Prefatory Note

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

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Report to the FOMC on Economic Conditions and Monetary Policy

Book B

Monetary Policy: Strategies and Alternatives

January 22, 2015

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 Strategies

The top panel of the first exhibit, "Policy Rules and the Staff Projection," provides near-term prescriptions for the federal funds rate from four policy rules: the Taylor (1993) rule, the Taylor (1999) rule, an inertial version of the Taylor (1999) rule, and a first-difference rule.[1] These prescriptions take as given the staff's baseline projections for real activity and inflation in the near term. (Medium-term prescriptions derived from dynamic simulations of the rules are discussed below.) As the table shows, all of the simple rules prescribe an immediate increase in the federal funds rate. The Taylor (1993) and the Taylor (1999) rules call for sizable increases in the federal funds rate to values near 2 percent or higher. The inertial Taylor (1999) rule and the first-difference rule prescribe less-sizable interest-rate increases over the near term—to a little above ½ percent in the second quarter of 2015—because both rules place a considerable weight on keeping the federal funds rate close to its lagged value.

The near-term prescriptions from these rules are little changed compared with the December Tealbook, reflecting largely offsetting effects from the staff's revisions to the outlook for real activity and inflation.[2] As explained in Tealbook, Book A, and as shown in the lower panel of the exhibit, the staff now projects that the near-term trajectory of the output gap will run about 40 basis points higher than in the previous Tealbook and that the output gap will close in the first quarter of 2016. The staff's projection for core PCE inflation is a little lower in 2015, reflecting recent data, but mostly unchanged thereafter. The top panel of the first exhibit also reports the Tealbook-consistent estimate of the equilibrium real federal funds rate, r^*, generated using the FRB/US model with

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[1] The appendix to this section provides details on each of the four rules. In the past, the Tealbook has also regularly shown prescriptions derived from a nominal income targeting rule that embedded an assumption that policymakers seek to make up for the cumulative shortfall of inflation from 2 percent since the end of 2007 by endeavoring to push inflation above this rate for a time in the future. As this particular calibration of the nominal anchor appears quite dated, and since an updated calibration of the rule would yield prescriptions that, at least over the near term, are roughly similar to those obtained from the inertial version of the Taylor (1999) rule, the nominal income targeting rule has been removed from the menu of rules whose prescriptions are considered here. As was the case in the December Tealbook, Book B, the nominal income targeting rule (with the nominal anchor dating back to the end of 2007) would prescribe a considerably later liftoff from the effective lower bound than any of the rules shown here or in the staff baseline.

[2] Reflecting the lower near-term path for inflation in the Tealbook forecast and the smaller sensitivity of the Taylor (1993) rule to the output gap compared with that of the other rules, near-term prescriptions from the former have fallen by almost 25 basis points, while prescriptions from the other rules have changed by no more than 15 basis points.

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Policy Rules and the Staff Projection

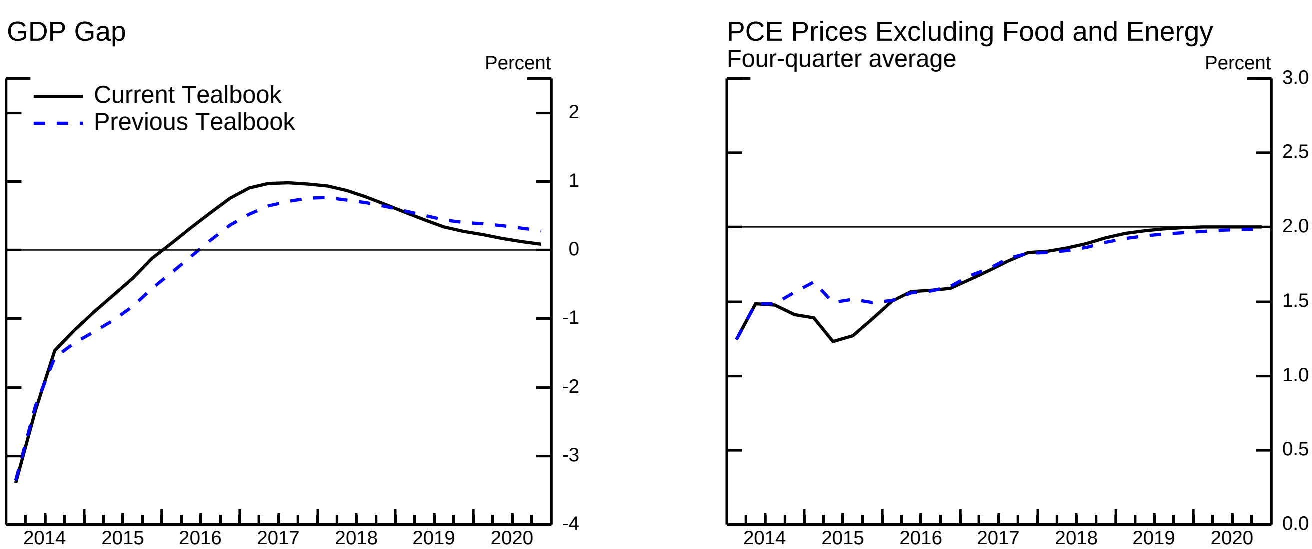
Near-Term Prescriptions of Selected Policy Rules[1]

	2015Q1	2015Q2
Taylor (1993) rule	**2.40**	**2.27**
Previous Tealbook	*2.62*	*2.48*
Taylor (1999) rule	**1.95**	**1.94**
Previous Tealbook	*2.03*	*1.97*
Inertial Taylor (1999) rule	**0.40**	**0.63**
Previous Tealbook outlook	*0.41*	*0.64*
First-difference rule	**0.34**	**0.59**
Previous Tealbook outlook	*0.27*	*0.45*

Memo: Equilibrium and Actual Real Federal Funds Rates[2]

	Current Tealbook	*Current Quarter Estimate as of Previous Tealbook*	*Previous Tealbook*
Tealbook-consistent FRB/US *r** estimate	–0.56	–0.96	*–0.91*
Actual real federal funds rate	–1.28		*–1.35*

Key Elements of the Staff Projection



1. For rules that have a lagged policy rate as a right-hand-side variable, the lines denoted "Previous Tealbook outlook" report rule prescriptions based on the previous Tealbook's staff outlook, but jumping off from the realized value for the policy rate last quarter.

2. Estimates of *r** may change at the beginning of a quarter even when the staff outlook is unchanged because the twelve-quarter horizon covered by the calculation has rolled forward one quarter. Therefore, whenever the Tealbook is published early in the quarter, the memo includes an extra column labeled "Current Quarter Estimate as of Previous Tealbook" to facilitate comparison with the current Tealbook estimate.

adjustments to reproduce the staff's baseline forecast. This measure is an estimate of the real federal funds rate that would, if maintained, return output to potential in 12 quarters. Reflecting the staff's updated assessment of slack in the economy, the current estimate of r^*, at –0.56 percent, is 40 basis points higher than the corresponding value derived from the staff's outlook in December. As has been true for about a year now, the estimated value for r^* also exceeds the actual real federal funds rate, currently by about 75 basis points.

The second exhibit, "Policy Rule Simulations," reports dynamic simulations of the FRB/US model under each of the policy rules. These simulations reflect the endogenous responses of inflation and the output gap when the federal funds rate follows the paths implied by the different policy rules, under the assumption that the federal funds rate is subject to an effective lower bound of 12½ basis points. The results for each rule presented in these and subsequent simulations depend importantly on the assumptions that policymakers will adhere to the rule in the future, and that the private sector fully understands the policy that will be pursued and its implications for real activity and inflation.

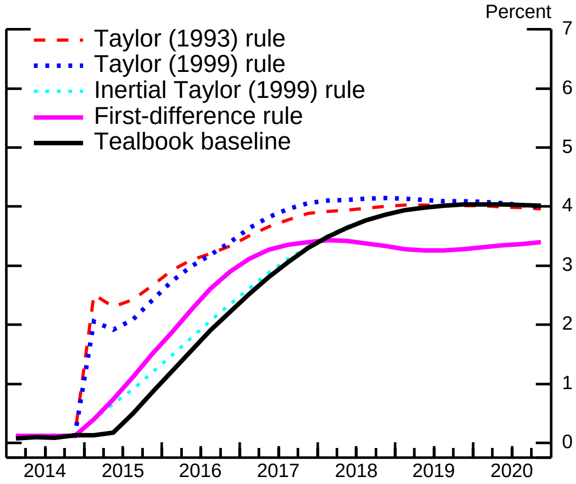
The exhibit also displays the implications of following the baseline monetary policy assumptions adopted in the current staff forecast.[3] In forming its baseline forecast, the staff has assumed that the federal funds rate remains at its effective lower bound until the second quarter of 2015—the same quarter as in the previous Tealbook. However, the staff moved the specific timing of the first increase to the June meeting from the April meeting.[4] After departing from its effective lower bound, the federal funds rate is assumed to rise at a pace prescribed by an inertial version of the Taylor (1999) policy rule. The prescribed path for the federal funds rate initially increases a little more than ¼ percentage point per quarter and reaches 3½ percent in early 2018; the pace of tightening subsequently slows, and the federal funds rate climbs to about 4 percent in 2020 before eventually returning to its longer-run normal level of 3¾ percent.

[3] The dynamic simulations discussed here and below incorporate the assumptions about underlying economic conditions used in the staff's baseline forecast, including the macroeconomic effects of the Committee's asset holdings from the large-scale asset purchase programs.

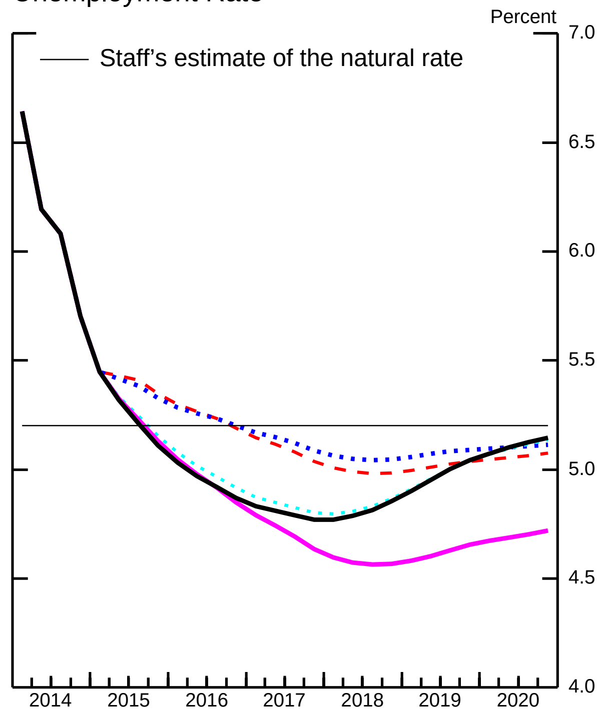
[4] As explained in Tealbook, Book A, the slight delay of the first rate rise leaves the projected funds rate in the near term a little lower than in the previous forecast; by the fourth quarter of 2017, however, the funds rate is almost 20 basis points higher than in the December Tealbook, primarily reflecting the positive revision to the output gap in the medium-term projection.

