the probability attached to a rate hike at the March meeting rose from around 60 percent immediately following the December meeting to about 85 percent. This increase occurred against a backdrop of economic data releases, both domestically and abroad, that were generally stronger than consensus expectations. As was the case ahead of the December 2017 rate hike, the odds of a hike at the March 2018 meeting have firmed above 80 percent well ahead of the meeting. Respondents to the Desk's January surveys assigned, on average, similarly high odds to a March rate increase and virtually no odds to a rate hike in January.

Looking further ahead, the probability distribution of the level of the federal funds rate at the end of 2018 implied by options quotes, assuming zero term premiums, shifted to the right over the intermeeting period (figure 2). That distribution indicates that market participants now attach the highest odds to the federal funds rate falling in the 2 to 2¼ percent range at year-end, which corresponds to three 25-basis-point rate hikes this year. Averaging across respondents, the comparable distribution from the Desk's January surveys (figure 3) also shifted to the right.

Overall, the forward rates implied by OIS quotes (the blue lines in figure 4) moved up significantly over the intermeeting period, increasing 14, 29, and 28 basis points at the end of 2018, 2019, and 2020, respectively. Under the assumption of zero term premiums, these market-implied forward rates translate to an expected federal funds rate of about 2 percent at the end of 2018 and 2.3 percent at the end of both 2019 and 2020. The expected path of the federal funds rate with adjustments for term premiums as estimated by a staff term structure model (the red lines in figure 4) increased by less since the December FOMC meeting; the model attributes most of the increase in the market-implied forward rates to less negative term premiums. The model-based path suggests an expected federal funds rate of about 2.4 percent at the end of 2018 and about 3.1 percent at the end of 2020, and so continues to show a faster pace of rate increases than the unadjusted path.

As shown in figure 5, the model-based path (the light-blue line) is similar to the Committee's December median SEP projections (the dark-blue dots) and to the median of Desk survey respondents' modal path (the brown line). However, the survey-implied modal path lies noticeably above the survey-implied mean path (the golden squares). The survey-implied mean path is constructed from respondents' probability distributions under certain assumptions and is close to the unadjusted path implied by OIS quotes. While the mean path moved up some since December (not shown), the fact that it remains well below the modal path suggests that investors continue to perceive risks to the economic outlook as skewed towards the downside.[1] The median respondent to the January Desk surveys continued to attach about 20 percent probability to a return to the zero lower bound sometime over the next three years, unchanged from the previous surveys.

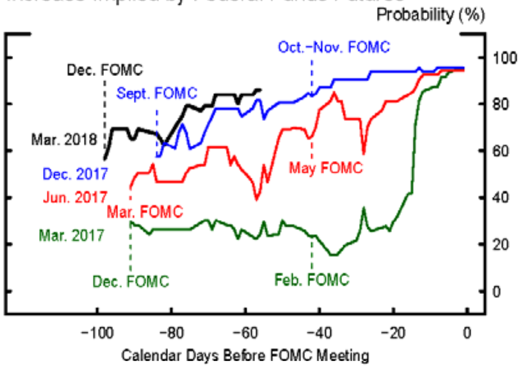
Part of the increase in both the market-based and survey-based expected policy rate paths may reflect the anticipated expansionary effects of the Tax Cuts and Jobs Act (TCJA). The median survey respondent in the January Desk surveys indicated that, compared with previously existing law, the TCJA is expected to increase the budget deficit by 0.5 to 1 percentage point of GDP during each of the current year and the next two. While respondents held somewhat diverse views on the economic effects of the TCJA, the median respondent in the Dealer survey expected the TCJA to provide only a modest boost to near-term GDP growth, adding 0.3 and 0.2 percentage point to GDP growth for 2018 and 2019 but having no impact on GDP growth in 2020. In addition, the median survey respondent estimated that the TCJA would have no effect on core PCE inflation over the 2018–2020 period.

The January surveys asked respondents to assess the current level of the neutral real federal funds rate, as well as its level at the end of each of the next three years. As in the October–November 2017 surveys, when these questions were last asked, respondents held quite diverse views about the current and future levels of the neutral real rate, as is evident from the wide range of estimates shown in figure 6. Although some respondents indicated they had marked up their estimates in response to the passage of the TCJA, the median estimates of the current level, as well as those for the end of 2018 and 2019 (the orange horizontal bars), were unchanged at 0.25, 0.5 and 0.75 percent, respectively, while the median estimate for the end of 2020 edged down. Taking a somewhat longer perspective, the median estimates of the neutral real rate at the end of 2018 and 2019 are currently about 30 and 25 basis points lower, respectively, than they were in December 2016.

[1] Of note, the staff term structure model may not adequately capture such a feature as it assumes that shocks to the economy are normally distributed and therefore implies mean and modal short rate paths that largely coincide when the short rate is sufficiently away from the zero lower bound.

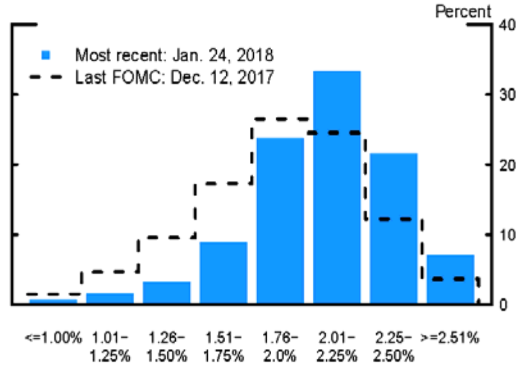
Alternatives

Figure 1: Market-Implied Probability of the Next Rate Increase Implied by Federal Funds Futures



