

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

International Journal of Forecasting

journal homepage: www.elsevier.com/locate/ijforecast

Revisiting the relative forecast performances of Fed staff and private forecasters: A dynamic approach



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ARTICLE INFO

Keywords:

Forecast performance
Forecast stability
Greenbook forecasts
Survey of Professional Forecasters

ABSTRACT

This paper aims to extend the findings of Romer and Romer (2000) to a setup where the time variation of (relative) forecast performances is addressed in much greater detail. We show that the relative forecast performances of Fed staff and private forecasters are not stable in the presence of large macroeconomic shocks such as the Great Moderation and the oil price shocks of the 1970s. Furthermore, we show that the predictive ability of the staff outperforms that of private forecasters in the presence of specific factors, such as an increased uncertainty in the economy and the staff's better knowledge of the Fed's future interest rate.

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1. Introduction

Today, most central bank watchers invest vast resources in the production of good forecasts of inflation and output. Why is this? It is because it helps them to assess the monetary policy stance better in real time, and to form expectations about the likely future interest rate path. Can private forecasters learn something from central bank forecasts of these key macroeconomic variables? Romer and Romer (2000) demonstrated that the Federal Reserve's (Fed) Greenbook forecasts outperform private forecasts of output and inflation in the United States, but have relationships changed since then, or has the US economy become more predictable, as was suggested by Tulip (2009)? Moreover, the presence of information cascades (see Bikhchandani, Hirshleifer, & Welch, 2008) appears to

have contributed to a better sharing of information and a reduction in the dispersion of private forecasts.

For at least three reasons, it is questionable whether the superiority of staff forecasts still holds today. First, the Fed and other main central banks have achieved a high level of transparency, thereby reducing their relative information advantage, with the aim of enhancing the effectiveness of monetary policy (see Woodford, 2005). In this context, only the Fed's Summary of Economic Projections is published in real time, while its Greenbook forecasts are released with a lag of five years. Second, given several large macroeconomic shocks (the Great Moderation, oil price shocks, and financial crises) which contributed to changes in the volatility patterns of macroeconomic time series, it is conceivable that the relative forecast performances of staff and private forecasters may have changed. However, because both groups of forecasters have been subject to profound uncertainty in the presence of these shocks, it could be that their performances are different. Third, the superiority of Greenbook forecasts is at odds with the findings of another paper by Romer and Romer (2008), which suggests that

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<http://dx.doi.org/10.1016/j.ijforecast.2015.05.006>

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the forecasts made by the Federal Reserve Open Market Committee (FOMC) are less informative than the Greenbook forecasts. These forecasts by FOMC policy-makers are informed by the internal Greenbook forecasts, and should not differ fundamentally from the latter. [Ellison and Sargent \(2012\)](#) have challenged this view in their defence of the FOMC policy-makers' forecasts.

Another strand of the literature has argued that monetary policy should be rule-based, in order to deal with economic uncertainty. This could be viewed as suggesting that forecasts are less relevant for policy-makers. Does the Greenbook's forecast accuracy matter for US monetary policy? The answer depends strongly on the persistence of the macroeconomic processes. If high levels of inflation or output today signal high levels of those variables in the future, for example, a distinction between the current and forecast values may not matter much (see [Bernanke, 2010](#)). The distinction between current and forecast levels of inflation has become increasingly important, as has been shown by several oil price shocks, which have led to increases in the overall inflation. Moreover, as the FOMC transcripts make clear, Fed policymakers use forward-looking Taylor rules as a benchmark for their internal discussions. In fact, the FOMC uses a suite of these rules to check for robustness. In order to be a meaningful benchmark for policy, the Taylor rule needs to have good forecasts as inputs.