Policy Rule Simulations

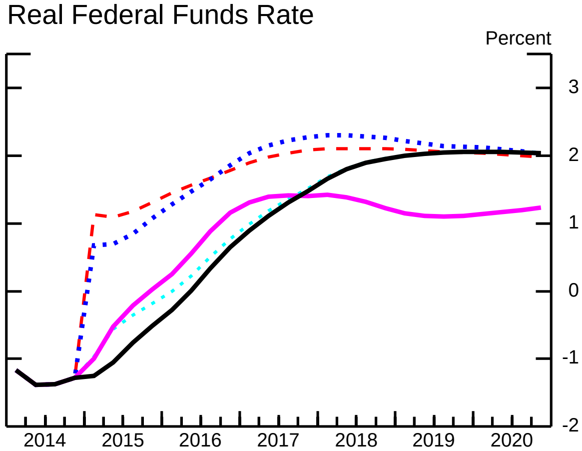
Effective Nominal Federal Funds Rate



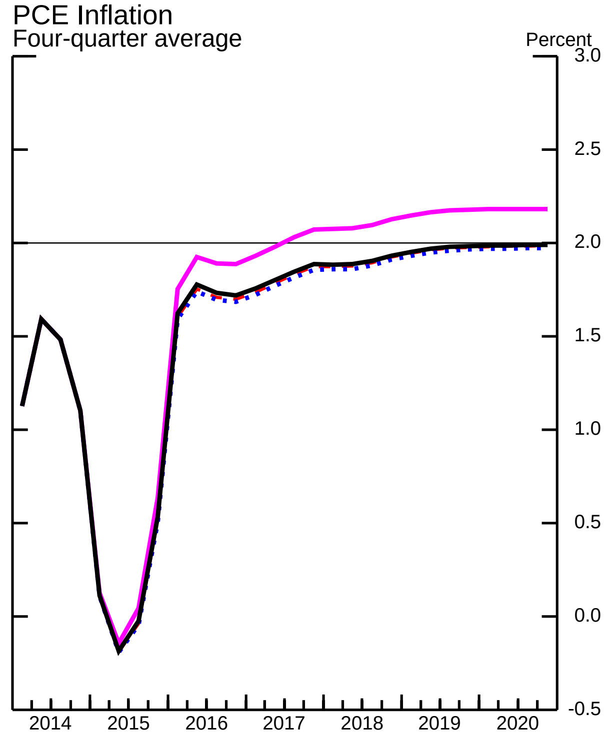
Unemployment Rate



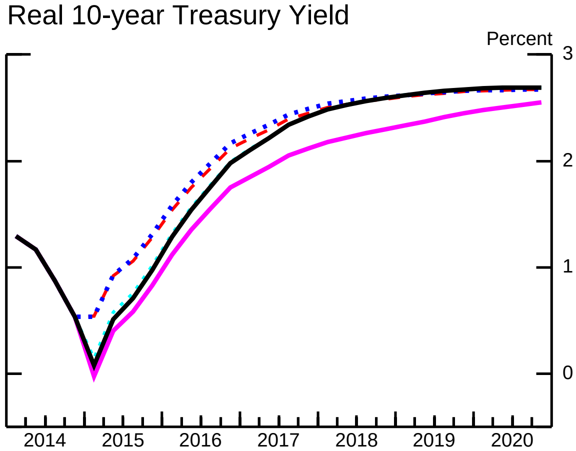
Real Federal Funds Rate



PCE Inflation
Four-quarter average



Real 10-year Treasury Yield



Note: The policy rule simulations in this exhibit are based on rules that respond to core inflation. This choice of rule specification was made in light of the tendency for current and near-term core inflation rates to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation.

All of the policy rules in these dynamic simulations call for tightening to begin immediately.[5] The Taylor (1993) and the Taylor (1999) rules produce paths for the real federal funds rate that lie significantly above the Tealbook baseline over the next few years, leading to somewhat higher unemployment rates but similar trajectories for inflation. Under the inertial Taylor (1999) rule, the real federal funds rate initially rises above its baseline path because the federal funds rate departs from its effective lower bound one quarter earlier than in the Tealbook baseline. However, the difference is too small and dissipates too rapidly to have a material effect on the real longer-term interest rates that influence economic activity in FRB/US, so macroeconomic outcomes are essentially the same in this case as those under the Tealbook baseline.

The first-difference rule initially calls for a somewhat higher real federal funds rate through 2017 than in the Tealbook baseline. However, because the first-difference rule responds to the expected change in rather than the level of the output gap, declines in the output gap later in the decade—expected to occur after the initial overshooting of output relative to its potential level—generate expectations of federal funds rates that are below baseline during this period. On net, real longer-term interest rates generated by the first-difference rule are lower than those under the baseline path for the entire projection period, prompting greater resource utilization and boosting inflation even in the near term via forward-looking expectations. Overall, this rule generates outcomes late in the decade that are farther from the Committee's objectives for inflation and unemployment than the other rules.

The third exhibit, "Optimal Control Policy under Commitment," compares optimal control simulations for this Tealbook's baseline forecast with those reported in December. Policymakers are assumed to place equal weights on keeping headline PCE inflation close to the Committee's 2 percent goal, on keeping the unemployment rate close to the staff's estimate of the natural rate of unemployment, and on minimizing changes in the federal funds rate.[6] The concept of optimal control that is employed here

[5] Unlike the Tealbook baseline, the simulations employing the four policy rules make no attempt to account for the Committee's forward guidance regarding the start of policy firming. However, as shown in the December Tealbook, policy rule simulations that take account of this guidance by imposing an unemployment rate threshold only delay the departure from the effective lower bound by at most one quarter with negligible effects on unemployment and inflation.

[6] In previous Tealbooks, it had been the case that lowering the penalty on changes in the federal funds rate led to outcomes under optimal control with a later departure of the federal funds rate from the effective lower bound compared to the standard case of optimal control. However, under current conditions—in particular since the baseline path for the unemployment rate gap closes in about a year—

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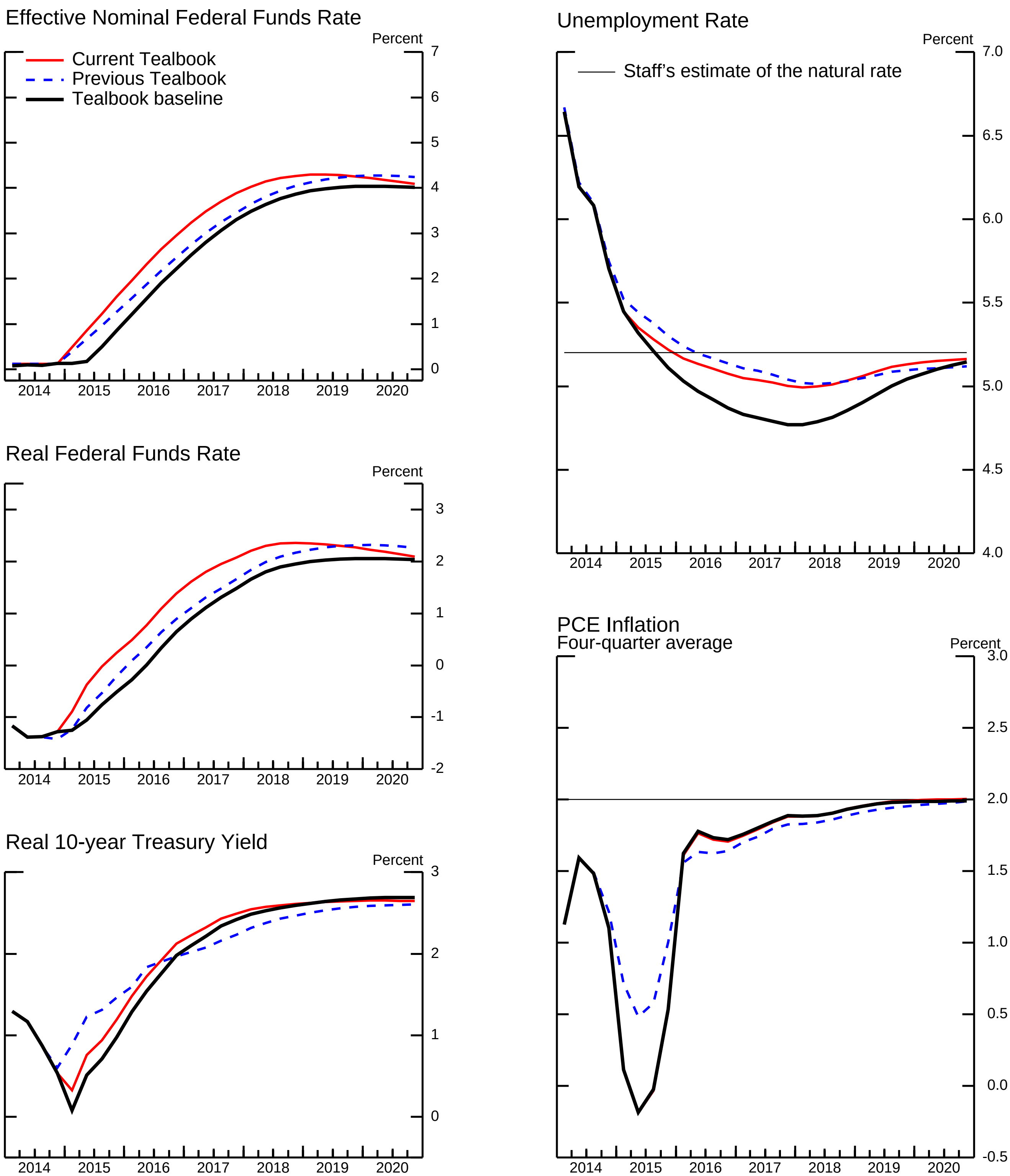
Optimal Control Policy under Commitment



corresponds to a commitment policy under which the decisions that policymakers make today are assumed to constrain future policy choices.[7]

Compared with the December Tealbook, optimal control policy calls for a higher path of the federal funds rate, reflecting the greater strength in aggregate demand embedded in the current forecast. Despite the tighter policy, the unemployment rate undershoots the staff's estimate of the natural rate over the first few years of the simulation by a little more than in December, reflecting the staff's assessment that there is now less slack in the labor market than previously projected. Nevertheless, the tighter policy causes unemployment to return to its natural rate sooner than in the previous Tealbook. The optimal control path for headline inflation in 2015 displays a more sizable drop than in the December Tealbook reflecting a downward revision to the staff's baseline projection caused by the further declines in energy prices observed during the intermeeting period.[8] The simulated trajectory for headline inflation after 2015 is a little higher than in the previous Tealbook, consistent with the lower level of slack now anticipated, and it gradually rises from about 1¾ percent to the Committee's 2 percent objective.

