Next Hike End of 2014:
FOMC Matches Historical Responses to Member's Forecasts and Risks Repeating Earlier Mistakes

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Abstract

The Federal Reserve's January 25, 2012 announcement that the next federal funds rate hike is anticipated for the end of 2014 is consistent with historical funds rate policy responses to FOMC members' forecasts as documented in a simple, estimated rule-of-thumb. In principle, such consistency is a virtue in policy making, but there is a danger of repeating earlier mistakes. In particular, the FOMC risks giving too much weight to forecasts that proved unreliable in the past and underestimating the potential for sustained shifts in the natural employment rate.

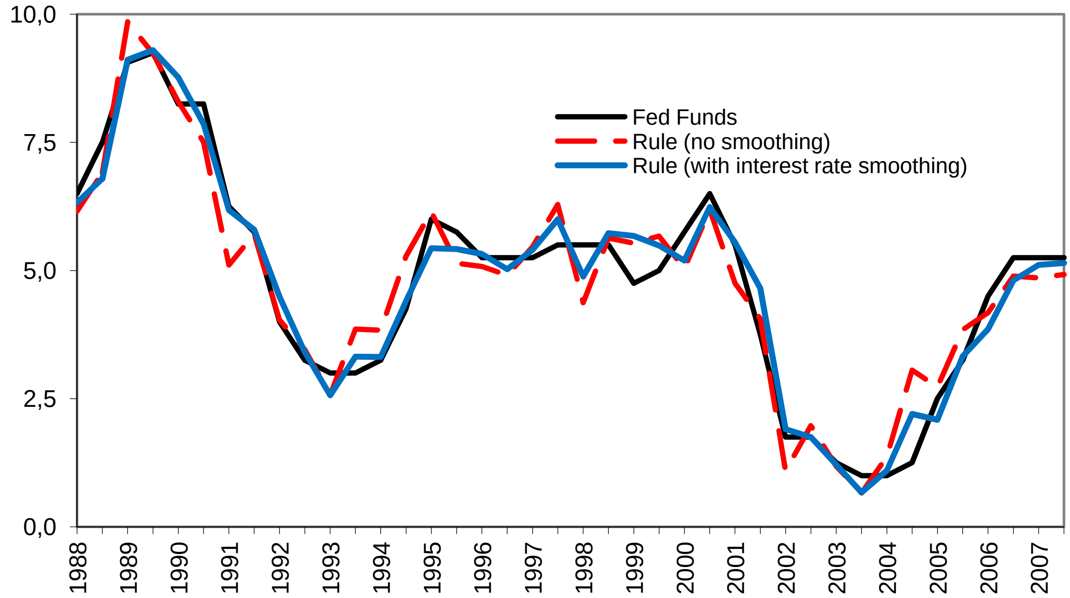
On January 25, the Federal Open Market Committee decided to keep the federal funds rate at 0 to 1/4 percent and said that economic conditions are likely to warrant such low levels at least through late 2014. Many observers were surprised by such a long-term commitment to low rates. Interestingly, however, historical estimates of funds rate reactions to FOMC members' forecasts prescribe just such a response to the forecast published on January 25.

Rules of thumb and FOMC forecasts

Historically, FOMC funds rate decisions are closely matched by a simple rule-of-thumb that includes the mid-points of the inflation and unemployment forecasts reported by FOMC members. This finding was reported in an article in the Federal Reserve of St. Louis Review in 2008 by Athanasios Orphanides and Volker Wieland, but goes back to their earlier unpublished work with David Lindsey at the Federal Reserve in 1997**. Figure 1** shows the prescriptions from this rule-of-thumb together with a second version that includes interest rate smoothing. The rule with smoothing partially adjusts to the funds rate set at the policy meeting when the preceding forecast was made.

[1] I am grateful for helpful comments to Hermann Remsperger, Jason Cummins, Otmar Issing, Willy Friedman and Athanasios Orphanides. Excellent research assistance was provided by Sebastian Schmidt. All remaining errors are my own. An earlier version of this note appeared on the online Economist blog Free Exchange http://www.economist.com/blogs/freeexchange/2012/02/monetary-policy-0 under the title "The Fed's next hike will come at the end of 2014".

Figure 1: Federal Funds Rate versus Rules with FOMC Forecasts



Notes: Rule (no smooth.): Funds rate = 6.97 + 2.34 (Inflation Forecast) – 1.53 (Unemployment Forecast);
Rule (with smooth.): Funds rate = 0.39 (Previous Funds R.) + 0.61 (8.25 + 2.48 (Inflat.For.) – 1.84 (Unemp.For.));
The rules use constant-horizon three-quarters-ahead forecasts derived from mid-points of FOMC central tendencies regarding annual inflation and end-of-year unemployment.

