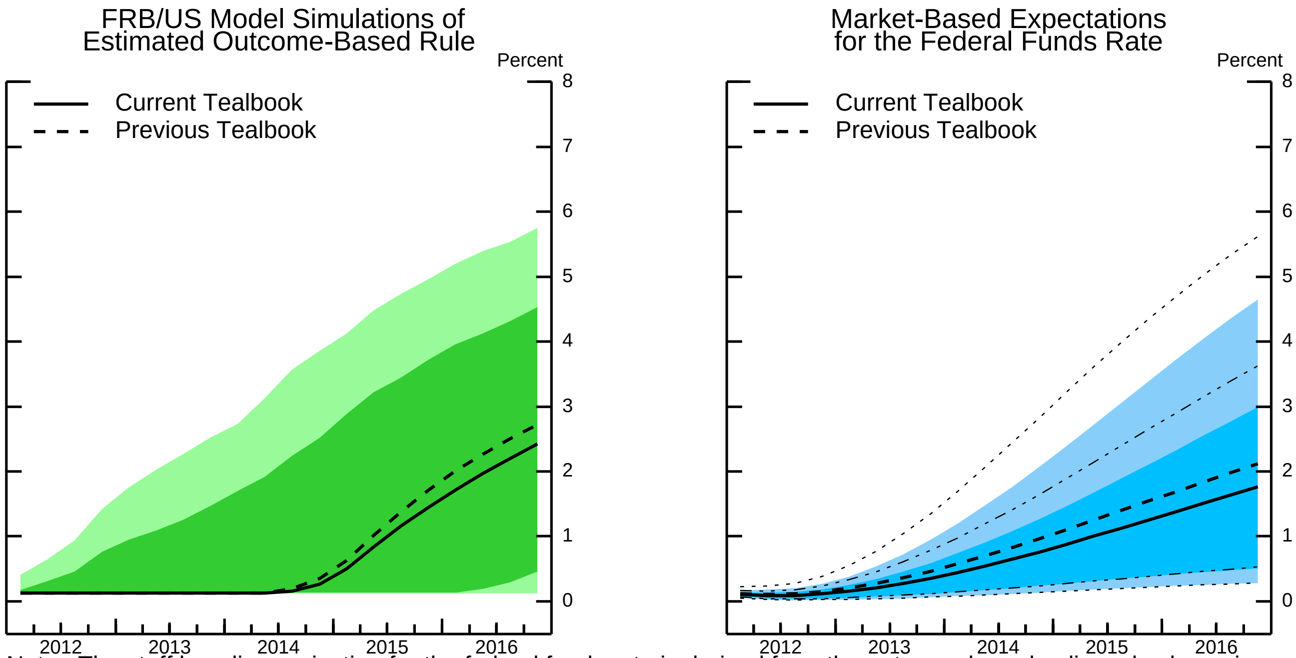
Strategies

Policy Rules and Market-Based Expectations for the Federal Funds Rate



Note: The staff baseline projection for the federal funds rate is derived from the outcome-based policy rule shown in the top-left panel. The top-right panel depicts the mean path and confidence intervals of future federal funds rates derived from market quotes as of January 18. In both panels, dark and light shadings represent the 70 and 90 percent confidence intervals respectively. Explanatory Note B provides further background information.

Near-Term Prescriptions of Simple Policy Rules

	Constrained Policy		Unconstrained Policy	
	2012Q1	2012Q2	2012Q1	2012Q2
Taylor (1993) rule	**0.73**	**0.40**	**0.73**	**0.40**
Previous Tealbook	*0.90*	*0.59*	*0.90*	*0.59*
Taylor (1999) rule	**0.13**	**0.13**	**-2.09**	**-2.43**
Previous Tealbook	*0.13*	*0.13*	*-1.82*	*-2.15*
Estimated outcome-based rule	**0.13**	**0.13**	**-0.22**	**-0.61**
Previous Tealbook	*0.13*	*0.13*	*-0.11*	*-0.42*
Estimated forecast-based rule	**0.13**	**0.13**	**-0.37**	**-0.78**
Previous Tealbook	*0.13*	*0.13*	*-0.27*	*-0.61*
First-difference rule	**0.13**	**0.13**	**-0.13**	**-0.30**
Previous Tealbook	*0.13*	*0.13*	*-0.02*	*-0.14*

Memo	2012Q1	2012Q2
Staff assumption	0.08	0.10
Fed funds futures	0.08	0.09
Median expectation of primary dealers	0.13	0.13
Blue Chip forecast (January 1, 2012)	0.10	0.10

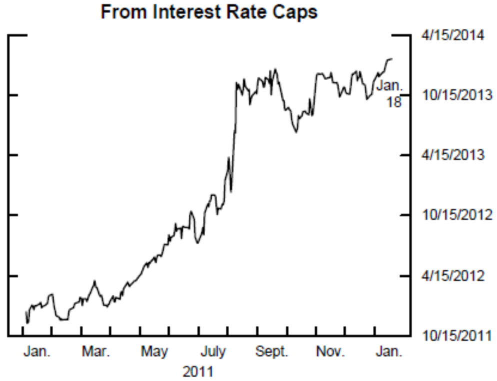
Note: In calculating the near-term prescriptions of these simple policy rules, policymakers' long-run inflation objective is assumed to be 2 percent. Explanatory Note B provides further background information.