Under the optimal control policy, the federal funds rate departs from the effective lower bound one quarter earlier than in the Tealbook baseline and then increases at about the same pace as in the baseline through 2020; on average, the federal funds rate path prescribed by optimal control is about ½ percentage point higher than the baseline path over the next few years. Compared with the Tealbook baseline, the tighter stance of the optimal control policy—evident from the somewhat higher path of real longer-term rates—generates less undershooting of unemployment below the staff's estimate of the natural rate, while inflation converges to the Committee's objective at about the same pace.

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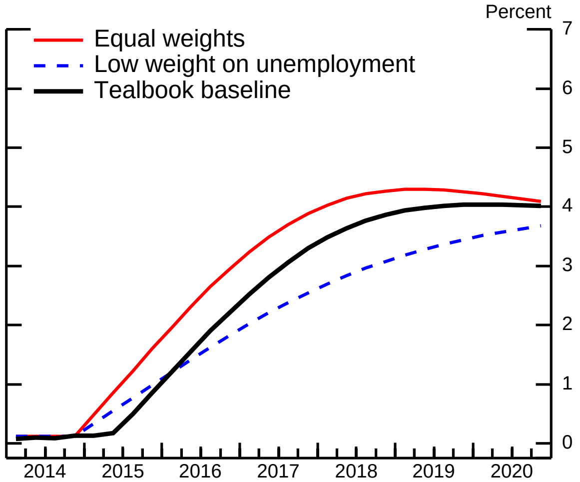
optimal control calls for an immediate increase in the federal funds rate, even if the weight on policy rate changes is lowered. Consistent with the results shown in previous Tealbooks, a lower penalty on policy rate changes has at most little effect on the outcomes for inflation and the unemployment rate under optimal control.

[7] The results for optimal control policy under discretion (in which policymakers cannot credibly commit to carrying out a plan involving policy choices that would be suboptimal at the time that these choices have to be implemented) are similar.

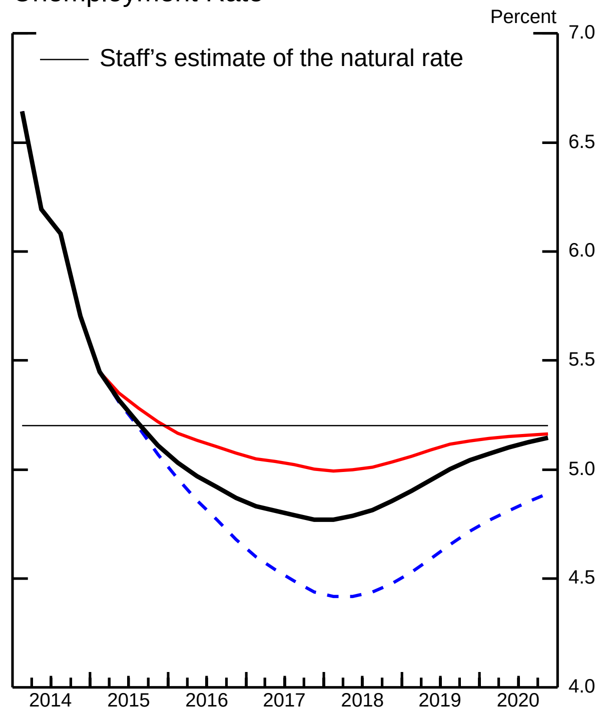
[8] Due to the substantial inertia of macroeconomic variables embedded in the dynamics of FRB/US, this temporary drop in headline inflation does not elicit a strong policy response under optimal control.

Optimal Control with a Low Weight on Deviations of Unemployment from its Natural Rate

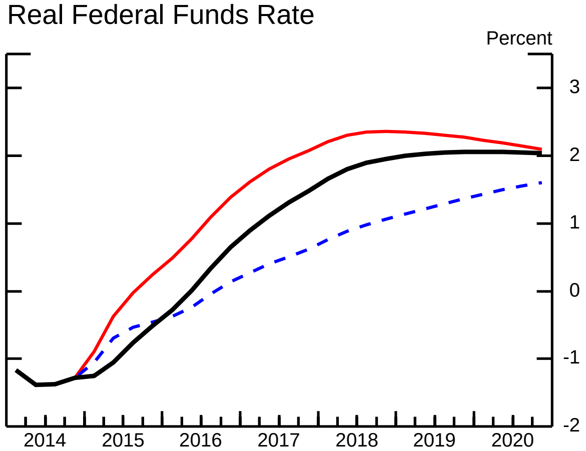
Effective Nominal Federal Funds Rate



Unemployment Rate

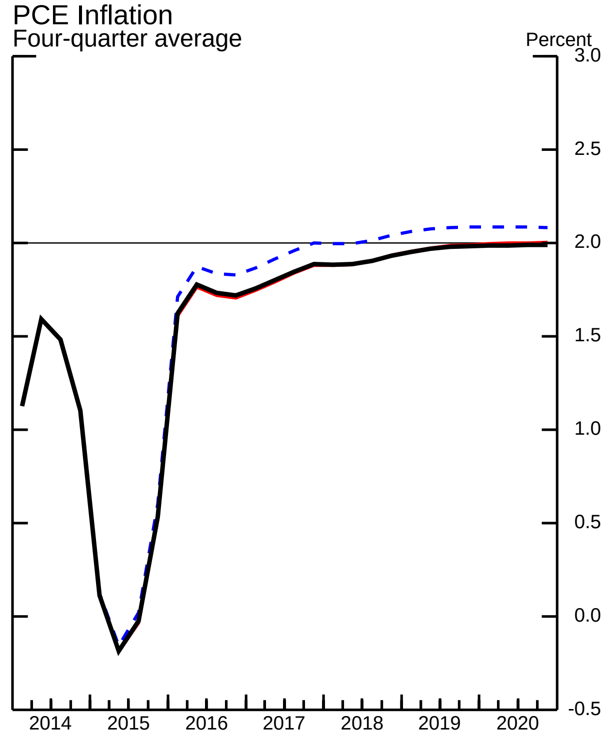


Real Federal Funds Rate

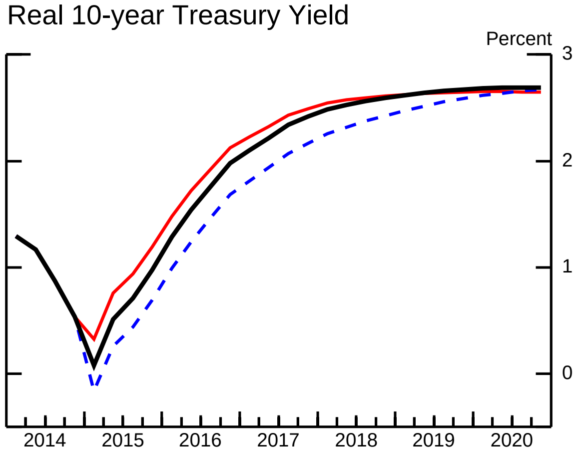


PCE Inflation

Four-quarter average



Real 10-year Treasury Yield



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OPTIMAL CONTROL WITH A LOW WEIGHT ON DEVIATIONS OF UNEMPLOYMENT FROM ITS NATURAL RATE

The optimal control simulations described above embed the assumption that policymakers place equal weights on minimizing squared deviations of PCE inflation from 2 percent, the unemployment rate from the staff's estimate of the natural rate, and on changes in the federal funds rate. The special exhibit "Optimal Control with a Low Weight on Deviations of Unemployment from its Natural Rate" shows simulations that employ a loss function with a lower weight on unemployment deviations relative to the other two terms. Specifically, instead of placing unit weights on all three terms of the loss function, for the alternative simulation, the weight on deviations between the unemployment rate and its natural rate is lowered to one-tenth while keeping the unit weights on the inflation term and on changes in the policy rate, thus raising the relative importance of the latter two terms.[9] While the assumption of an equally weighted loss function has some appeal as a benchmark, policymakers may want to put a lower weight on unemployment deviations in these simulations, perhaps because of uncertainty surrounding estimates of the natural rate of unemployment.[10]

Overall, when compared with the benchmark case, the alternative optimal control simulation prescribes a substantially more-accommodative policy path. In particular, the increase in the real federal funds rate over the next few years is considerably more gradual than under either the Tealbook baseline or the benchmark case with equal weights. As a result, the optimal control simulation with a low weight on unemployment generates a significantly more pronounced undershooting of unemployment from the staff's estimate of the natural rate—by up to ¾ percentage point and thus almost four times as much as in the benchmark case. This more accommodative policy stance is optimal because inflation reaches 2 percent by late 2017, a few years earlier than in the other two cases, while the undershooting of the unemployment rate incurs only a

[9] Optimal control simulations that place a low weight on penalizing deviations between unemployment and its natural rate are also consistent with the preferences of a policymaker who is more concerned with stabilizing inflation. Viewed from this perspective, the special exhibit also provides information on the relevance of the unemployment term in the loss function for optimal control. Similar results have also been obtained from a calibration that increases the weight on the inflation term to one-and-nine-tenths, while lowering the weight on unemployment deviations to one-tenth and keeping the unit weight on policy rate changes.

[10] The alternative weights have however been chosen for illustrative purposes only, without reference, to a particular calibration of underlying uncertainty in estimates of the natural rate of unemployment.

relatively small penalty.[11] However, to achieve this more rapid progress, the alternative optimal control policy lets inflation run slightly above 2 percent for several years after late 2018 as the unemployment rate stays below the staff's estimate of the natural rate of unemployment for considerably longer than under both the Tealbook baseline and the optimal control policy based on equal weights.

The final exhibit, "Outcomes under Alternative Policies," tabulates the simulation results for key variables under the above-described policies.

[11] This alternative specification of the loss function in optimal control generates policy rate prescriptions and macroeconomic outcomes that, under current conditions, are qualitatively similar to those obtained from the nominal income targeting rule used in the December Tealbook.