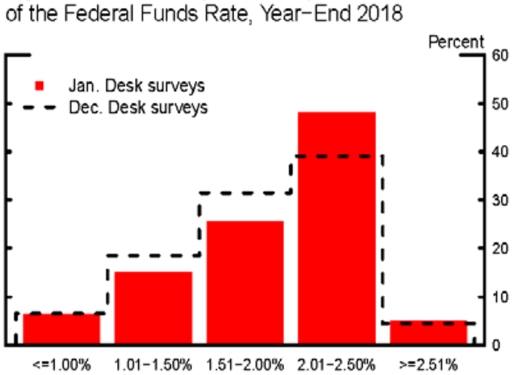
Note: Probabilities implied by a binomial tree fitted to settlement prices on fed funds futures contracts, assuming the next policy action is either no change or a 25 basis point increase in rates and no intermeeting moves. The effective federal funds rate until the next FOMC meeting is assumed to be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

Figure 2: Market-Implied Probability Distribution of the Federal Funds Rate, Year-End 2018



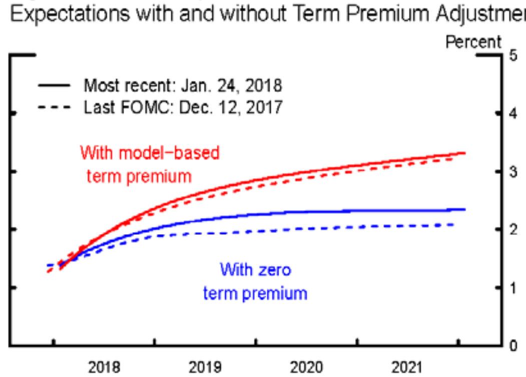
Note: Estimated from Eurodollar futures options, accounting for the differences in the levels and option-implied volatilities of LIBOR and the federal funds rate, but not adjusted for risk premium.
Source: CME Group; Federal Reserve Board staff estimates.

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



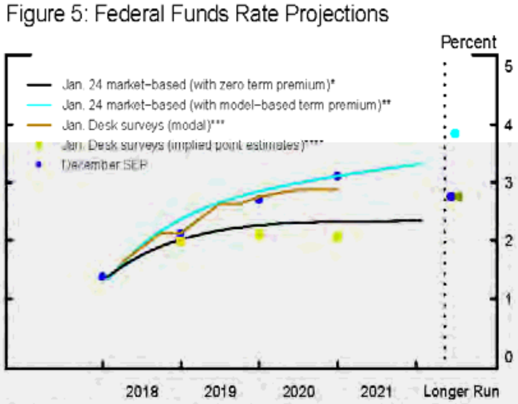
Note: Average unconditional probabilities across primary dealers and market participants for different ranges of the federal funds rate at the end of 2018.
Source: FRBNY.

Figure 4: Market-Implied Federal Funds Rate Expectations with and without Term Premium Adjustment



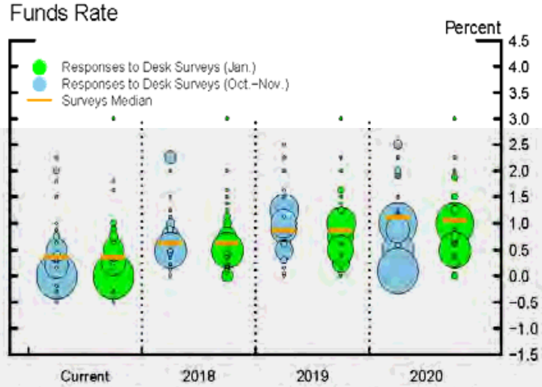
Note: Zero term premium path is estimated using overnight index swap quotes with a spline approach and a term premium of zero basis points. Model-based term premium path is estimated using a term structure model maintained by Board staff and corrects for term premium.
Source: Bloomberg; Federal Reserve Board staff estimates.

Figure 5: Federal Funds Rate Projections



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

Figure 6: Estimate of the Neutral Real Federal Funds Rate



Note: Based on all responses from the Survey of Primary Dealers and Survey of Market Participants. Dots scaled by number of respondents.
Source: FRBNY.

- Despite four increases in the target range for the federal funds rate from December 2016 to December 2017, the average pace of payroll gains in 2017, including in recent months, significantly exceeded the pace commonly regarded as necessary to absorb new entrants (and reentrants) into the labor force and maintain a constant unemployment rate over the medium run.
- The staff forecasts that average payroll gains will continue to be strong in the coming three years. Accordingly, the staff expects that the unemployment rate will continue to decline, reaching 3¼ percent in 2019 and 2020. Such a low rate of unemployment has not been reached in the United States for more than half a century.
- Other indicators pointing to a tight labor market include job openings, survey measures of job availability, widespread indications of difficulty of firms in hiring workers, and low initial claims for unemployment insurance.

• Policymakers may see projected inflation as soon closing in on the Committee's longer-run objective. Twelve-month rates of headline and core PCE inflation, which have been running at about 1¾ and 1½ percent, respectively, in recent months, are expected to rise this spring as March 2017's large recorded drop in the price of cell phone services drops out of the 12-month calculation. Notably, headline inflation is projected to rise just above 2 percent in the first half of 2018, in part reflecting increases in gasoline prices. In addition, the most recent inflation measures show a moderate rise since the summer and the 5-year, 5-year forward TIPS-based measure of inflation compensation is now 13 basis points higher than at the time of the December FOMC meeting and is up about 25 basis points relative to its average from June through November of last year. Policymakers may believe that more concerted upward pressures on both wages and prices are likely to emerge following a prolonged period of labor market tightness.

• Despite the four increases in the target range for the federal funds rate from December 2016 to December 2017, aggregate financial conditions appear to have eased. Equity prices have risen further in recent months, while stock market volatility has been very low. Spreads on investment-grade and high-yield corporate bonds have declined over the past year and are roughly in line with their pre-crisis levels. In addition, the trade-weighted dollar has depreciated considerably since early November.