The aim of this paper is to extend the findings of [Romer and Romer](#) to a setup in which the time variation of (relative) forecast performances is addressed in much greater detail. To address this issue, the paper uses the latest available econometric techniques, such as the fluctuation test of [Giacomini and Rossi \(2010\)](#) and the test of conditional predictive ability by [Giacomini and White \(2006\)](#), as well as rolling window Mincer–Zarnowitz regressions and a battery of fixed event [Nordhaus \(1987\)](#) tests. Using an extended sample (1968–2006), we confirm the results of [Romer and Romer \(2000\)](#) that the Greenbook forecasts for inflation and output are more accurate than those from private forecasters. However, we find that this superiority is driven mostly by central bank staff performing much better in a few periods, which usually coincide with times of great macroeconomic distress. In particular, our econometric tests show that relatively better forecast performances by staff are observed when there is an increased uncertainty. The staff's greater knowledge about the Fed's future interest rate path also plays an important role in this respect.

The paper is organized as follows. Section 2 briefly reviews the literature. Section 3 explains the data used in this study and revisits the traditional battery of full sample forecast performance tests for the full extended sample. Section 4 analyses the dynamics of forecast performances, testing the changes in forecast rationality and relative forecast performances over time, and – most importantly – identifying the driving factors that underlie the fluctuations in relative forecast performances. Section 5 concludes.

2. A brief review of the literature

Greenbook forecasts are thought to provide the FOMC with an information advantage relative to private

forecasters because (see [Romer & Romer, 2000](#)), first, Greenbook forecasts are more accurate than private forecasts, that is, they have lower root mean square errors (RMSE); and, second, private sector forecasts have little or no additional explanatory power for inflation, relative to the Fed's Greenbook forecast. The relative performances of private sector and staff forecasts have been the subject of a series of empirical studies. Due to data availability limitations, most of the studies examining this issue have considered the US. For various different samples, ranging from the late 1960s to the mid-1990s, several studies investigating the forecast accuracy have supported the finding on the Fed's information advantage (see [D'Agostino & Whelan, 2008](#); [Gavin & Mandal, 2003](#); [Peek, Rosengren, & Tootell, 2003](#); [Reifschneider & Tulip, 2007](#); [Sims, 2002](#)). However, a more recent study by [Gamber and Smith \(2009\)](#) found that the gap between the Greenbook forecasts and private forecasts has narrowed considerably since the mid-1980s, especially since 1994.

Why might the gap between staff and private forecasts have narrowed? One of the main reasons is the high level of transparency that has been achieved by main central banks over the last decade. They have deliberately reduced their relative information advantage in order to enhance the effectiveness of monetary policy (see [Woodford, 2005](#)). [Swanson \(2006\)](#) suggests that increases in Fed transparency since the late 1980s have been instrumental in enabling both US financial markets and the private sector to forecast the federal funds rate at horizons of several months. Several authors (see [Blattner, Catenaro, Ehrmann, Strauch, & Turunen, 2008](#); [Brand, Buncic, & Turunen, 2010](#); [Lange, Sack, & Whitesell, 2003](#)) find an increased predictability of the FOMC decisions due to the improved transparency. In regard to inflation forecasts by central bank staff (and possibly also output forecasts, if they are made consistent with the inflation forecast), a further argument is that the price stability goal has become more important over time. Thus, central banks could have an incentive to align their forecasts with their numerical inflation target at the policy horizon. Such a behaviour could result in a deterioration of the forecast accuracy, both in absolute terms and relative to other forecasters (see e.g. [Jung, 2013](#)).

The Fed Greenbook staff forecasts for each FOMC meeting are published only with a lag of about five years, whereas, in principle, the FOMC forecasts made by policy-makers are available to market observers in real-time. Since the staff forecasts are not available to the public when they are assessing the Fed's monetary policy stance and the economic outlook, an interesting question that has been examined in other papers is whether the Greenbook forecasts are superior to the FOMC forecasts. [Romer and Romer \(2008\)](#) find that the FOMC forecasts do not provide useful information relative to the Greenbook forecast, even though the FOMC members know the staff forecast when making their individual forecasts. The accuracy of the FOMC forecasts could be influenced negatively by specific factors. Strategic motives by individual members and a non-harmonised interest rate assumption (see [McCracken, 2010](#); [Tillmann, 2011](#)) are examples of such factors. However, the study by [Ellison and Sargent \(2012\)](#) suggests that

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