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# The FOMC versus the staff, revisited: When do policymakers add value?

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## HIGHLIGHTS

- Before 2002, FOMC policymaker forecasts underperformed staff forecasts.
- In more recent years, policymaker forecasts sometimes outperform staff forecasts.
- The relative forecasting performance of policymakers and staff is state dependent.

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## ABSTRACT

The Board of Governors staff and the Federal Open Market Committee both publish macroeconomic forecasts. Romer and Romer (2008) show that policymakers' attempts to add information to the staff forecasts are counterproductive. In more recent years, however, policymakers have improved upon staff forecasts. We show that policymakers' value-added in forecasting is greater when economic conditions are unfavorable or uncertain.



## 1. Introduction

The Federal Open Market Committee (FOMC) relies on the professional staff of the Board of Governors to assess economic conditions and make macroeconomic forecasts, provided in the Greenbook before each FOMC meeting. At the February and July meetings, FOMC members prepare their own forecasts for inflation, unemployment, and growth in the Monetary Policy Report (MPR) submitted to Congress.[1]

Romer and Romer (2008, p. 232) note that "The FOMC should be able not just to match the staff, however, but to do better. Because policymakers are allowed to revise their forecasts after the FOMC meeting where the forecasts are discussed, they have a potential data advantage of up to two weeks". Nevertheless, comparison of staff and FOMC forecasts from 1979 to 2001 reveals that "the FOMC's attempts to add information to the staff forecast are not just unsuccessful, but may lead to inappropriate actions"(Romer and Romer, 2008, p. 230).

These results are relevant to a debate about the division of labor between central bank staff and policymakers. Svensson (1999) suggests that the staff should be responsible for forecasting, and policymakers should choose from among various policy options, taking staff forecasts as given. An alternative is for policymakers to also play a role in forecasting. Romer and Romer (2008, p. 230) note that "Which of these divisions of labor is best...depends on the relative skill of the staff and the policymakers in forecasting and understanding the economy. As a result, *the answer may vary across times and places*" (emphasis added).

We address *how* the answer may vary across time, by updating the forecast data through 2012 and including moderator variables in the Romer and Romer regressions of macroeconomic outcomes

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[1] February forecasts are for inflation and growth over the four quarters ending in the fourth quarter of the current year and unemployment in the fourth quarter of the current year. July forecasts are for the current year and the next year for the same variables.

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on staff and policymakers' forecasts. In more recent years, policymakers' forecasts *outperform* the staff's for inflation and unemployment.

Why might this be the case? We suggest that in certain circumstances, the value of the FOMC's informational advantage and judgment-based adjustments to the staff forecasts is greater. The use of formal models for quantitative macroeconomic forecasting proliferated in the 1960s, but forecasters typically adjust model-based forecasts using their own judgment (Wallis, 1989). There is mixed evidence on the value of "judgmental adjustments", which can introduce psychological biases but can also compensate for model limitations, and may be especially valuable when economic events lack close historical precedents (McNees, 1990). Correspondingly, we show that policymakers' relative forecasting ability is stronger when economic conditions are less favorable or more uncertain, as in the Great Recession.

Others have evaluated Greenbook and FOMC forecasts for efficiency, rationalizability, and accuracy (Romer and Romer, 2000; Clements et al., 2007; Sinclair et al., 2015), have studied how FOMC forecasts incorporate other publicly available forecasts (Nunes, 2013), or have suggested that policymakers use alternative loss functions (Ellison and Sargent, 2012; Caunedo et al., 2013).[2] We complement this work, showing that even if policymakers and the staff aim to minimize mean squared error loss, policymakers' relative success depends on the state of the economy. Due to a five-year data lag, we are the first to include data from the Great Recession and recovery.

## 2. Estimation and results

Following Romer and Romer (2008), we run regressions of the form:

$$X_t = a + bS_t + cP_t + e_t, \tag{1}$$

where $X_t$ is the realized value of some variable (inflation, growth, or unemployment), $S_t$ is the staff forecast for that variable, and $P_t$ is the policymaker forecast made at time $t$.[3] We also modify the regression by including interactions of $S_t$ and $P_t$ with a moderator variable $Z_t$, which is either a dummy variable indicating that $t$ is in a specified time period or a measure of the state of the economy:

$$X_t = a_0 + a_1 Z_t + b_0 S_t + b_1 S_t * Z_t + c_0 P_t + c_1 P_t * Z_t + e_t. \tag{2}$$

Before showing regression results, in Table 1 we compare forecasts in 1979–2001 and 2002–2012. In both periods, policymakers forecast higher inflation, lower unemployment, and higher growth than the staff. The mean absolute difference between policymaker and staff forecasts is roughly twenty basis points for each variable and time period. For inflation, the policymakers' forecast is less accurate than the staff forecast 62% of the time from 1979 to 2001, and 35% of the time from 2002 to 2012. For unemployment, the policymakers' forecast is less accurate 43% of the time from 1979 to 2001, and 33% of the time from 2002 to 2012. Only for growth does the policymakers' performance by this metric deteriorate in the later period.