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Outcomes under Alternative Policies

(Percent change, annual rate, from end of preceding period except as noted)

Measure and policy	2014 H2	2015	2016	2017	2018	2019
Real GDP						
Extended Tealbook baseline[1]	3.8	2.8	2.7	2.0	1.6	1.6
Taylor (1993)	3.8	2.4	2.5	2.1	1.8	1.8
Taylor (1999)	3.8	2.4	2.5	2.1	1.8	1.8
Inertial Taylor (1999)	3.8	2.7	2.7	2.1	1.7	1.6
First-difference	3.8	2.8	2.8	2.3	1.9	1.8
Optimal control	3.8	2.6	2.5	2.0	1.7	1.7
Unemployment rate[2]						
Extended Tealbook baseline[1]	5.7	5.1	4.9	4.8	4.9	5.0
Taylor (1993)	5.7	5.3	5.2	5.0	5.0	5.0
Taylor (1999)	5.7	5.3	5.2	5.1	5.0	5.1
Inertial Taylor (1999)	5.7	5.2	4.9	4.8	4.9	5.0
First-difference	5.7	5.1	4.9	4.6	4.6	4.7
Optimal control	5.7	5.2	5.1	5.0	5.0	5.1
Total PCE prices						
Extended Tealbook baseline[1]	0.4	0.5	1.7	1.9	1.9	2.0
Taylor (1993)	0.4	0.5	1.7	1.9	1.9	2.0
Taylor (1999)	0.4	0.5	1.7	1.9	1.9	2.0
Inertial Taylor (1999)	0.4	0.5	1.7	1.9	1.9	2.0
First-difference	0.4	0.6	1.9	2.1	2.1	2.2
Optimal control	0.4	0.5	1.7	1.9	1.9	2.0
Core PCE prices						
Extended Tealbook baseline[1]	1.2	1.4	1.6	1.8	1.9	2.0
Taylor (1993)	1.2	1.4	1.6	1.8	1.9	2.0
Taylor (1999)	1.2	1.4	1.6	1.8	1.9	2.0
Inertial Taylor (1999)	1.2	1.4	1.6	1.8	1.9	2.0
First-difference	1.2	1.5	1.8	2.0	2.1	2.2
Optimal control	1.2	1.4	1.6	1.8	1.9	2.0
Effective nominal federal funds rate[2]						
Extended Tealbook baseline[1]	0.1	0.9	2.2	3.3	3.9	4.0
Taylor (1993)	0.1	2.7	3.3	3.9	4.0	4.0
Taylor (1999)	0.1	2.4	3.4	4.1	4.2	4.1
Inertial Taylor (1999)	0.1	1.2	2.3	3.3	3.9	4.0
First-difference	0.1	1.5	2.9	3.4	3.3	3.3
Optimal control	0.1	1.6	3.0	3.9	4.3	4.3

1. In the Tealbook baseline, the federal funds rate first departs from an effective lower bound of 12½ basis points in the second quarter of 2015. Thereafter, the federal funds rate follows the prescriptions of the inertial Taylor (1999) rule.

2. Percent, average for the final quarter of the period.

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Appendix

POLICY RULES USED IN "MONETARY POLICY STRATEGIES"

The table below gives the expressions for the selected policy rules used in "Monetary Policy Strategies." In the table, R_t denotes the effective nominal federal funds rate for quarter t, while the right-hand-side variables include the staff's projection of trailing four-quarter core PCE inflation for the current quarter and three quarters ahead (π_t and $\pi_{t+3|t}$), the output gap estimate for the current period (gap_t), and the forecast of the three-quarter-ahead annual change in the output gap ($\Delta^4 gap_{t+3|t}$). The value of policymakers' long-run inflation objective, denoted π^{LR}, is 2 percent.

Taylor (1993) rule	$R_t = r^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 0.5gap_t$
Taylor (1999) rule	$R_t = r^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + gap_t$
Inertial Taylor (1999) rule	$R_t = 0.85R_{t-1} + 0.15(r^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + gap_t)$
First-difference rule	$R_t = R_{t-1} + 0.5(\pi_{t+3\|t} - \pi^{LR}) + 0.5\Delta^4 gap_{t+3\|t}$

The first two of the selected rules were studied by Taylor (1993, 1999), while the inertial Taylor (1999) rule has been featured prominently in recent analysis by Board staff.[1] The intercepts of these rules are chosen so that they are consistent with a 2 percent long-run inflation objective and a long-run real interest rate, denoted r^{LR}, of 1¾ percent, a value used in the FRB/US model. The prescriptions of the first-difference rule do not depend on the level of the output gap or the long-run real interest rate; see Orphanides (2003).

Near-term prescriptions from the four policy rules are calculated using Tealbook projections for inflation and the output gap. For the rules that include the lagged policy rate as a right-hand-side variable—the inertial Taylor (1999) rule, and the first-difference rule—the lines denoted "Previous Tealbook outlook" report prescriptions derived from the previous Tealbook projections for inflation and the output gap, while using the same lagged funds rate value as in the prescriptions computed for the current Tealbook. When the Tealbook is published early in a quarter, this lagged funds rate value is set equal to the actual value of the lagged funds rate in the previous quarter, and prescriptions are shown for the current quarter. When the Tealbook is published late in a quarter, the prescriptions are shown for the next quarter, and the lagged policy rate, for each of these rules, including those that use the "Previous Tealbook outlook," is set equal to the average value for the policy rate thus far in the quarter. For the subsequent quarter, these rules use the lagged values from their simulated, unconstrained prescriptions.

[1] See Erceg and others (2012).

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Erceg, Christopher, Jon Faust, Michael Kiley, Jean-Philippe Laforte, David López-Salido, Stephen Meyer, Edward Nelson, David Reifschneider, and Robert Tetlow (2012). "An Overview of Simple Policy Rules and Their Use in Policymaking in Normal Times and Under Current Conditions." Memo sent to the Committee on July 18, 2012.

Orphanides, Athanasios (2003). "Historical Monetary Policy Analysis and the Taylor Rule," *Journal of Monetary Economics*, Vol. 50 (July), pp. 983–1022.

Taylor, John B. (1993). "Discretion versus Policy Rules in Practice," *Carnegie-Rochester Conference Series on Public Policy*, Vol. 39 (December), pp. 195–214.

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ESTIMATES OF THE EQUILIBRIUM AND ACTUAL REAL FEDERAL FUNDS RATES

An estimate of the equilibrium real federal funds rate appears as a memo item in the first exhibit, "Policy Rules and the Staff Projection." The concept of the short-run equilibrium real rate underlying the estimate corresponds to the level of the real federal funds rate that is consistent with output reaching potential in 12 quarters using an output projection from FRB/US, the staff's large-scale econometric model of the U.S. economy. This estimate depends on a very broad array of economic factors, some of which take the form of projected values of the model's exogenous variables. The memo item in the exhibit reports the "Tealbook-consistent" estimate of r^*, which is generated after the paths of exogenous variables in the FRB/US model are adjusted so that they match those in the extended Tealbook forecast. Model simulations then determine the value of the real federal funds rate that closes the output gap conditional on the exogenous variables in the extended baseline forecast.

The estimated actual real federal funds rate reported in the exhibit is constructed as the difference between the federal funds rate and the trailing four-quarter change in the core PCE price index. The federal funds rate is specified as the midpoint of the target range for the federal funds rate on the Tealbook, Book B, publication date.

FRB/US MODEL SIMULATIONS

The exhibits of "Monetary Policy Strategies" that report results from simulations of alternative policies are derived from dynamic simulations of the FRB/US model. Each simulated policy rule is assumed to be in force over the whole period covered by the simulation. For the optimal control simulations, the dotted line labeled "Previous Tealbook" is derived from the previous Tealbook projection. When the Tealbook is published early in a quarter, all of the simulations begin in that quarter. However, when the Tealbook is published late in a quarter, all of the simulations begin in the subsequent quarter.

Monetary Policy Alternatives

This Tealbook presents three alternative draft FOMC statements—labeled A, B, and C—for the Committee's consideration. In addition to providing different possibilities for characterizing incoming information and the outlook, these alternatives offer a variety of options for forward guidance regarding the federal funds rate.

In Alternative B, the Committee would retain its assessment that it "can be patient" in beginning to normalize the stance of monetary policy. The draft statement for Alternative A includes an option to modify this language, stating "it is appropriate to be patient" because "persistently low wage and price inflation indicate that [appreciable] slack remains in the labor market." It also includes a second option that replaces the language quoted above, including the notion of being patient, with an inflation floor and an indication that the Committee would take additional actions if projected inflation remained below 2 percent once energy prices stabilized. In contrast, the statement under Alternative C indicates that the Committee judges that economic conditions either "may" or "could potentially" warrant an increase in the target range for the federal funds rate "in a couple of meetings." Under Alternative C the Committee also would retain the qualification that "slower" progress toward the Committee's dual objectives would likely lead to an initial increase in the target range that occurs later than currently expected, but because the initial tightening is seen as possibly very soon, it drops the indication that faster progress would result in earlier tightening. In all three alternatives, the sentence asserting that the Committee sees this forward guidance as being consistent with its previous statement would be dropped.[1]

The Committee would, under Alternatives A and B, retain the language that, in determining how long to maintain the current target range, it will assess "progress" toward its dual objectives. In contrast, given the greater focus of Alternative C on the conduct of monetary policy following the initial increase in the target range, the Committee would replace the idea that there is still progress to be achieved. Instead, it would state that "future adjustments" of the target range for the federal funds rate will be

[1] The dropped sentence is "The Committee sees this guidance as consistent with its previous statement that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time following the end of its asset purchase program in October, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored."

made on the basis of the Committee's assessments of "deviations of employment and inflation" from their mandate-consistent levels.

As to the Committee's characterization of its approach to removing policy accommodation once it decides to begin doing so, Alternatives A and B repeat the Committee's previously-stated intention to take a "balanced approach." In contrast, Alternative C drops this sentence and instead emphasizes the data dependence of the Committee's policy decisions, stating that "in response to unanticipated economic and financial developments, the Committee will adjust the target federal funds rate to best promote the attainment of its objectives of maximum employment and 2 percent inflation." The text of all three alternatives would reiterate that economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

With respect to balance sheet policy, under all three alternatives, the Committee would state that it is maintaining its existing reinvestment policy.

In characterizing recent economic conditions, under Alternative A the Committee would retain the language from December that economic activity is expanding at a "moderate pace," whereas the pace would be upgraded to "solid" in Alternative B; Alternative C indicates instead that the expansion has "gained momentum." All of the draft statements note further improvement in labor market conditions, and each stipulates that underutilization of labor resources "continues to diminish," although Alternative A also adds that wage increases remain subdued. In all three alternatives, the Committee would state that household spending is rising moderately, that recent declines in energy prices have "boosted household purchasing power," that business fixed investment is advancing—albeit only "modestly" in the case of Alternative A—and that the housing recovery remains slow. Regarding the economic outlook, the draft statements for the three alternatives indicate that the Committee expects a moderate pace of economic activity, with labor market indicators "continuing to move" toward levels consistent with its dual mandate, and that the Committee sees the risks to the outlook for "economic activity and the labor market as nearly balanced," although Alternatives A and B note that "the foreign economic outlook has become somewhat more uncertain in recent months."

Under each of the three alternatives, the Committee makes note of low inflation, but under Alternatives A and B it would say that inflation has "declined further below" the Committee's longer-run objective, while the text of Alternative C adheres more closely to the language in December by noting that inflation has "continued to run below" the Committee's longer-run objective. Alternative A indicates that low inflation "partly" reflects declines in energy prices, while Alternatives B and C say that it "largely" reflects those declines. In Alternatives A and B, the Committee would also note that market-based measures of inflation compensation have declined "substantially in recent months," while Alternative C would say that they declined "somewhat further." All three draft statements indicate that survey-based measures of longer-term inflation expectations have remained stable. In describing the outlook for inflation, the draft statement for Alternative B acknowledges that inflation is expected "to decline further in the near term," but that the Committee expects it to rise "gradually toward 2 percent over the medium term." Alternative A articulates the concern that inflation could run "substantially" below 2 percent "for a protracted period," and indicates that it is expected to rise toward 2 percent "very gradually." Under Alternative C, the Committee would state that it expects inflation to rise gradually "to" 2 percent "over the medium term." In all three alternatives the Committee would note that it continues to monitor inflation developments closely.