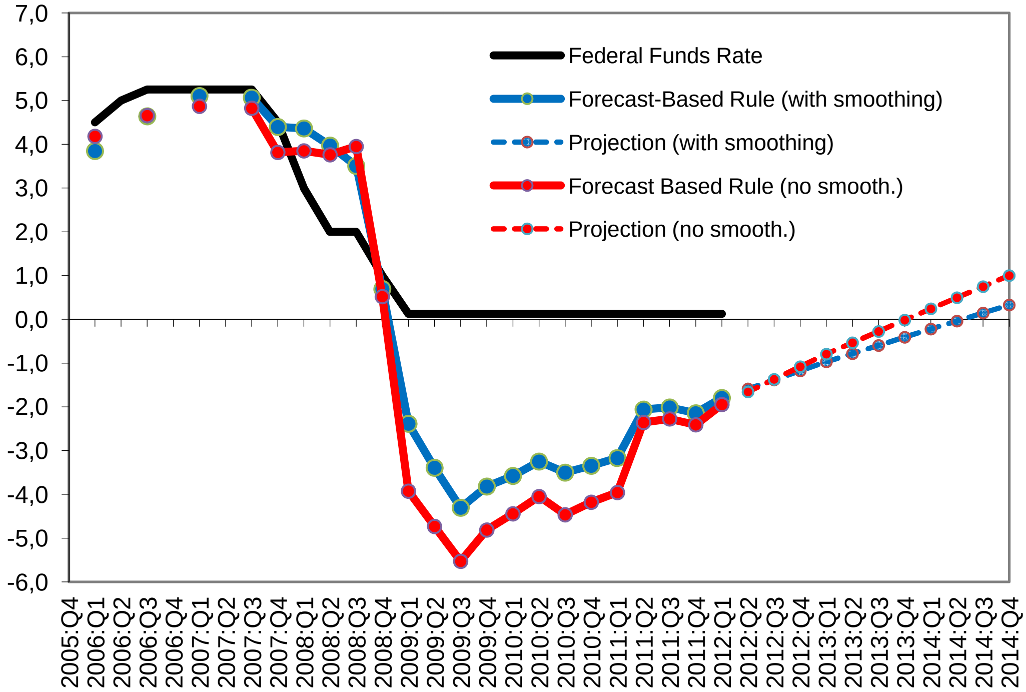
The rules responding to FOMC forecasts even capture the period of low interest rates from 2002 to 2006 prior to the global financial crisis. In his speech on monetary policy and the housing bubble at the American Economic Association in January 2010, Chairman Bernanke referred to these findings emphasizing that

> „because monetary policy works with a lag, effective monetary policy must take into account the *forecast* values of the goal variables, rather than the current values. Indeed, in that spirit, the FOMC issues regular economic projections, and these projections have been shown to have an important influence on policy decisions.“

Rule prescriptions and the zero bound on nominal interest rates

Using the quarterly FOMC forecasts that have been published between October 2007 and January 2012, **Figure 2** shows the funds rate prescriptions implied by the rules with and without smoothing. Up to 2012:Q1 the value shown is based on the forecast made at the policy meeting in the respective quarter. The dramatic deterioration in FOMC forecasts in the fourth quarter of 2008 rationalizes the Fed’s pre-emptive easing that year. From 2009 onwards the two versions of the rule-of-thumb imply a funds rate target in negative, i.e. infeasible territory. Thus, they provide the logic for the additional monetary stimulus resulting from the Fed's policy of quantitative easing. When further interest rate cuts are desired but prevented by the zero lower bound on nominal interest rates, policy switches to balance sheet measures. [2]

Figure 2: Extending the Rules to 2014:Q4



Notes: Rule (no smooth.): Funds rate = 6.97 + 2.34 (Inflation Forecast) – 1.53 (Unemployment Forecast);
Rule (with smooth.): Funds rate = 0.39 (Previous Funds R.) + 0.61 (8.25 + 2.48 (Inflat.For.) – 1.84 (Unemp.For.));
The rules use constant-horizon three-quarters-ahead forecasts derived from mid-points of FOMC central tendencies of annual core PCE inflation and the end-of-year unemployment rate. From 2012:Q2 onwards the projections are based on the January 25, 2012 forecasts for 2012, 2013 and 2014. Three-quarter-ahead forecasts in 2014:Q2, Q3 and Q4 are obtained by extrapolating the projected quarterly changes in the last two quarters of 2014 to the first three quarters of 2015 (+0.01 percent points per quarter for core PCE inflation and -0.15 percentage points per quarter for the unemployment rate).

The outlook as of January 25, 2014

Three-quarter ahead forecasts from 2012:Q2 to 2014:Q4 are derived from the January 25, 2012 FOMC forecasts for 2012, 2013 and 2014 shown in **Table 1.** Currently, FOMC members, on average, expect a slow but steady decline in unemployment accompanied by a barely measurable rise in core PCE inflation.