Forward Rate Guidance and Policy Expectations

As the Committee considers possible changes to the forward rate guidance included in the FOMC statement, it may be useful to review the estimated effects on policy expectations and Treasury yields of the introduction of the "at least through mid-2013" language in the August 9, 2011, statement. Overall, the introduction of that language appears to have played an important role, both initially and over time, in shaping investors' expectations regarding the path of the target federal funds rate.

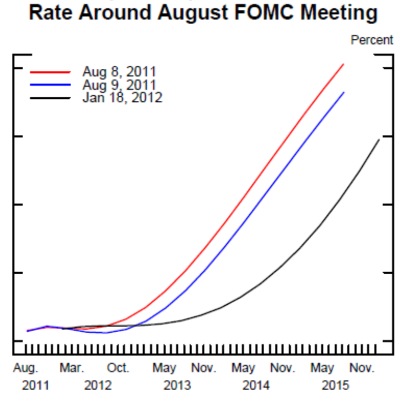
Immediately following the release of the August statement, quotes on interest rate caps implied that investors pushed out their expected date of tightening by two quarters from the second quarter of 2013 to the fourth quarter of 2013 (left-hand figure below). In addition, as illustrated by the red and blue lines in the figure to the right, the expected funds rate path beyond 2014 derived from overnight index swap (OIS) rates dropped about 20 basis points on the day of the announcement. Moreover, the Treasury yield curve (not shown), flattened noticeably that day, with 2- and 10-year Treasury yields declining about 10 and 20 basis points, respectively.

Expected Time Of First Tightening From Interest Rate Caps



Source: Staff estimate.

OIS-Implied Expected Fed Funds Rate Around August FOMC Meeting



Source: Staff estimate based on a zero term-premium assumption.

The introduction of the forward guidance also apparently led near-term policy rate expectations to be better anchored and less sensitive to macro data surprises. In particular, the middle panel of the table below shows average absolute changes in rates on Eurodollar futures contracts expiring around mid-2013 over a thirty-minute window surrounding important macroeconomic data releases. These calculations are based on data over the five months since August 9, 2011, where the changes in rates are normalized by the magnitude of standardized macroeconomic surprises.[1] The top panel of the table shows corresponding changes in contracts with similar horizons over the five-month period between March 1 and August 8. The ratios between the post- and pre-August responses, reported in the bottom panel, suggest that the sensitivities of futures rates to macroeconomic news declined significantly following the August FOMC meeting, consistent with the interpretation that the forward guidance was perceived by market participants as having considerable credibility.[2]

[1] The following economic releases were used: nonfarm payrolls, capacity utilization, housing starts, new home sales, existing home sales, ISM, industrial production, retail sales, Michigan consumer sentiment, consumer confidence, CPI ex Food & Energy, and PCE prices.

[2] Also consistent with this interpretation are the notable declines in measures of policy uncertainty, such as option-implied and realized volatilities of the Eurodollar futures rates, since the August 2011 FOMC meeting.

On the other hand, the fact that futures rates continued to respond to macro data surprises following the statement, although to a lesser degree, suggests that investors correctly interpreted the forward guidance as conditional on the future evolution of the economic outlook.

Average Absolute Responses of Eurodollar Futures Rates to Macroeconomic News (in basis points)				
Pre "mid-2013" language				
Futures Contract	**Sep-12**	**Dec-12**	**Mar-13**	**Jun-13**
Average Response	**6.39**	**8.39**	**8.02**	**9.37**
Post "mid-2013" language				
Futures Contract	**Mar-13**	**Jun-13**	**Sep-13**	**Dec-13**
Average Response	**2.31**	**2.59**	**3.02**	**4.54**
Post/Pre Ratio of Average Responses	**0.36**	**0.31**	**0.38**	**0.48**

Experience with the introduction of the forward guidance in August of last year suggests that the shift in the expected lift-off date to the end of 2014 under paragraph 3' of Alternative B could have an appreciable effect on policy expectations and longer-term yields. For example, if the revised forward guidance resulted in an expected federal funds rate path that remained at the middle of the current target range through the end of 2014, the result might be viewed as a policy shock of about -45 basis points at the end of 2014 based on the policy rate path as of January 18, 2011 (shown by the black line in the chart of OIS curves above). Of course, the impact of this shock on longer-term rates depends importantly on how the shock to nearer-term policy expectations is propagated to longer horizons. One plausible assumption might be that the effect of this policy shock on policy expectations at longer horizons decays geometrically at a rate of about 10 percent per quarter—a rate roughly consistent with historical evidence on the effects of policy shocks. Under this assumption, the implied effect of the change in forward guidance on longer-term Treasury yields would be a decline of 10-15 basis points. Of course, if the forward guidance were seen as less than fully credible, the effect on longer-term interest rates would be reduced.

The effect of the revised forward guidance under paragraph 3 of Alternative B, which indicates that the Committee intends to maintain the current target range for the federal funds rate at least as long as unemployment is above 7 percent and inflation is projected to be either below or close to 2 percent, is more difficult to guage. Since private sector forecasters, like the staff, foresee only a gradual decline in the unemployment rate and generally subdued inflation, the effect of this forward guidance on longer-term yields would likely be larger than that of the guidance in paragraph 3'. However, the effects on longer-term yields would depend on a number of factors, including the credibility of the forward guidance at longer horizons; market participants' expectations regarding the effects of the easier policy stance on unemployment, inflation, and inflation expectations; and investors' views about the pace of withdrawal of policy accommodation once the thresholds are reached.