Alternatives

- Policymakers may see notable upside risks to the outlook for economic activity, resource utilization, and inflation.
    - Indicators of consumer and business sentiment—including as measured by the University of Michigan Surveys of Consumers, the ISM manufacturing index, and the Philadelphia Fed future capital spending index—have been extremely buoyant. In addition, the intermeeting reports on retail sales and sales of light motor vehicles came in stronger than expected. Taken together, these indicators suggest upside risk to aggregate demand.
    - Since the December FOMC meeting, positive foreign economic data, AFE central bank communications, and improved risk sentiment pushed foreign yields and equity prices higher. These developments also likely weighed on the foreign exchange value of the dollar, which declined 4¾ percent over the intermeeting period. In the current synchronized global expansion, it is possible that foreign growth will be stronger than currently expected, thus posing further upside risks to the U.S. outlook.
    - The macroeconomic effects of the legislated tax changes are uncertain and may turn out to be more stimulative than currently anticipated.

Policy Strategy

- Despite past rate increases and recent FOMC statements noting an expectation of additional gradual hikes, the labor market and economic activity continue to expand more rapidly than is sustainable in the longer run. In light of higher equity prices, narrower risk spreads, and depreciation of the dollar, policymakers may judge that broad financial conditions have eased despite the increase in longer-term interest rates. Policymakers may consequently be concerned that reducing accommodation at the slow pace that market participants anticipate poses significant risks of overheating and too-high inflation, and appreciably raises the likelihood that policy may need to tighten abruptly in the future.
- Policymakers may view valuation pressures together with low volatility in financial markets as encouraging or reflecting excessive risk-taking. Policymakers might be concerned that significant undershooting of the longer-run normal rate of unemployment, alongside loose financial conditions, could lead to a buildup of financial vulnerabilities. For example, policymakers may see as one such vulnerability the historically high levels of leverage in the nonfinancial corporate

sector, and the accompanying danger that interest-expense ratios could rise rapidly if monetary policy needed to be tightened quickly.

- For all of the above reasons, policymakers may opt to raise the target range of the federal funds rate to 1½ to 1¾ percent while emphasizing that "the stance of monetary policy remains accommodative."
- A statement like Alternative C would surprise market participants, not least because the federal funds futures quotes imply that market participants, on average, regard the odds of a rate hike at the upcoming meeting as negligible. If the public were to infer that the newly composed Committee has a less accommodative "reaction function," then medium- and longer-term real interest rates would likely rise, as would the exchange value of the dollar, and equity prices and inflation compensation would probably fall. If, however, the public were instead to interpret a statement like Alternative C as primarily reflecting a more upbeat assessment of the strength of the economy, then equity prices might fall less than otherwise.

The Case for Alternative A

Economic Conditions and Outlook

- On a 12-month basis, core inflation has continued to run notably below 2 percent. Twelve-month core PCE inflation including only market-based prices was 1.2 percent in November; the 12-month trimmed mean inflation rate calculated by the Federal Reserve Bank of Dallas remained at 1.7 percent. Policymakers may see these readings as indicating that inflation this year has been held down, at least in part, by persistent factors.
- One factor holding down inflation may be that the labor market has not yet reached maximum sustainable employment. The unemployment rate has declined about ¾ percentage point over the past year and average job gains have been solid; nonetheless, wages have shown little sign of accelerating. The employment-to-population ratio for prime-age workers remains below its pre-recession level, suggesting scope for further labor market strengthening.
- Low expected inflation may be another factor holding down inflation. Recent readings on market-based measures of inflation compensation and survey-based measures of longer-term inflation expectations remain low by historical standards.

Alternatives

Policy Strategy

- Policymakers may be concerned that inflation expectations have already declined materially in recent years and could drift down further if inflation continues to run persistently below 2 percent.[2]
    - Since the 2007-09 recession, 12-month core PCE inflation has exceeded 2 percent in only four months. Against that background, policymakers may favor a statement like Alternative A in order to solidify the Committee's commitment to its inflation objective and to prevent further erosion in inflation expectations. In addition, policymakers may judge that the past decade's experience of low inflation reduces the likelihood that inflation expectations will rise significantly.
- Policymakers may view any buildup of risks to financial stability as limited, partly reflecting a judgment that the banking system is well capitalized and that broad measures of leverage and credit growth remain contained. In addition, policymakers may see scope to address financial stability concerns through macroprudential policies and supervisory actions that target specific risks.
- Policymakers may view the effects of the newly enacted tax changes as uncertain with possible surprises to either the upside or the downside, but judge that their ability to react to unexpected outcomes is skewed due to proximity to the effective lower bound.
- Despite recent positive surprises in real-side data, the staff currently projects an inversion in the yield curve. Consequently, policymakers may judge that the currently expected policy rate path may, if anything, be too high or too steep.
- On the basis of these arguments, policymakers may want to communicate that an increase in the target range for the federal funds rate is not warranted at this meeting and that future increases are unlikely until the Committee is more confident that the recent softness in inflation is being reversed. They may also wish to suggest that, if inflation does not increase by as much as expected, the Committee would consider reducing the target range for the federal funds rate.
- Financial market quotes and the Desk's latest surveys indicate that market participants see little or no chance of an adjustment in the target range for the federal

[2] For evidence see Todd E. Clark, "Inflation, Trends, and Long-Run Expectations: Perspectives from Forecasting Research" sent to the FOMC on January 19.

funds rate at this meeting, but they assign a high probability of a rate increase at the March meeting. Thus, a statement along the lines of Alternative A would likely be regarded as a significant change in the Committee's policy outlook and would likely bring down expectations of a rate hike in March. If the public saw this statement as primarily reflecting policymakers' resolve to push inflation up to 2 percent, then inflation compensation could rise, real longer-term interest rates would probably fall somewhat, and equity prices might rise as well. Lower real rates and the prospect of higher inflation likely would encourage depreciation of the dollar.