Subsequent pages present: the December FOMC statement; the draft January statements under Alternatives A, B, and C; supporting arguments for the three alternatives; and a draft directive.

DECEMBER 2014 FOMC STATEMENT

1. Information received since the Federal Open Market Committee met in October suggests that economic activity is expanding at a moderate pace. Labor market conditions improved further, with solid job gains and a lower unemployment rate. On balance, a range of labor market indicators suggests that underutilization of labor resources continues to diminish. Household spending is rising moderately and business fixed investment is advancing, while the recovery in the housing sector remains slow. Inflation has continued to run below the Committee's longer-run objective, partly reflecting declines in energy prices. Market-based measures of inflation compensation have declined somewhat further; survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators moving toward levels the Committee judges consistent with its dual mandate. The Committee sees the risks to the outlook for economic activity and the labor market as nearly balanced. The Committee expects inflation to rise gradually toward 2 percent as the labor market improves further and the transitory effects of lower energy prices and other factors dissipate. The Committee continues to monitor inflation developments closely.
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward 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 developments. Based on its current assessment, the Committee judges that it can be patient in beginning to normalize the stance of monetary policy. The Committee sees this guidance as consistent with its previous statement that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time following the end of its asset purchase program in October, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored. However, if incoming information indicates faster progress toward the Committee's employment and inflation objectives than the Committee now expects, then increases in the target range for the federal funds rate are likely to occur sooner than currently anticipated. Conversely, if progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated.
4. The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

FOMC STATEMENT—JANUARY 2015 ALTERNATIVE A

1. Information received since the Federal Open Market Committee met in ~~October~~ **December** suggests that economic activity is expanding at a moderate pace. Labor market conditions improved further, with solid job gains and a lower unemployment rate. ~~On balance,~~ A range of labor market indicators suggests that underutilization of labor resources continues to diminish**, but wage increases remain subdued**. Household spending is rising moderately ~~and~~**; recent declines in energy prices have boosted household purchasing power.** Business fixed investment is advancing **modestly**, while the recovery in the housing sector remains slow. Inflation has ~~continued to run~~ **declined further** below the Committee's longer-run objective, partly reflecting declines in energy prices. **Although** survey-based measures of longer-term inflation expectations have remained stable~~;~~**,** market-based measures of inflation compensation have declined ~~somewhat further~~ **substantially in recent months**.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators ~~moving~~ **continuing to move** toward levels the Committee judges consistent with its dual mandate. The **foreign economic outlook has become somewhat more uncertain in recent months, but the** Committee **continues to** see~~s~~ the risks to the outlook for **domestic** economic activity and the labor market as nearly balanced. The Committee expects inflation to rise **very** gradually toward 2 percent as the labor market improves further and the transitory effects of lower energy prices and other factors dissipate. **However,** the Committee **is concerned that inflation could run substantially below the 2 percent objective for a protracted period and** continues to monitor inflation developments closely.

3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward 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 developments. ~~Based on its~~ **The Committee's** current assessment~~, the Committee judges~~ **is** that **persistently low wage and price inflation indicate that [appreciable] slack remains in the labor market, and thus that** it ~~can~~ **is appropriate to** be patient in beginning to normalize the stance of monetary policy. ~~The Committee sees this guidance as consistent with its previous statement that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time following the end of its asset purchase program in October, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored. However~~ If incoming information indicates faster progress toward the Committee's employment and inflation objectives than the Committee now expects, then increases in the target range for the federal funds rate

are likely to occur sooner than currently anticipated. Conversely, if progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated.

OR

3′. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward 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 developments. Based on its current assessment **of these factors**, the Committee ~~judges~~ **anticipates** that ~~it can be patient in beginning to normalize the stance of monetary policy~~ **it likely will be appropriate to maintain the current target range for the federal funds rate at least as long as inflation between one and two years ahead is projected to be below 2 percent**. ~~The Committee sees this guidance as consistent with its previous statement that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time following the end of its asset purchase program in October, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored. However~~ If**, once energy prices stabilize, inflation between one and two years ahead is projected to remain below 2 percent, the Committee will take additional actions to foster a more rapid return of inflation to the 2 percent objective** ~~incoming information indicates faster progress toward the Committee's employment and inflation objectives than the Committee now expects, then increases in the target range for the federal funds rate are likely to occur sooner than currently anticipated. Conversely, if progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated~~.

4. The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

FOMC STATEMENT—JANUARY 2015 ALTERNATIVE B

1. Information received since the Federal Open Market Committee met in ~~October~~ **December** suggests that economic activity ~~is~~ **has been** expanding at a ~~moderate~~ **solid** pace. Labor market conditions **have** improved further, with ~~solid~~ **strong** job gains and a lower unemployment rate. On balance, a range of labor market indicators suggests that underutilization of labor resources continues to diminish. Household spending is rising moderately ~~and~~**; recent declines in energy prices have boosted household purchasing power.** Business fixed investment is advancing, while the recovery in the housing sector remains slow. Inflation has ~~continued to run~~ **declined further** below the Committee's longer-run objective, ~~partly~~ **largely** reflecting declines in energy prices. Market-based measures of inflation compensation have declined ~~somewhat further~~ **substantially in recent months**; survey-based measures of longer-term inflation expectations have remained stable.

2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators ~~moving~~ **continuing to move** toward levels the Committee judges consistent with its dual mandate. The Committee **continues to** see~~s~~ the risks to the outlook for **domestic** economic activity and the labor market as nearly balanced, **although the foreign economic outlook has become somewhat more uncertain in recent months. Inflation is anticipated to decline further in the near term, but** the Committee expects inflation to rise gradually toward 2 percent **over the medium term** as the labor market improves further and the transitory effects of lower energy prices and other factors dissipate. The Committee continues to monitor inflation developments closely.

3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining how long to maintain this target range, the Committee will assess progress—both realized and expected—toward 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 developments. Based on its current assessment, the Committee judges that it can be patient in beginning to normalize the stance of monetary policy. ~~The Committee sees this guidance as consistent with its previous statement that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time following the end of its asset purchase program in October, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.~~ However, if incoming information indicates faster progress toward the Committee's employment and inflation objectives than the Committee now expects, then increases in the target range for the federal funds rate are likely to occur sooner than currently anticipated. Conversely, if progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated.

4. The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.
5. When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent. The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.

FOMC STATEMENT—JANUARY 2015 ALTERNATIVE C

1. Information received since the Federal Open Market Committee met in ~~October~~ **December** suggests that **the** economic ~~activity is expanding at a moderate pace~~ **expansion has gained momentum**. Labor market conditions improved further, with solid job gains and a lower unemployment rate. On balance, a range of labor market indicators suggests that underutilization of labor resources continues to diminish. Household spending is rising moderately ~~and~~**; recent declines in energy prices have boosted household purchasing power.** Business fixed investment is advancing, while the recovery in the housing sector remains slow. Inflation has continued to run below the Committee's longer-run objective, ~~partly~~ **largely** reflecting declines in energy prices. **Although** market-based measures of inflation compensation have declined somewhat further~~;~~**,** survey-based measures of longer-term inflation expectations have remained stable.
2. Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with appropriate policy accommodation, economic activity will expand at a moderate pace, with labor market indicators ~~moving~~ **continuing to move** toward levels the Committee judges consistent with its dual mandate. The Committee sees the risks to the outlook for economic activity and the labor market as nearly balanced. The Committee expects inflation to rise gradually ~~toward~~ **to** 2 percent **over the medium term** as the labor market improves further and the transitory effects of lower energy prices and other factors dissipate. The Committee continues to monitor inflation developments closely.
3. To support continued progress toward maximum employment and price stability, the Committee today reaffirmed its view that the current 0 to ¼ percent target range for the federal funds rate remains appropriate. In determining ~~how long to maintain this~~ **future adjustments of the** target range **for the federal funds rate**, the Committee will assess ~~progress—both~~ realized and expected **deviations of employment and inflation from** ~~toward~~ 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 developments. Based on its current assessment, the Committee judges that ~~it can be patient in beginning to normalize the stance of monetary policy~~ **economic conditions [may | could potentially] warrant an increase in the target range for the federal funds rate in a couple of meetings**. ~~The Committee sees this guidance as consistent with its previous statement that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time following the end of its asset purchase program in October, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.~~ However, if incoming information indicates ~~faster~~ **slower** progress toward the Committee's employment and inflation objectives than the Committee now expects, then **the initial** increase~~s in the target range for the federal funds rate are~~ **is** likely to occur ~~sooner~~ **later** than currently anticipated. ~~Conversely, if~~

Alternatives

~~progress proves slower than expected, then increases in the target range are likely to occur later than currently anticipated.~~

4. ~~When the Committee decides to begin to remove policy accommodation, it will take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent.~~ **Based on its economic outlook,** the Committee currently anticipates that even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run. **In response to unanticipated economic and financial developments, the Committee will adjust the target federal funds rate to best promote the attainment of its objectives of maximum employment and 2 percent inflation.**

5. The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

Alternatives

THE CASE FOR ALTERNATIVE B

The Committee may view information received during the intermeeting period as broadly consistent with economic activity expanding at a solid pace. Labor market conditions have improved further, with strong job gains and continued declines in unemployment. Policymakers might also judge that resource slack remains and that inflation is persisting below the Committee's 2 percent objective. Based in part on these observations, the Committee might conclude that the current, highly accommodative stance of monetary policy remains appropriate in order to support continued progress toward maximum employment and to return inflation gradually to 2 percent over the medium term. It may therefore choose to maintain the current target range for the federal funds rate and reiterate the forward guidance that was included in the December FOMC statement, as in Alternative B.

With regard to the level of labor market slack, policymakers might note that, although the unemployment rate has declined appreciably over the past year, it remains above the central tendency of participants' longer-run projections in the December SEP of 5.2 to 5.5 percent. Moreover, policymakers may also judge that a range of other labor-market indicators, including the below-trend labor force participation rate, the elevated share of those who are working part time but would prefer a full-time job, and the still-high share of unemployed workers who have been out of work for six months or more, point to lower levels of resource utilization than the unemployment rate would suggest on its own.

Policymakers may have become more concerned over the intermeeting period about possible downside risks to real activity in the United States associated with developments abroad. However, they may judge that while the risks to the foreign outlook have increased, their implications for the U.S. economy are likely to be small and are roughly offset by upside risks that improvements in U.S. labor markets, and real activity more generally, could provide greater momentum to the expansion than currently anticipated. Nonetheless, they may want to state that "the foreign economic outlook has become somewhat more uncertain in recent months." In addition, although policymakers might anticipate further declines in consumer price inflation in the near term, they might attribute this decline largely to the transitory effects of lower energy prices, and so continue to expect "inflation to rise gradually toward 2 percent over the medium term."