Table 1: FOMC Central Tendencies Published January 25, 2012

Year	UE (Low)	UE (High)	UE (Midpoint Centr.Tend.)	Core PCE (Low)	Core PCE (High)	Core PCE (Mid. Cent. Tend.)
2012	8.20	8.50	**8.35**	1.50	1.80	**1.65**
2013	7.40	8.10	**7.75**	1.50	2.00	**1.75**
2014	6.70	7.60	**7.15**	1.60	2.00	**1.80**

[2] The case for sequential application of interest rate cuts and quantitative easing is laid out in Orphanides and Wieland (2000).

Interest rate projections for the next three years based on this forecast are depicted in **Figure 2** (dashed lines). Quarterly values for 2014 are also reported in **Table 2**. The rule without interest rate smoothing projects the first interest rate hike from the current level of 0 to 25 basis points to occur in the second quarter of 2014. The version with smoothing gives some weight to the previously prevailing funds rate target. It postpones the first rate hike to the fourth quarter of 2014, that is *exactly the date just announced by the Fed.* Interestingly, the FOMC's forecast from November 2, 2011 (not shown) implied the same dates for the first hike.

Table 2: Projections of FOMC Forecasts and Funds Rate Prescriptions for 2014

	Rule with smoothing	**Rule without smoothing**	Core PCE 3-quarter-ahead Forecast	Unemployment 3-quarter-ahead forecast
2014Q1	**-0.22**	**0.24**	1.80	7.15
2014Q2	**-0.04**	**0.50**	1.81	7.00
2014Q3	**0.15**	**0.75**	1.82	6.85
2014Q4	**0.33**	**1.00**	1.83	6.70

Notes: Rule (no smooth.): 2014:Q1 Funds rate = 6.97 + 2.34 x 1.80 – 1.53 x 7.15;
Rule (with smooth.): 2014:Q1 Funds rate = 0.39 x 0,125 + 0.61 (8.25 + 2.48 x 1.80 – 1.84 x 7.15);
The rules use constant-horizon three-quarters-ahead forecasts derived from mid-points of FOMC central tendencies of annual core PCE inflation and the end-of-year unemployment rate. Three-quarter-ahead forecasts in 2014:Q2, Q3 and Q4 are obtained by extrapolating the projected quarterly changes in the last two quarters in 2014 to the first three quarters of 2015 (+0,01 percent points per quarter for core PCE inflation and -0.15 percentage points per quarter for the unemployment rate).

FOMC risks repeating earlier mistakes

Consistency is a virtue in policy making and transparency is too. These are two reasons for congratulating the Fed. However, consistently repeating earlier mistakes ought to be avoided. With this caution in mind, three urgent concerns regarding the Fed's announcement need to be taken up.

First, the rule-of-thumb treats the natural rate of unemployment, which is determined by non-monetary factors influencing the structure and dynamics of the labor market, as part of its constant element. The Fed's recent statement acknowledges that this rate has risen as a result of the financial crisis. In terms of the rule-of-thumb, interest rate prescriptions would need to be adjusted upwards, resulting in an earlier date for the next interest rate hike. The size of this adjustment is equal to the change in the natural rate estimate multiplied with the response coefficient on the FOMC's unemployment forecast.

Second, the Fed's forecasts of inflation may be too low. This would not be the first time. For example, in his comment on Chairman Bernanke's AEA speech, John Taylor from Stanford University, the author of the well-known Taylor rule, argued that the Fed's inflation forecasts prior to the financial crisis were too low and Fed policy too easy (WSJ, January 10, 2010). As early as 2007, he had suggested that low federal funds rates from 2002 to 2005 helped fuel the housing bubble. In fact, Orphanides and Wieland also showed that, if one uses the average of private sector CPI inflation forecasts rather than the Fed's PCE forecasts in the rule-of-thumb of **Figure 1**, the federal funds rate would have been judged as too low for too long.

Finally, given the forecasting record, it is not advisable to tie central bank rate decisions so closely to policymakers' forecasts. The above-mentioned Taylor rule instead uses current year-on-year inflation together with an estimate of the current deviation of GDP relative to its longer-run potential. It recommends positive interest rates and an end to quantitative easing in the near term. While Taylor's rule matched historical Fed policy during a period between 1987 and 1993, when the economy performed quite well, it also provided a useful indication that policy was too easy during the build-up of the housing bubble in the United States. From this perspective, the Federal Reserve's anticipation of continuing the current policy stance till late 2014 is overly accommodating. Thanks to the FOMC's new initiative of revealing its members' views on the policy path together with the projections, at least we now know that a minority of six FOMC members agrees with this assessment.

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