IMPLEMENTATION NOTE

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

Alternatives

Implementation Note for January 2018 Alternatives A and B

Release Date: January 31, 2018

Decisions Regarding Monetary Policy Implementation

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on ~~December 13, 2017~~ **January 31, 2018**:

- The Board of Governors of the Federal Reserve System voted **[** unanimously **]** to ~~raise~~ **maintain** the interest rate paid on required and excess reserve balances ~~to~~ **at** 1.50 percent, effective ~~December 14, 2017~~ **February 1, 2018**.

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

> "Effective ~~December 14, 2017~~ **February 1, 2018**, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 1-1/4 to 1-1/2 percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 1.25 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.
>
> The Committee directs the Desk to continue rolling over at auction ~~the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during December that exceeds $6 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during December that exceeds $4 billion. Effective in January, the Committee directs the Desk to roll over at auction~~ the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during each calendar month that exceeds $12 billion, and to reinvest in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds $8 billion. Small deviations from these amounts for operational reasons are acceptable.
>
> The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

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

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

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

Alternatives

Alternatives

Implementation Note for January 2018 Alternative C

Release Date: January 31, 2018

Decisions Regarding Monetary Policy Implementation

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on ~~December 13, 2017~~ **January 31, 2018**:

- The Board of Governors of the Federal Reserve System voted **[** unanimously **]** to raise the interest rate paid on required and excess reserve balances to ~~1.50~~ **1.75** percent, effective ~~December 14, 2017~~ **February 1, 2018**.

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

> "Effective ~~December 14, 2017~~ **February 1, 2018**, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of ~~1-1/4 to~~ 1-1/2 **to 1-3/4** percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of ~~1.25~~ **1.50** percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.
>
> The Committee directs the Desk to continue rolling over at auction ~~the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during December that exceeds $6 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during December that exceeds $4 billion. Effective in January, the Committee directs the Desk to roll over at auction~~ the amount of principal payments from the Federal Reserve's holdings of Treasury securities maturing during each calendar month that exceeds $12 billion, and to reinvest in agency mortgage-backed securities the amount of principal payments from the Federal Reserve's holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds $8 billion. Small deviations from these amounts for operational reasons are acceptable.
>
> The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

- In a related action, the Board of Governors of the Federal Reserve System voted **[** unanimously **]** to approve a 1/4 percentage point increase in the primary credit rate to ~~2.00~~ **2.25** percent, effective ~~December 14, 2017~~ **February 1, 2018**. In taking this action, the Board approved requests to establish that rate submitted by the Boards of Directors of the Federal Reserve Banks of . . .

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

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

(This page is intentionally blank.)

Balance Sheet and Income Projections

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

SOMA redemptions and reinvestments. As reported in the exhibit titled "Redemptions and Reinvestments of SOMA Principal Payments," the staff projects that, during the current quarter, the balance sheet normalization program initiated in October 2017 will lead to the redemption of $36 billion in Treasury securities and $24 billion of agency securities. Over 2018 as a whole, holdings of Treasury and agency securities are projected to decline about $240 billion and $120 billion, respectively; about $200 billion of Treasury securities and about $60 billion of agency securities will be reinvested.[1] The projections for agency securities are uncertain as unscheduled prepayments depend heavily on the paths of mortgage rates, which are difficult to predict.

Evolution of the size of the balance sheet. The size of the balance sheet is projected to normalize in the second quarter of 2021, one quarter earlier than in the December Tealbook (see the exhibit titled "Total Assets and Selected Balance Sheet Items" and the table that follows the exhibit).[2] The earlier normalization date reflects a slight upward revision to the projection for Federal Reserve notes in circulation in 2020.

From the start of the balance sheet normalization program in October 2017 to the time the balance sheet normalizes, the Federal Reserve's securities holdings are projected to decline by about $1.3 trillion, with its holdings of Treasury and agency securities

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

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

Redemptions and Reinvestments of SOMA Principal Payments

Projections for Treasury Securities
(Billions of dollars)

	Redemptions		Reinvestments	
	Period	Cumulative*	Period	Cumulative*
2018: Q1	36.0	54.0	74.8	101.9
2018: Q2	54.0	108.0	65.7	167.6
2018: Q3	67.0	175.0	27.4	195.1
2018: Q4	72.1	247.1	29.2	224.3
2019	267.5	514.5	114.3	338.5
2020	209.9	724.4	88.4	426.9
2021	339.5	1063.9	57.2	484.1

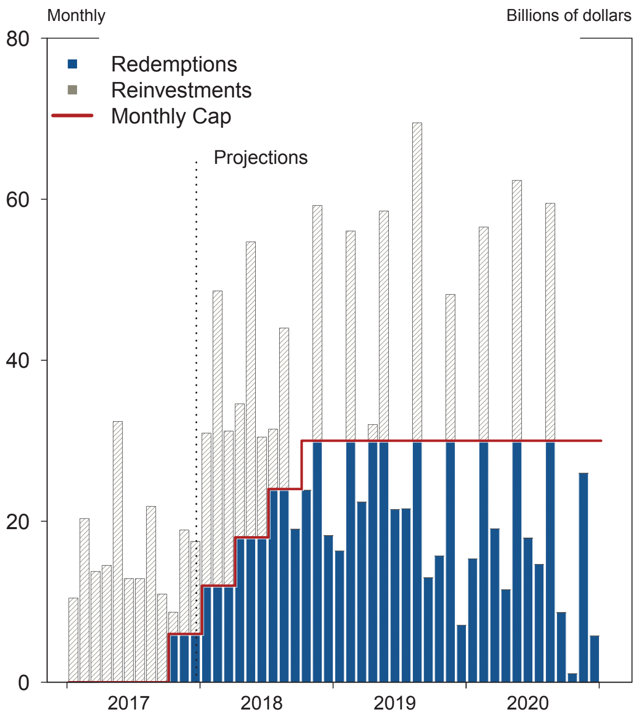
* Since October 2017.