As in December, the forward guidance in Alternative B states that "the Committee judges that it can be patient in beginning to normalize the stance of monetary policy," thereby signaling that, in the Committee's current assessment, the process of policy normalization is not likely to begin in the next two meetings. However, some participants may be concerned that ongoing declines in market-based measures of inflation compensation might indicate that the public has begun to doubt the Committee's commitment to its 2 percent inflation objective. Even so, these policymakers may note that survey-based measures of longer-term inflation expectations have remained stable, and judge that the declines in market-based measures of inflation compensation likely stem from movements in risk or liquidity premiums rather than from a fundamental shift in inflation expectations.[2] Moreover, they may be worried that providing more accommodation than that implied by Alternative B could cause the unemployment rate to fall too far below its natural rate and ultimately lead to a scenario in which inflation persistently exceeds 2 percent and proves costly to return to that rate. Alternatively, some policymakers may be concerned that weakness in economic activity abroad might have significant repercussions for the U.S. economy—especially if that weakness intensified, along the lines of the "Recession in the Euro Area" scenario in the "Risks and Uncertainty" section of Tealbook, Book A. However, policymakers may weigh these concerns against the assessment that there has so far been only a modest spillover of weakness abroad to U.S. growth. Balancing these considerations, policymakers might conclude that it would be premature to alter the Committee's forward guidance in a way that signals an expected path for the federal funds rate that is lower than that implied by Alternative B. Instead, they may prefer to wait for further information to give greater clarity about whether inflation expectations have declined and on the status of the economic situation abroad and its implications for the U.S. outlook.

In contrast, some policymakers might be inclined to signal that the federal funds rate target range is likely to be raised sooner than what would be suggested by the language of Alternative B. These policymakers may judge that, in light of the further improvement in labor market conditions in December, levels of resource slack are

[2] As of the closing of the December 2014 Tealbook, the Michigan survey for November was available and it showed median inflation expectations over the next 5-to-10 years of 2.6 percent—the lowest level this year, and down notably from October. Since then, however, the December and preliminary January readings of this measure have come in at 2.8 percent, close to the October level. For more on the interpretation of long-term inflation expectations from financial market data, see the box in Tealbook, Book A, titled "An Update on Measures of Longer-Term Inflation Compensation and Inflation Expectations."

currently low. Moreover, the upward revision to real GDP growth in the second half of last year may be seen as suggesting that the economy has gained considerable momentum so that any remaining slack in resource utilization is likely to diminish quickly. These policymakers may be concerned that prolonging near-zero policy rates until mid-year, and maintaining below-normal policy rates for some time after the economy returns to full employment, would risk pushing the unemployment rate well below levels consistent with maximum employment and fuel an undesirably large rise in inflation over the medium run. Even so, policymakers might note that inflation has declined further below the Committee's objective, and judge that inflation expectations remain well anchored and that there are as yet no signs of incipient wage and price pressures. They may therefore conclude that the costs of waiting somewhat longer before signaling that rates will increase are likely to be small. They might also note that the higher foreign exchange value of the dollar implies less accommodative financial conditions, all else equal. Moreover, participants might see the experience of other countries exiting from periods of long-standing high levels of policy accommodation—most notably Sweden and Japan, countries for which the departure from the effective lower bound proved premature and subsequently was reversed—as suggesting that it may be better to err on the side of a later, rather than earlier, commencement of policy firming.[3]

Some policymakers may worry that the extended period of near-zero interest rates is increasing incentives for risk-taking in the financial sector, with potential for undermining financial stability in the future. However, signs of excessive risk-taking are not widespread, and use of short-term financing instruments and indicators of leverage remain at moderate levels to date. Furthermore, policymakers could be concerned that a premature tightening of policy poses risks to financial stability by undermining the economic recovery, increasing loan losses, and thereby impairing the balance sheets of financial institutions. Policymakers may accordingly conclude that the forward guidance in Alternative B, by signaling that the first increase in the federal funds rate is unlikely to take place in the next two meetings, does not measurably increase the risks to financial stability while supporting the Committee's employment and inflation objectives.

Based on the Desk's Survey of Primary Dealers, the median expectation for the most likely timing of the first increase in the federal funds rate is June; however, the

[3] For an account of the relevant foreign experience, see the memo, "Foreign Experience with Liftoff from the Effective Lower Bound" by Adrea De Michelis, Michiel De Pooter, and Paul Wood, sent to the Committee on January 16, 2015.

views expressed are disperse, and many dealers view dates later than June as the most likely. In addition, few dealers expect significant changes in forward guidance at this meeting. Accordingly, overall, the new language in Alternative B is not likely to surprise many market participants. That said, the Committee's allusion to uncertainty regarding the foreign economic outlook could garner some attention from market participants, as only a few primary dealers mentioned in the latest survey the possibility that the Committee might refer to risks or uncertainty surrounding the global outlook.

THE CASE FOR ALTERNATIVE C

Other policymakers may be more confident that the expansion has gained sufficient momentum that it is likely to absorb any remaining economic slack fairly quickly. In support of this view, policymakers might highlight the large upward revision to real GDP growth estimated for the second half of last year, the strong expansion in payroll employment observed in recent months, and the swifter-than-expected decline in the unemployment rate over the past year. These policymakers might also point to the effects of falling energy prices on household purchasing power and burgeoning consumer confidence as pointing to greater momentum in U.S. economic activity going forward. Accordingly, these policymakers may regard it as appropriate to indicate that the target range for the federal funds rate is likely to be raised sooner than a repeat of the December forward guidance would suggest, as in Alternative C.[4]

More generally, some policymakers may be concerned that the path for the federal funds rate currently expected by market participants could be overly accommodative. Such policymakers might note the historical record of the last thirty years that shows that energy price fluctuations have not had lasting effects on inflation; they might therefore conclude that the focus should instead be on the implications of diminishing economic slack for inflation and, accordingly, they might judge that under the currently-anticipated policy rate path, inflation is likely to rise above 2 percent once the transitory effects of lower energy prices subside. While acknowledging recent further declines in market-based measures of inflation compensation, policymakers may regard these declines as reflecting changes in risk or liquidity premiums, and they may view the

[4] Alternatively, the Committee might view the language in the draft statement for Alternative C as premature at the moment, but see it as potentially appropriate when the time for departure of the target range for the federal funds rate from its effective lower bound draws near. For more on this topic, see the memo, "Options for Evolving the Statement Language in Preparation for Liftoff" by William English, Thomas Laubach, and Trevor Reeve, sent to the Committee on January 16, 2015.

balance of the evidence, including information from survey measures, as suggesting that longer-run expected inflation has not declined. Moreover, they may already see a significant risk that the unemployment rate could undershoot its natural rate substantially, a development that might generate higher actual inflation in the future, and in turn boost expected inflation above 2 percent as the labor market tightens. These policymakers might cite the scenario "Faster Recovery with Higher Inflation" in the "Risks and Uncertainty" section of Tealbook, Book A, as encapsulating some of the risks they have in mind. They also might emphasize that nearly all of the simple monetary policy rule prescriptions and the optimal control simulations, as presented in the "Monetary Policy Strategies" section of Tealbook, Book B, call for an immediate policy tightening.

Based on these judgments, some participants may want to signal that an initial increase in rates at one of the next two meetings is no longer unlikely, and therefore prefer the forward guidance in Alternative C. This guidance drops the word "patient" and states that "based on its current assessment" economic conditions "may warrant," or alternatively "could potentially warrant," an increase in the target range for the federal funds rate "in a couple of meetings."

Alternative C would surprise most market participants. For example, only one respondent to the latest Survey of Primary Dealers saw April as the most likely date for the first increase in the federal funds rate, and the average probability the dealers assigned to that outcome was only about 5 percent. Thus, a change in forward guidance indicating that the first increase in the funds rate could come as soon as the April meeting would be unexpected. In response to a statement like that in Alternative C, medium- and longer-term real interest rates would likely rise, inflation compensation would likely fall, equity prices would probably decline, and the dollar appreciate. However, to the extent that investors interpreted the statement as reflecting a more positive outlook for economic activity and inflation, and accepted that outlook as correct, equity prices and inflation compensation would not fall as much or could even rise.

THE CASE FOR ALTERNATIVE A

In light of the information received over the intermeeting period on inflation and economic developments abroad, some policymakers may be concerned that the durability of the current expansion is at risk, or that a pernicious cycle of lower inflation leading to lower inflation expectations and vice versa, might be getting under way. Accordingly, these policymakers may regard it as appropriate that the Committee more clearly specify these concerns as a reason to be patient in beginning to normalize the stance of monetary policy, as in the statement under Alternative A. While acknowledging that job gains were "solid" in December, and that the unemployment rate fell further, these policymakers might note that some other indicators of labor market utilization, such as the employment-population ratio, showed no improvement. Moreover, policymakers may point to the unexpected decline in average hourly earnings posted in December and more generally to "persistently low wage and price inflation" as suggesting that there may still be an appreciable amount of slack in the labor market.

Some policymakers may judge that the unprecedented magnitude and swiftness of recent declines in energy prices have increased the risk that low levels of inflation will persist, heightening the concern that "inflation could run substantially below the 2 percent objective for a protracted period." These policymakers may point to the substantial declines in market-based measures of inflation compensation in recent months, and interpret these measures as suggesting that inflation expectations have begun to drift down or that the potential costs of low inflation outcomes have increased. In addition, they might be concerned about the possible implications for prices and personal incomes of low growth in labor compensation, much like the scenario "Weaker Wage Growth" that appears in the "Risks and Uncertainty" section of Tealbook, Book A. Containing such risks might be a particular concern for policymakers because the effective lower bound on policy rates and the Federal Reserve's already-large balance sheet could limit the Committee's flexibility in responding to downside outcomes.

Some policymakers may read the incoming data since the December meeting as suggesting that the rate of real GDP growth is likely to be no better than moderate in coming quarters despite upward revisions to economic activity for the second half of last year. Similarly, while policymakers might judge that the recent decline in energy prices will raise household purchasing power, they might see this effect as likely to be transitory. They might note the disappointing retail sales data for December. They could also point to weakness in business investment and residential construction despite a highly accommodative stance of monetary policy as signs that the underlying trend in private domestic demand remains unsatisfactory. These participants may also be concerned that the prospects for continued moderate growth over coming quarters have been damaged by weakness in key European economies and by the appreciation of the dollar. They may regard the sharp fall in energy prices as an indicator that global growth is on a lower path than before, with adverse implications for U.S. net exports.

An announcement like that in Alternative A would likely surprise market participants. Paragraph 3 indicates that increases in wage and price inflation will be needed before it becomes appropriate to begin normalizing the stance of monetary policy; it could also describe the level of labor market slack as "appreciable." Paragraph 3′ states that inflation projected one to two years ahead would need to return to 2 percent before it would likely be appropriate to raise the target range for the federal funds rate. It also indicates that the Committee would take additional actions if necessary to foster a more rapid return of inflation to 2 percent. In either case, investors would likely push further into the future their expectation of the date of the first increase in the target range for the federal funds rate. Medium- and longer-term real interest rates would likely decline, inflation compensation and equity prices might rise, and the dollar could depreciate. However, insofar as investors interpreted the statement as reflecting a more downbeat assessment of the outlook for economic growth and inflation, equity prices would not rise as much or could even decline, and inflation compensation could fall.