Tables 2, 3 and 4 show results where $X_t$ is inflation, unemployment, and growth, respectively. The first column of each table replicates Romer and Romer's estimates. The second shows estimates for 2002 to 2012. For inflation, in the period examined by Romer and Romer, the coefficient on $S_t$ is near 1, and on $P_t$ statistically insignificant, hence their interpretation that the policymakers do not contribute useful information to the forecasts. But in the later time period, only the coefficient on $P_t$ is statistically significant. Likewise, for unemployment, the statistically significant coefficient in the earlier period is on $S_t$, and in the later period on $P_t$. Only for growth is the coefficient on $P_t$ larger than that on $S_t$ in both periods (though not statistically significant).

To test whether changes in the coefficients from the earlier to the later period are statistically significant, the third column of each table shows estimates of Eq. (2) for 1979 to 2012, where $Z_t$ is a dummy variable indicating that $t > 2001$. For inflation and unemployment, the relative contribution of the staff forecast is smaller in the later period. For growth, there is no statistically significant difference in relative forecasting performance between the time periods.[4]

In columns (4) and (5), $Z_t$ is the real output gap, $100\%(Y^* - Y_t)/Y^*$, where $Y_t$ is real GDP and $Y^*$ is potential real GDP.[5] In column (4), we use the output gap from the quarter in which the FOMC meeting took place (e.g. Q1 for February forecasts and Q3 for July forecasts) and in column (5), we use the output gap from the previous quarter. Coefficient estimates on the interaction terms indicate that policymakers' relative forecasting contribution is better when the output gap is larger (that is, in bad times), though this result is not statistically significant for inflation forecasts.[6]

On average, the output gap was larger in the later time period (mean 2.2% and standard deviation 2.0%) than in the earlier period (mean 1.4% and standard deviation 1.9%). The early 1980s recession and Great Recession were both associated with large output gaps. We use the output gap as our primary measure of the state of the economy because it exhibits more variation than alternative measures such as a recession indicator; it remained large and positive through the end of 2012, even as the recession officially ended in 2009. The output gap is correlated with various measures of uncertainty and volatility. The correlation between output gap and the Economic Policy Uncertainty (EPU) index of Baker et al. (2016), for example, is 0.71.[7] Notably, policymakers and staff made large forecast errors for all variables in 2008, but policymakers' inflation and unemployment forecasts were more accurate than the staff's. The July 2008 MPR describes "unusually uncertain" prospects associated with financial market distress and commodity price rises. The EPU and output gap also rose sharply in 2008.

[2] Ellison and Sargent (2012, p. 1050) suggest that policymakers use policies that are robust to model specification errors, biasing their forecasts toward the worst-case scenario.

[3] See data appendix of Romer and Romer (2008) for data details. Like Romer and Romer, we use the midpoint of the central tendency of the FOMC members' forecasts.

[4] We perform Wald tests for a structural break in the first half of 2008 (the start of the Great Recession). For current-year inflation, growth, and unemployment forecasts, we reject the null hypothesis of no structural break with p-values of 0.001, 0.05, and 0.001, respectively. For next-year inflation, growth, and unemployment forecasts, we reject the null hypothesis of no structural break with p-values of 0.05, 0.005, and 0.001, respectively. We also perform Wald tests for a structural break with unknown break date, and in most cases find an estimated break date in 2007–2009, with the exception of current-year inflation forecasts, for which the estimated break date is the first half of 1991, corresponding to a moderation in inflation.

[5] Quarterly data on real GDP in chained 2009 U.S. dollars is from the U.S. Bureau of Economic Analysis (code A191RX) and potential real GDP in chained 2009 U.S. dollars is from the U.S. Congressional Budget Office estimates. We find similar results in (4) and (5) for all variables if we use a real-time measure of the output gap constructed from the Federal Reserve Bank of Philadelphia Real-Time Dataset first-release values for real output growth (see Capistran (2008)); results available upon request.

[6] Note that, following Romer and Romer (2008), we pool forecasts for current year and next year horizons. We find similar results using forecasts for only a single horizon, with some loss of significance due to smaller sample size. We also find similar results if we impose constraints $a = 0$ and $b + c = 1$ in Eq. (1) and include an output gap interaction term: the coefficient on $P_t * Z_t$ is positive.

[7] EPU data begins in 1985. The VIX, a volatility index, is available since 1990, and is positively correlated with the output gap (0.33). If we let $Z_t = EPU_t$ in Eq. (2), for unemployment, the coefficient estimate on $P_t * Z_t$ is positive and on $S_t * Z_t$ is negative; both are statistically significant.