Projections for Agency Securities
(Billions of dollars)

	Redemptions		Reinvestments	
	Period	Cumulative*	Period	Cumulative*
2018: Q1	24.0	36.0	35.4	93.1
2018: Q2	36.0	72.0	20.6	113.7
2018: Q3	44.8	116.8	1.1	114.8
2018: Q4	39.4	156.2	0.0	114.8
2019	147.8	304.0	0.0	114.8
2020	133.7	437.7	0.0	114.8
2021	123.9	561.6	0.0	114.8

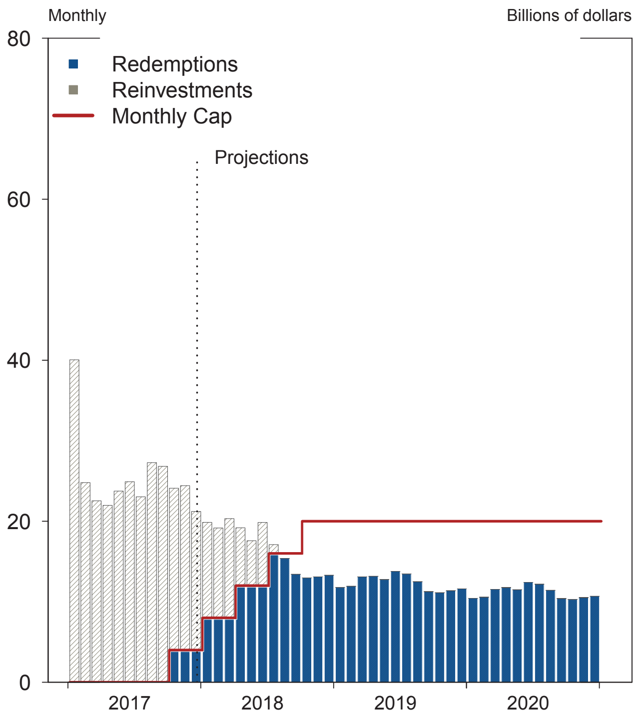
* Since October 2017.

SOMA Treasury Securities Principal Payments



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

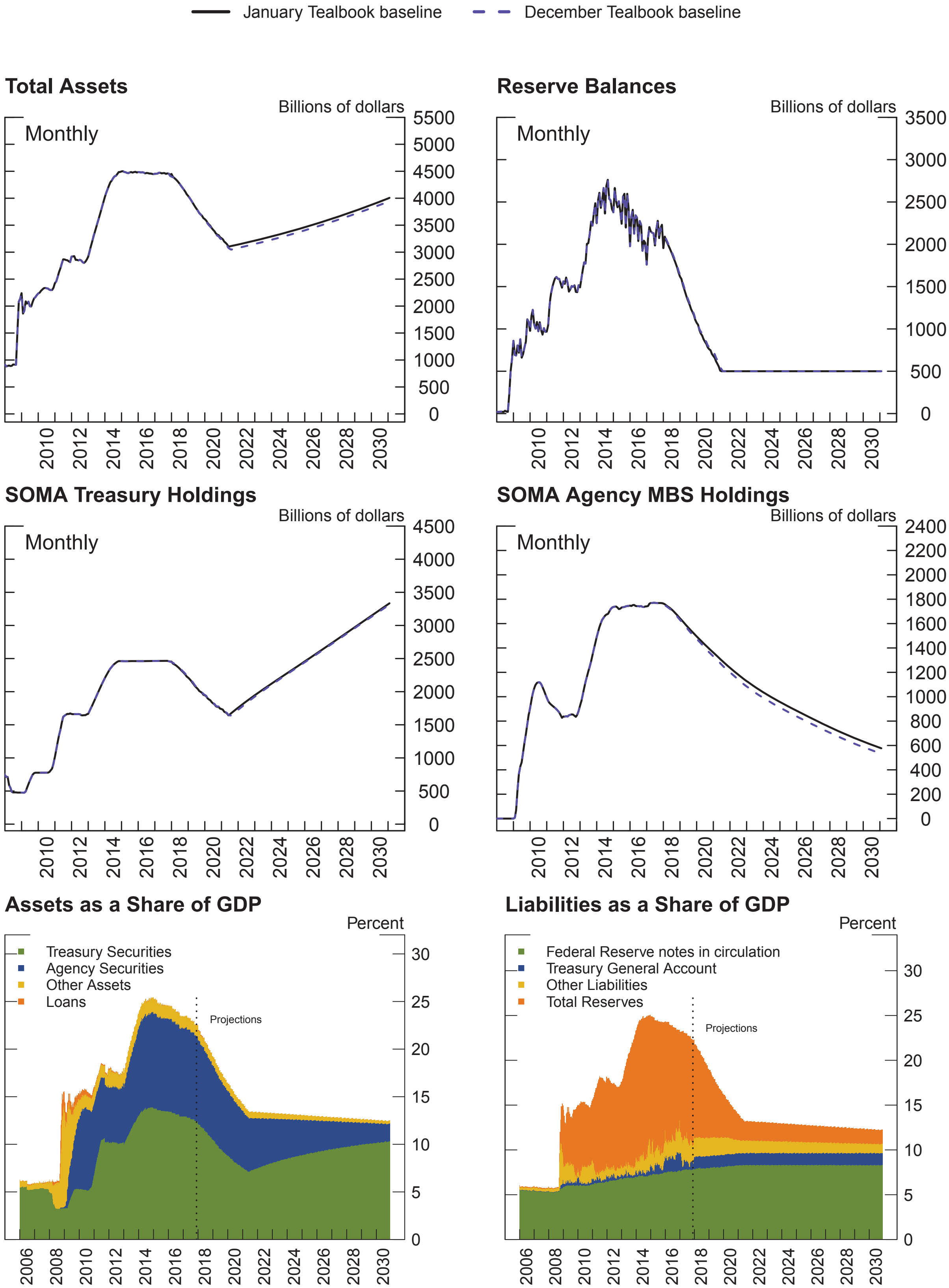
SOMA Agency Debt and MBS Principal Payments