DIRECTIVE

The directive that was issued after the December meeting appears on the next page. It is followed by a draft of the January directive for Alternatives A, B, and C, as the draft directive is the same for the three alternative statements. In addition, the draft of the January directive for the three alternatives is identical to the December directive.

Regarding balance sheet policies, the draft directive continues to instruct the Desk to maintain the current policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities into new issues.

December 2014 Directive

Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to undertake open market operations as necessary to maintain such conditions. The Committee directs the Desk to maintain its policy of rolling over maturing Treasury securities into new issues and its policy of reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. 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. The System Open Market Account manager and the secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

Directive for January 2015 Alternatives A, B, and C

Consistent with its statutory mandate, the Federal Open Market Committee seeks monetary and financial conditions that will foster maximum employment and price stability. In particular, the Committee seeks conditions in reserve markets consistent with federal funds trading in a range from 0 to ¼ percent. The Committee directs the Desk to undertake open market operations as necessary to maintain such conditions. The Committee directs the Desk to maintain its policy of rolling over maturing Treasury securities into new issues and its policy of reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. 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. The System Open Market Account manager and the secretary will keep the Committee informed of ongoing developments regarding the System's balance sheet that could affect the attainment over time of the Committee's objectives of maximum employment and price stability.

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Projections

BALANCE SHEET, INCOME, AND MONETARY BASE

The staff has developed a projection of the Federal Reserve's balance sheet and income statement that is broadly consistent with the monetary policy assumptions incorporated in the staff's forecast presented in Tealbook, Book A. In particular, the projection is based on the assumptions that the first increase in the target range for the federal funds rate will occur in the second quarter of 2015 and that rollovers of maturing Treasury securities, and the reinvestment of principal received on agency securities, will cease in the fourth quarter of 2015. From that point forward, the SOMA portfolio shrinks through redemptions of maturing Treasury securities and agency debt securities as well as paydowns of principal from agency MBS. Regarding the Federal Reserve's use of its policy normalization tools, we assume that the level of overnight reverse repurchase agreements (ON RRPs) runs at $100 billion through the end of 2018 and then falls to zero by the end of 2019, and that term deposits and term RRPs are not used during the normalization period.[1] Below some key features of the Federal Reserve's balance sheet and income statement and results of the projections under these assumptions are highlighted.

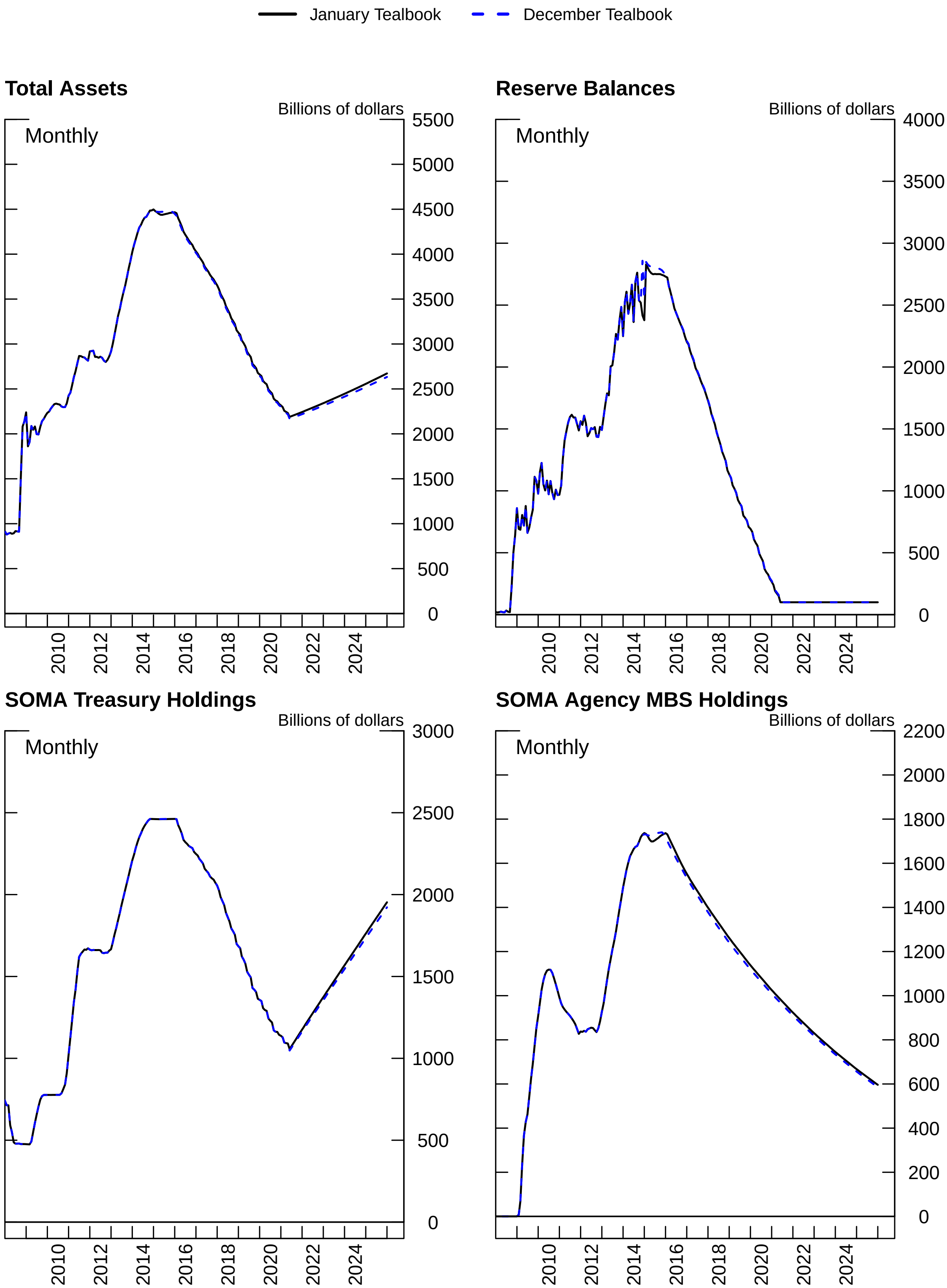
- ***Balance sheet.*** As shown in the exhibit "Total Assets and Selected Balance Sheet Items" and in the table that follows, total assets peaked at about $4.5 trillion near the end of 2014, with about $2.5 trillion in Treasury securities holdings and $1.8 trillion in agency MBS holdings. Under the assumptions discussed above, reserve balances peak at $2.8 trillion in the first quarter of 2015. The size of the portfolio is normalized in the second quarter of 2021, at which point total assets stand at $2.2 trillion, with about $2 trillion in total SOMA securities holdings.[2] Total

Projections

[1] RRPs associated with foreign official and international accounts are assumed to remain around $110 billion throughout the projection period. Use of RRPs results in a shift in the composition of Federal Reserve liabilities—a decline in reserve balances and an equal increase in reverse repurchase agreements—but does not produce an overall change in the size of the balance sheet. If term deposits and term RRPs are used during normalization, their use will result in a decline in reserve balances and an increase in these liabilities.

[2] The size of the balance sheet is considered normalized when the securities portfolio reverts to its longer-run trend, which is determined largely by currency in circulation plus Federal Reserve capital and a

Total Assets and Selected Balance Sheet Items



Federal Reserve Balance Sheet
End-of-Year Projections -- January Tealbook

Billions of dollars

	Dec 31, 2014	2015	2017	2019	2021	2023	2025
Total Assets	4,498	4,467	3,653	2,661	2,243	2,446	2,673
Selected Assets							
Loans and other credit extensions*	3	0	0	0	0	0	0
Securities held outright	4,237	4,232	3,459	2,497	2,101	2,316	2,552
U.S. Treasury securities	2,461	2,462	2,055	1,357	1,175	1,568	1,953
Agency debt securities	39	33	4	2	2	2	2
Agency mortgage-backed securities	1,737	1,737	1,399	1,138	924	745	596
Unamortized premiums	207	195	151	117	93	80	70
Unamortized discounts	-18	-17	-13	-10	-8	-7	-6
Total other assets	48	50	50	50	50	50	50
Total Liabilities	4,441	4,406	3,580	2,568	2,125	2,297	2,485
Selected liabilities							
Federal Reserve notes in circulation	1,299	1,379	1,554	1,677	1,828	2,000	2,187
Reverse repurchase agreements	510	213	213	113	113	113	113
Deposits with Federal Reserve Banks	2,627	2,810	1,809	774	180	180	180
Reserve balances held by depository institutions	2,378	2,730	1,729	694	100	100	100
U.S. Treasury, General Account	223	75	75	75	75	75	75
Other Deposits	26	5	5	5	5	5	5
Interest on Federal Reserve Notes due to U.S. Treasury	1	0	0	0	0	0	0
Total Capital	57	60	73	93	117	148	188

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.

Projections

assets and securities holdings increase thereafter, keeping pace with growth in currency in circulation and Federal Reserve Bank capital.

- ***Federal Reserve remittances.*** The next exhibit, "Income Projections," shows the implications of the balance sheet projection and interest rate assumptions for Federal Reserve income.[3] Over 2014, the Federal Reserve remitted nearly $100 billion to the Treasury. Going forward, remittances to the Treasury are projected to be about $90 billion this year and then to decline further over the next three years. Annual remittances reach their trough at about $18 billion in 2018, modestly lower than in the balance sheet projection presented in the December Tealbook; no deferred asset is recorded.[4] The Federal Reserve's cumulative remittances from 2009 through 2025 are about $1 trillion, approximately $200 billion above the staff estimate of the amount that would have been observed had there been no asset purchase programs.[5]

- ***Unrealized gains or losses.*** The unrealized gain or loss position of the SOMA portfolio is influenced importantly by the level of interest rates. The staff estimates that the portfolio was in an unrealized gain position of about $175 billion as of the end of December 2014.[6] Reflecting the assumed rise in long-term interest rates over the next several years, the position is projected to shift to an unrealized loss next year, with projected year-end unrealized losses peaking at $315 billion in 2017. At this date, roughly $150 billion of the unrealized losses can be attributed to the Treasury portfolio and $165 billion to the MBS portfolio. The unrealized loss position narrows through the remainder of the forecast period,

projected steady-state level of reserve balances. Currently, we assume that that steady-state level will be $100 billion.

[3] We assume the interest rate paid on reserve balances remains 25 basis points as long as the federal funds rate remains at its effective lower bound. In addition, we assume that, once firming of the policy rate begins, the spread between the interest rate paid on reserve balances and the ON RRP rate is 25 basis points. Moreover, we assume that the effective federal funds rate will average about 15 basis points below the rate paid on reserve balances and about 10 basis points above the ON RRP rate.

