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Evaluating the economic forecasts of FOMC members

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ABSTRACT

This paper provides a detailed analysis of the forecasts of real GDP, inflation and unemployment made by individual members of the Federal Open Market Committee (FOMC) for the period 1992–2003. Despite a general tendency for the committee members to underpredict real GDP over the sample period, we find evidence suggesting that the FOMC has a considerable amount of information about output growth, beyond what is known by commercial forecasters. We also document a substantial level of variation in the members' forecasts, which can be explained in part by the differences in economic conditions between Federal Reserve districts. The members' heterogeneous forecasts for output growth and inflation contain useful information for explaining their preferred policy settings, beyond that in the Greenbook forecasts.

1. Introduction

Since May 2009, the Federal Reserve has been releasing individual forecasts for each *Monetary Policy Report* with a ten-year lag. The FOMC individual forecasts are important because they contain information about the individual FOMC policy preferences. For the public, these short-term forecasts provide a benchmark to allow them to gauge how policy makers respond to news about inflation. The forecasts also provide information about the FOMC's assessment of the trend in real GDP growth and the associated business cycle stage. Romer (2010) briefly introduces this potentially valuable new dataset on monetary policy, and Banternghansa and McCracken (2009), Bhattacharjee and Gelain (2011), Nunes (2012), and Tillmann (2010) have examined other aspects of the dataset. We contribute to this growing body of literature by further evaluating individual members' forecasts for 1992–2003, and analyzing how these forecasts contextualize their preferred policy setting.

Using the econometric framework for analyzing three-dimensional panel data of forecasts, we document a general tendency of FOMC participants to underpredict real GDP and overpredict inflation and unemployment during the sample period. Our panel data analysis indicates a degree of individual bias and inefficiency in the use of public information among the committee members. Despite these flaws, however, the committee members exhibit a superior performance in predicting the slowdown of output growth in 1995 and the recovery in 2002. This outperformance provides further evidence that the FOMC participants have a considerable amount of information about output growth beyond what is known by commercial forecasters.

Besides the performance of the whole, the individual data allow us to find genuine diversity in the participants' views regarding probable outcomes for output growth and inflation. Our empirical estimates show that the deviation of each member's forecast from the mean can be explained partly by the economic conditions of the member's Federal Reserve district. Furthermore, regional economic conditions and other factors documented in the recent literature can account in part for the difference between the FOMC and Greenbook forecasts. For a discussion

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of these factors, see Bhattacharjee and Gelain (2011), Ellison and Sargent (2012), and Nunes (2012). This close association between regional economic conditions and member output growth forecasts provides a plausible explanation for why the FOMC output growth forecasts add value to the Greenbook forecasts.

To explore the influence of the member's projections on their preferred policy settings, we estimate the monetary policy reaction functions. First, we construct a dataset of preferences drawn from the transcripts of FOMC meeting during the Greenspan years. Based on these preferences, we find that members' projections for output growth and inflation contain useful information beyond that contained in the Greenbook forecasts for explaining their preferred federal funds rates. We also document a substantial degree of policy inertia. These findings are consistent with those of Fendel and Rülke (2012) and Orphanides and Wieland (2008), who find that FOMC decisions can be explained predominately in terms of the FOMC's projections. The connection between projections and policy preference provides further evidence of the importance of economic forecasts in making monetary policy. Since we find that these forecasts are closely related to regional economic conditions, our research supports another strand of the literature that has confirmed the influence of these regional factors on FOMC members' policy preferences, see for example Chappell, McGregor, and Vermilyea (2008) and Meade and Sheets (2005).

The paper is organized as follows. Section 2 describes the data used in our analysis. In Section 3, we explore the rationality and heterogeneity of FOMC members' forecasts. In Section 4, we investigate the potential influence of the members' forecasts on their policy preferences, and Section 5 concludes.

2. Data

We study a panel of forecasts of real GDP, inflation and unemployment from both the staff and members of the FOMC. The particular inflation forecasts we analyze are those of the consumer price index for 1992–1999 and the chain-type price index for personal consumption expenditures (PCE) for 2000–2003. This section describes the source of these forecasts, as well as the actual data used for the purpose of forecast evaluation.

In compliance with the Full Employment and Balanced Growth Act of 1978 (often referred to as the "Humphrey–Hawkins Act"), the Chairman of the Federal Reserve Board reports the economic projections of the FOMC members to the Congress biannually. Since 1979, the Federal Reserve has been releasing the range of these forecasts. Starting in 1983, the range was supplemented with a central tendency, constructed by discarding the extreme forecasts. Many papers have evaluated the FOMC "consensus" forecast, defined as the midpoint of the reported range (or central tendency); see Gavin and Mandal (2003), McNees (1995), and Reifschneider and Tulip (2007), among others. In an act of greater transparency, the Federal Reserve has since released the available individual forecasts for each Monetary Policy Report from January 1992 to July 2002. This starting date reflects gaps in the Federal Reserve's documentation, while the ending date reflects a decision by the FOMC to release the individual data with a ten-year lag, rather than the standard five-year lag. Currently, this dataset includes the forecasts of all participants other than the Chairman at FOMC deliberations; that is, both voting and non-voting FOMC members.[1] We examine the forecasts of real GDP, inflation and unemployment. Real GDP and inflation forecasts are for the fourth-quarter-over-fourth-quarter growth rate, while the unemployment rate forecasts are for the fourth quarter of the target year. The February forecasts are for the current year, and the July forecasts are for the current year and the next year. We simply denote these forecasts as approximately 6-, 12- and 18-month-ahead forecasts. More specifically, we label the forecasts made in July for the next year as 18-month-ahead, those made at the beginning of February as 12-month-ahead, and those made in July for the current year as 6-month-ahead forecasts.[2] The individual forecasts released by the Federal Reserve are the final forecasts after the associated FOMC meeting and after the members have seen one another's forecasts. These final forecasts may differ from the forecasts that members had originally submitted before each FOMC meeting; however, it is not clear whether the Federal Reserve has information about the initial forecasts.

Named the "Greenbook" forecast, the staff of the Board of Governors prepare forecasts before each meeting of the FOMC. They typically forecast inflation, growth and unemployment for five or six quarters into the future. However, the forecast horizon varies over time depending on the date of the FOMC meeting. For a benchmark comparison, we use the Greenbook forecasts for the same variables made at the ends of January and June, which are roughly a week before the FOMC meetings.

For the purpose of forecast evaluation, we use appropriate actual values. As is well known, the NIPA data, such as real GDP, often go through substantial revisions. Obviously, the most recent revision is not appropriate because of contemporaneous adjustments for definitions and classifications. The first release is also unsatisfactory, due to the incompleteness of the initial estimates. For the NIPA variables, including real GDP and the PCE chain-type price index, we choose the so-called "final" estimates, which are released roughly three months after the end of the quarter.[3] This revision is the appropriate series for our assessment, because it is based on relatively complete data, but is of approximately the same period as the forecasts we are analyzing. The timing of the actual values is not so sensitive for the CPI and the unemployment rate, and consequently, we assess the forecasts based on the first released data, which are taken from the Greenbook.

[1] The FOMC individual members' forecasts are available from the Philadelphia Fed website.

[2] Note that since November 2007, the FOMC individual forecasts have been being made four times a year rather than twice a year, and the forecast horizon has been extended by an additional year.

[3] The "final" estimates are the real-time data available from the Federal Reserve Bank of Philadelphia.