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

Balance Sheet & Income

Total Assets and Selected Balance Sheet Items



Balance Sheet & Income

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

	Dec 31, 2017	2018	2020	2022	2024	2026	2030
Total assets	4,450	4,039	3,259	3,216	3,372	3,557	3,996
Selected assets							
Loans and other credit extensions*	14	0	0	0	0	0	0
Securities held outright	4,224	3,855	3,102	3,077	3,248	3,445	3,903
U.S. Treasury securities	2,454	2,210	1,739	1,947	2,289	2,627	3,320
Agency debt securities	4	2	2	2	2	2	2
Agency mortgage-backed securities	1,765	1,643	1,361	1,128	957	816	581
Unamortized premiums	159	141	111	91	75	62	42
Unamortized discounts	-14	-12	-10	-8	-7	-6	-4
Total other assets	68	55	55	55	55	55	55
Total liabilities	4,409	3,997	3,214	3,166	3,318	3,498	3,926
Selected liabilities							
Federal Reserve notes in circulation	1,571	1,677	1,890	2,018	2,149	2,305	2,673
Reverse repurchase agreements	564	345	262	245	245	245	245
Deposits with Federal Reserve Banks	2,336	1,970	1,057	898	919	943	1,002
Reserve balances held by depository institutions	1,954	1,618	680	500	500	500	500
U.S. Treasury, General Account	229	277	302	322	343	368	427
Other deposits	153	75	75	75	75	75	75
Earnings remittances due to the U.S. Treasury	2	0	0	0	0	0	0
Total Federal Reserve Bank capital**	41	42	45	49	54	59	70

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

shrinking by about $800 billion and $470 billion, respectively. At the time of normalization:

- Reserve balances reach the assumed longer-run level of $500 billion;[3]
- Total assets are projected to stand at roughly $3 trillion, with the SOMA portfolio consisting of about $1.7 trillion in Treasury securities and $1.3 trillion in MBS.

Once these declines in asset holdings have taken place, the size of the balance sheet is projected to stand at roughly 13 percent of nominal GDP, compared with a peak of about 25 percent in late 2014 and a pre-crisis average of about 6 percent. After the size of the balance sheet is normalized, SOMA holdings rise, keeping pace with the projected increases in Federal Reserve liabilities including Federal Reserve notes in circulation, the Treasury General Account (TGA), and Federal Reserve Bank capital, but Federal Reserve assets and liabilities are projected to edge down as a share of GDP.

Federal Reserve remittances. Remittances to the Treasury are projected to decline to about $50 billion this year from $80 billion in 2017.[4] This reflects the projected increases in the interest rate paid on reserve balances associated with the rate hikes in the January baseline projection (see the "Income Projections" exhibit).[5] Total interest expense is projected to be about $52 billion this year and to increase thereafter, while interest income from SOMA holdings is expected to be $110 billion this year and to decline thereafter. As the target range for the federal funds rate moves up further while the size of the SOMA portfolio decreases, remittances are expected to reach a trough of about $32 billion in 2020. Thereafter, remittances begin to increase, particularly once the size of the balance sheet is normalized and higher-yielding Treasury securities are added to the SOMA portfolio.

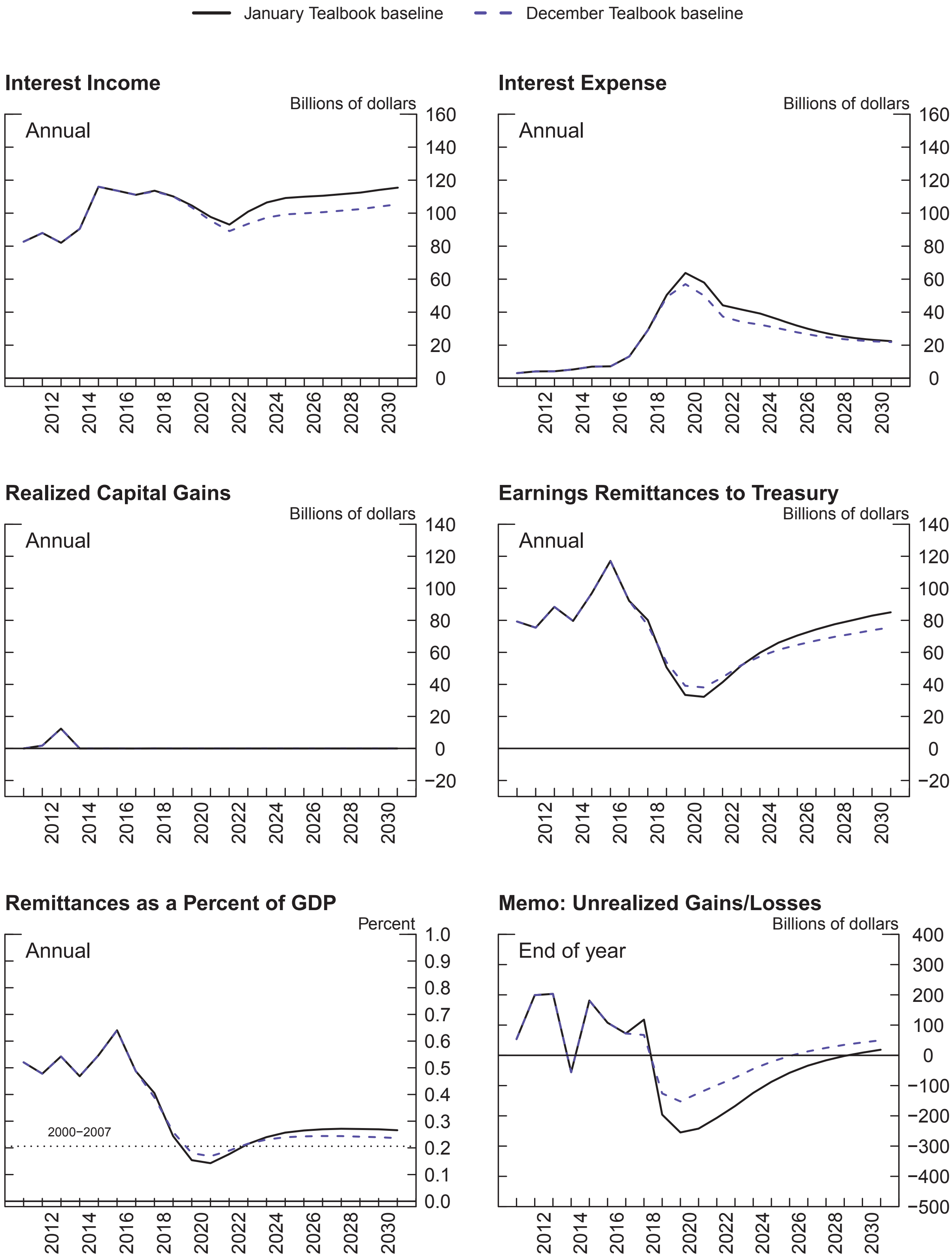
[3] Other noteworthy assumptions about liability items underlying the projections are as follows: The Treasury General Account is assumed to increase in line with the requirement to represent a constant fraction of nominal GDP; Federal Reserve notes in circulation are assumed to increase at an average annual pace of about 6 percent through 2020 and at the same pace as nominal GDP thereafter; the foreign repo pool and balances in the accounts of designated financial market utilities (DFMUs) remain at their December 2017 levels of about $240 billion and $70 billion, respectively; and take-up at the overnight RRP facility is assumed to maintain a value of $100 billion until the level of reserve balances reaches $1 trillion, at which point take-up starts declining to zero over the course of one year.