[4] In the event that a Federal Reserve Bank's earnings fall short of the amount necessary to cover its operating costs, pay dividends, and equate surplus to capital paid-in, a deferred asset would be recorded.

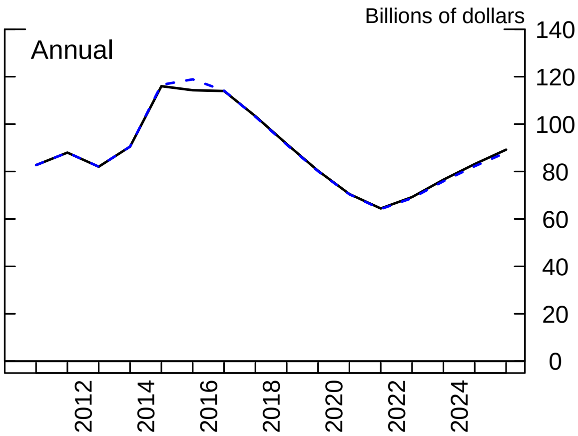
[5] The staff estimate is obtained by linear interpolation from 2006 to 2025 of actual 2006 income and projected 2025 income.

[6] The Federal Reserve reports the level and the change in the quarter-end net unrealized gain/loss position of the SOMA portfolio to the public 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.

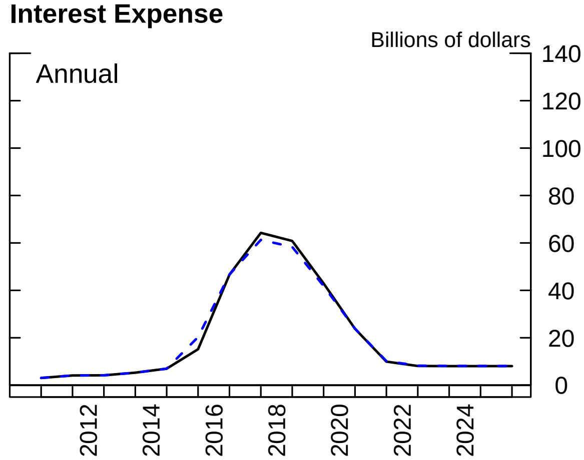
Income Projections

January Tealbook — December Tealbook

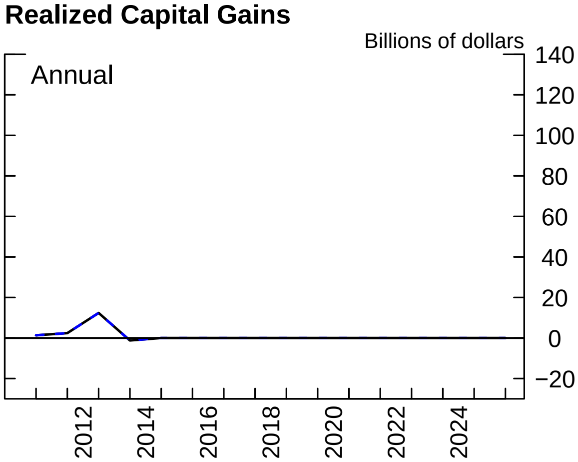
Interest Income



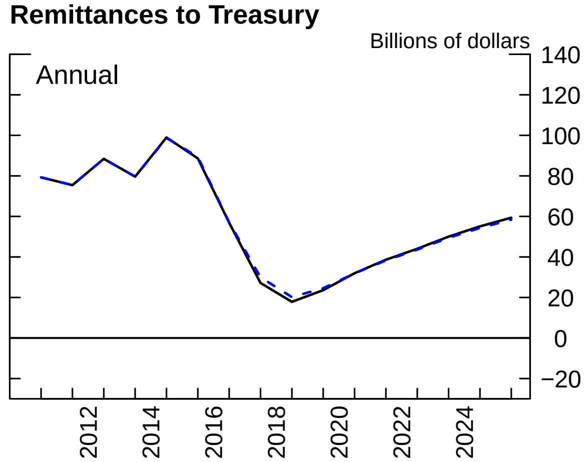
Interest Expense



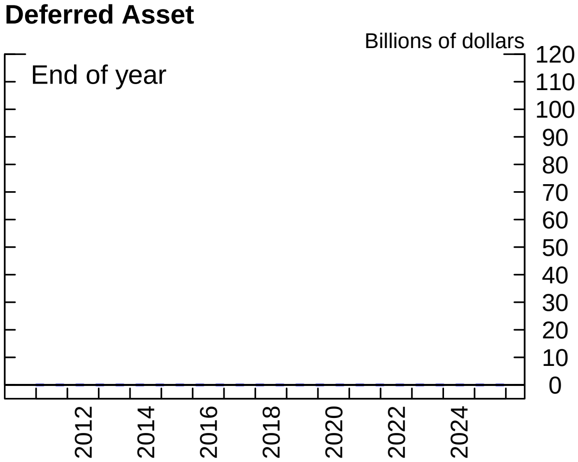
Realized Capital Gains



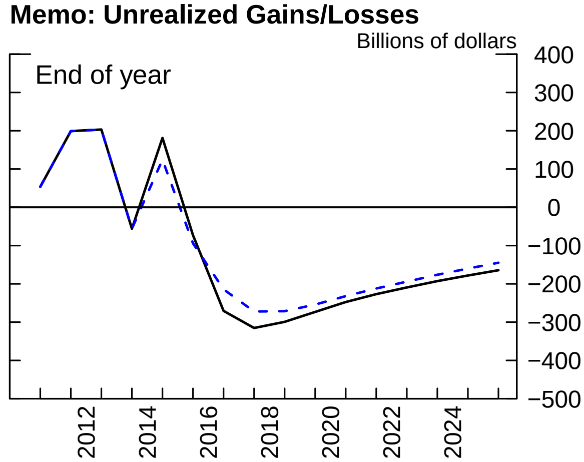
Remittances to Treasury



Deferred Asset



Memo: Unrealized Gains/Losses



Projections

as securities acquired under the large-scale asset purchase programs mature or pay down and new securities are added to the portfolio at then-current market rates.

- ***Term premium effects.*** As shown in the exhibit, "Projections for the 10-Year Treasury Term Premium Effect," the effect of the Federal Reserve's elevated stock of longer-term securities on the term premium embedded in the 10-year Treasury yield in the first quarter of 2015 is estimated to be negative 112 basis points, nearly unchanged from the December Tealbook. Over the projection period, the term premium effect diminishes at a pace of about 5 basis points per quarter, reflecting the projected normalization of the portfolio.

- ***Monetary base.*** As shown in the final exhibit, "Projections for the Monetary Base," once the normalization process begins in the second quarter of 2015, the monetary base shrinks through the second quarter of 2021, primarily because redemptions of securities generate corresponding reductions in reserve balances. Starting around mid-2021, after reserve balances are assumed to have stabilized at $100 billion, the monetary base begins to expand in line with the increase in currency in circulation.[7]

[7] The projection for the monetary base depends critically on the FOMC's choice of tools during normalization. If, for example, the FOMC employs additional RRPs or term deposits to drain reserves during normalization, the projected level of reserve balances and the monetary base could decline quite markedly. In this projection, an ON RRP facility is assumed and, therefore, the monetary base is lower than it would otherwise be until 2019 (when the facility is phased out). Because the assumed size of the ON RRP program is small in relation to reserve balances, the overall contours of the monetary base are not greatly affected.

Projections for the 10-Year Treasury Term Premium Effect

Date	January Tealbook	December Tealbook
	Basis Points Quarterly Averages	
2015:Q1	-112	-113
Q2	-107	-108
Q3	-102	-103
Q4	-97	-98
2016:Q1	-92	-93
Q2	-88	-88
Q3	-83	-84
Q4	-79	-79
2017	-64	-65
2018	-53	-53
2019	-44	-44
2020	-36	-36
2021	-31	-30
2022	-26	-26
2023	-21	-21
2024	-17	-16
2025	-12	-12

Projections for the Monetary Base

Percent change, annual rate; not seasonally adjusted

Date	January Tealbook	December Tealbook
Quarterly		
2015:Q1	36.3	15.8
Q2	4.2	4.2
Q3	0.7	0.3
Q4	1.1	-0.7
2016:Q1	-3.7	-6.8
Q2	-13.1	-13.2
Q3	-10.8	-10.5
Q4	-9.0	-8.8
Annual		
2017	-9.7	-9.9
2018	-14.5	-14.7
2019	-13.2	-13.4
2020	-13.4	-13.6
2021	-5.6	-6.1
2022	3.8	3.7
2023	3.9	3.8
2024	3.9	3.8
2025	3.9	3.9

Note: For years, Q4 to Q4; for quarters, calculated from corresponding average levels.

MONEY

After expanding moderately, on average, over the next two quarters, M2 is expected to contract for several quarters and then grow slowly over the remainder of the forecast period. This trajectory for M2 reflects an increase in the opportunity cost of holding M2 balances arising from the projected firming of monetary policy. The forecast also incorporates a judgment that businesses and households will reallocate a portion of the excess M2 balances they accumulated during and after the financial crisis back into other investments as the economic expansion progresses, resulting in some additional restraint on M2 growth beginning this year.[8]

[8] The staff projects that only a portion of the recent buildup of M2 balances will be reallocated over the forecast horizon because depositors will continue to be more risk averse in their investment decisions than they were prior to the financial crisis. In addition, in light of various regulatory developments, depository institutions may see retail deposit liabilities as a more attractive source of funds than was the case in the past, and take relatively stronger measures to retain them. Of course, other regulatory developments, such as higher capital requirements, may constrain the growth of banks' balance sheets and deposits.

M2 Monetary Aggregate Projections
(Percent change, annual rate; seasonally adjusted)*

Quarterly		
2015:	Q1	4.5
	Q2	0.3
	Q3	-3.1
	Q4	-2.7
2016	Q1	-1.0
	Q2	-0.1
	Q3	0.6
	Q4	1.3
2017	Q1	1.6
	Q2	1.7
	Q3	1.8
	Q4	2.0
Annual		
	2014	5.7
	2015	-0.3
	2016	0.2
	2017	1.8

Actual data through January 12, 2015; projections thereafter.
* Quarterly growth rates are computed from quarterly averages.
Annual growth rates are fourth quarter over fourth quarter.

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
C&I	commercial and industrial
CLO	collateralized loan obligation
CMBS	commercial mortgage-backed securities
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
ECB	European Central Bank
EME	emerging market economy
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
LIBOR	London interbank offered rate
LSAP	large-scale asset purchase
MBS	mortgage-backed securities
NIPA	national income and product accounts
OIS	overnight index swap
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
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
S&P	Standard & Poor's
TALF	Term Asset-Backed Securities Loan Facility
TBA	to be announced (for example, TBA market)
TGA	U.S. Treasury's General Account
TIPS	Treasury inflation-protected securities
TPE	Term premium effects