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

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

Class I FOMC − Restricted Controlled (FR) January 19 2018

Income Projections



The contour of projected remittances over the next few years is lower than in the December Tealbook baseline. Over that period, the increase in interest expense due to the upward revision in the path of the federal funds rate is greater than the increase in interest income due to the upward revision to longer-term interest rates. Subsequently, projected remittances are higher primarily because of the upward revisions to longer-term rates. As shown in the bottom left panel of the "Income Projections" exhibit, annual remittances average about 0.25 percent of nominal GDP over the projection period, slightly higher than the pre-crisis average.

Unrealized gains or losses. The staff estimates that the SOMA portfolio was in a net unrealized gain position of about \$80 billion at the end of December. As longer-term interest rates rose in the first few weeks of this year, the position diminished to about \$20 billion by mid-January.[6] The portfolio is projected to shift to an unrealized loss position later this quarter and, with longer-term rates expected to continue to rise over the next several years, ultimately to reach an unrealized loss position of about \$255 billion in 2020:Q1; \$100 billion of this amount is attributable to Treasury securities and \$155 billion to agency MBS. The unrealized loss position subsequently narrows, in part because the value of securities acquired under the Federal Reserve's large-scale asset purchase programs returns to par as those securities approach maturity. By the end of this year and through the end of the projection, the net unrealized position is more negative than in the December Tealbook baseline. This change is due to upward revisions to the paths of medium- and longer-term interest rates.

Term premium effect. As shown in the table "Projections for the 10-Year Treasury Term Premium Effect," SOMA securities held as a result of the Federal Reserve's asset purchase programs are currently estimated to be reducing the term premium in the 10-year Treasury yield by 84 basis points; this effect will gradually fade over time.[7] This projection is essentially unchanged from the previous Tealbook.

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

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

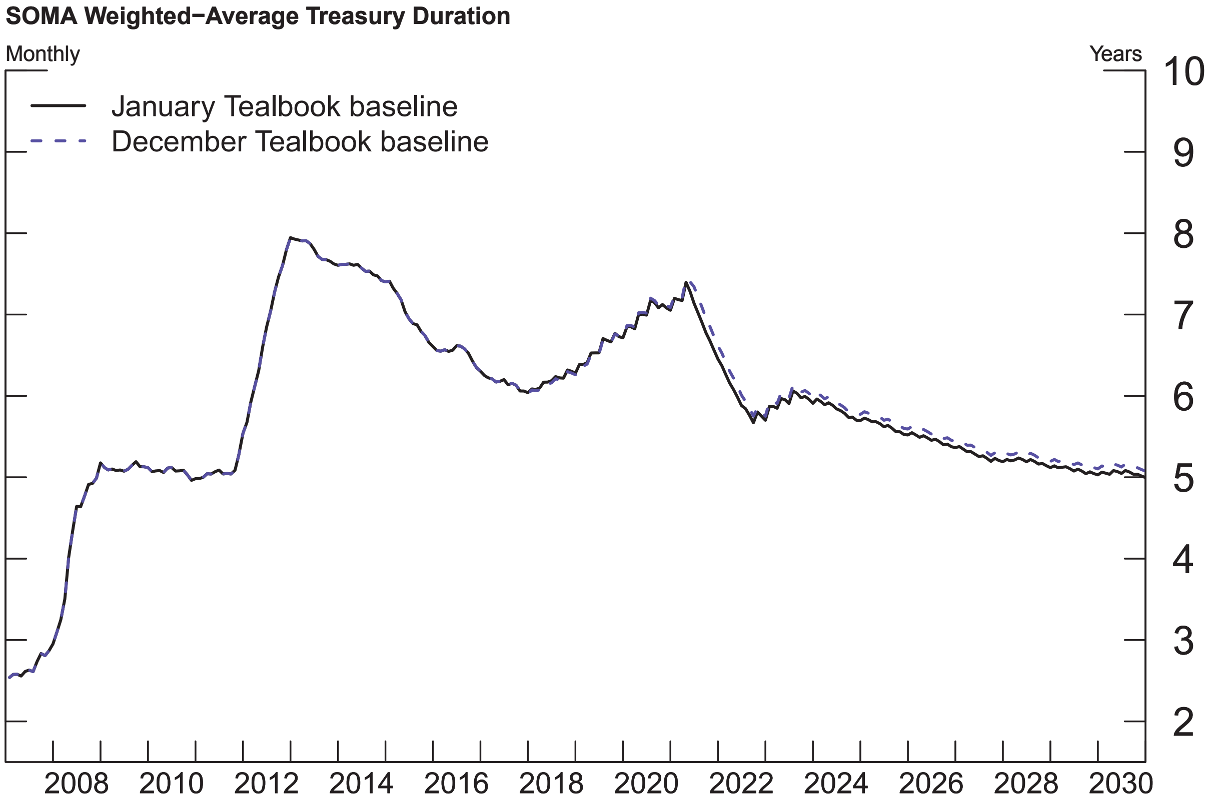
Projections for the 10-Year Treasury Term Premium Effect
(Basis Points)

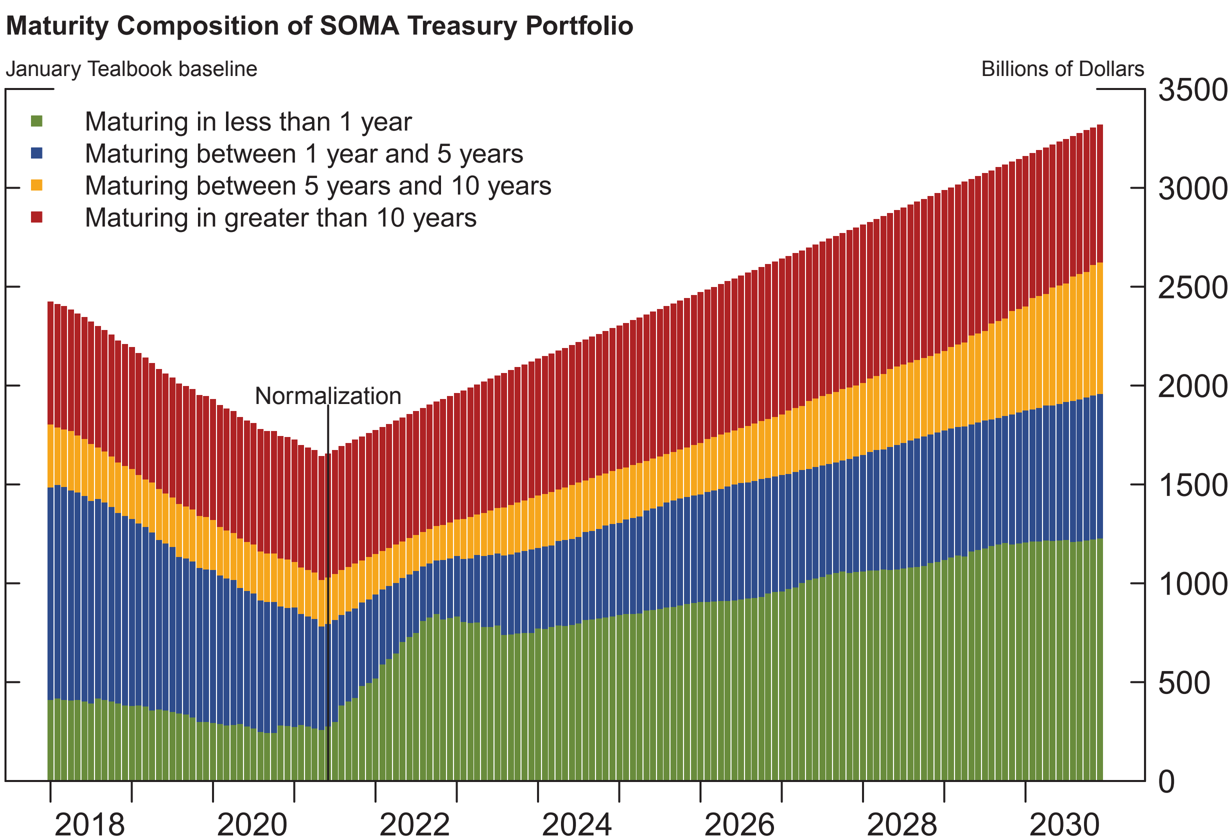
Date	January Tealbook	December Tealbook
Quarterly Averages		
2018:Q1	-84	-84
Q2	-81	-81
Q3	-79	-78
Q4	-76	-75
2019:Q4	-66	-64
2020:Q4	-58	-57
2021:Q4	-52	-51
2022:Q4	-49	-48
2023:Q4	-46	-45
2024:Q4	-43	-42
2025:Q4	-40	-39
2026:Q4	-37	-36
2027:Q4	-35	-34
2028:Q4	-33	-32
2029:Q4	-31	-31
2030:Q4	-30	-29

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

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

Projections for the Characteristics of SOMA Treasury Securities Holdings





Balance Sheet & Income

Abbreviations

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

LIBOR	London interbank offered rate
LSAPs	large-scale asset purchases
MBS	mortgage-backed securities
MMFs	money market funds
NBER	National Bureau of Economic Research
NI	nominal income
NIPA	national income and product accounts
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
QS	Quantitative Surveillance
repo	repurchase agreement
RMBS	residential mortgage-backed securities
RRP	reverse repurchase agreement
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms
SEP	Summary of Economic Projections
SFA	Supplemental Financing Account
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TBA	to be announced (for example, TBA market)
TCJA	Tax Cuts and Jobs Act of 2017
TGA	U.S. Treasury's General Account
TIPS	Treasury inflation-protected securities
TPE	Term premium effects
ZLB	zero lower bound