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The accuracy and efficiency of the Consensus Forecasts: A further application and extension of the pooled approach

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Abstract

This paper analyses the performance of consensus forecasts, published by *Consensus Economics*, for 12 countries over the period from 1996 to 2006 regarding bias and information efficiency. A pooled approach is employed which permits the evaluation of all forecasts for each target variable over 24 horizons simultaneously. It is shown how the pooled approach needs to be set up in order to accommodate the forecasting scheme of the consensus forecasts. Furthermore, the pooled approach is extended by a sequential test for detecting the critical horizon after which the forecast should be regarded as biased. Moreover, heteroscedasticity in the form of target-year-specific variances of macroeconomic shocks is taken into account. The results show that in the analysed period, which was characterised by pronounced macroeconomic shocks, several countries show biased forecasts, especially with forecast horizons of more than 12 months. In addition, information efficiency has to be rejected in almost all cases.

Keywords: Evaluating forecasts; Business cycle forecasting; Inflation forecasting; Consensus forecasts; Bias and efficiency

1. Introduction

The last decade has seen marked economic fluctuations in the major industrial countries, starting from the new economy boom beginning in the mid-nineties, followed by a lengthy downturn due to the burst of the dot-com bubble and accelerated by a number of events like 9/11, then an economic recovery, and finally the recent financial crisis. Such economic fluctuations regularly present business cycle forecasters with challenges. In this paper we are interested in how well professional forecasters managed to predict GDP and price developments during the last decade. To this end, we explore the biasedness and efficiency of the consensus forecasts, which are pooled forecasts based on monthly surveys among professional forecasters, for twelve industrial countries for the years 1996–2006.

Consensus forecasts have received increasing amounts of attention in the forecast evaluation

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literature in the past years, starting with Loungani (2001), who compares the accuracy, biasedness and efficiency of these forecasts for industrialised and developing countries in the years 1989–1998. In a recent work, Batchelor (2007) addresses similar questions by analysing the bias of the consensus forecasts in the years 1990–2005. He finds evidence of overoptimistic GDP forecasts in Japan, Germany, France and Italy, and no evidence of bias in the inflation forecasts.

The biasedness of individual forecasters is an even more popular object of investigation.[1] The common finding of systematically biased forecasts is usually attributed to error sources on the individual level, such as model misspecifications, herding or political biases (see Stekler (2007), for an overview). However, the studies applying the consensus forecasts use a pooled forecast, where these individual biases would typically be expected to cancel each other out. Therefore, the biases found by Batchelor (2007) do not point to irrationality at the individual level. Instead, the biases can be attributed to a common systematic problem dealing with country-specific external influences such as declining growth trends, which were shared by all forecasters in a country.

As the consensus forecasts constitute a fixed-event forecast, with every target year forecasted separately from 24 horizons before, it complicates the empirical analysis. Batchelor (2007) applies a conventional approach by testing single forecast horizons individually for biasedness. This may be accomplished using the Mincer–Zarnowitz test (Mincer & Zarnowitz, 1969), or a more general t test, as introduced by Clements (2005, p. 6). However, these testing procedures show weak points for the high-frequency fixed-event consensus forecasts. Either all 24 horizons are tested individually, and the comparative results lose in explanatory power due to the complexity of 24 tests with potentially different results, or, as done by Batchelor (2007), only selected horizons out of the 24 available are tested and compared, with a consequent loss of information. To cope with this problem, we apply a cutting edge pooling method proposed by Clements, Joutz, and Stekler (2007) and Davies and Lahiri (1995).

The second question of this paper, the efficiency of the forecasts, has received more attention in the literature that analyses fixed-event forecasts. In this context, the Nordhaus test (Nordhaus, 1987) of the unpredictability of forecast revisions is typically applied. Further applications of this methodology on the pooling of fixed-event forecasts over different target years can be found in Clements (1997) and Harvey, Leybourne, and Newbold (2001). Isiklar, Lahiri, and Loungani (2006) are the first to analyse consensus forecasts for 18 industrialised countries from 1989 to 2004 and consider a pooling over several countries.

Again, a pooled approach based on the works of Clements et al. (2007) and Davies and Lahiri (1995) is chosen. We extend their approach and show how the pooled tests of the predictability of forecast revisions can be improved by considering target-year-specific variances in the econometric estimations. This step becomes necessary because the assumption of homoscedastic macroeconomic shocks underlying the model does not seem reasonable for our data.

The paper proceeds as follows. Section 2 outlines the error model used for the forecast analyses and sets out the pooled approach for testing unbiasedness, the predictability of forecast revisions and weak efficiency. Section 3 presents the empirical results for our country sample. The last section summarizes and concludes.

2. Pooling procedure and forecast analysis

To test for bias of the consensus forecasts and to analyse the forecast revisions, we build directly on an approach recently published by Clements et al. (2007). The authors propose to pool the forecasts of each variable across horizons. This approach enables one to employ more powerful econometric tests than does the traditional procedure, which looks at forecasts separately for each horizon. In particular, the pooling procedure is ideally suited to our data set, which comprises forecasts over 24 horizons for each year, but covers only 11 target years. Conducting the conventional procedures to test for biasedness and efficiency is not sensible with very few observations available for each horizon.

[1] See, for instance, Batchelor (2001) for OECD and IMF forecasts; a survey on national studies can be found in Fildes and Stekler (2002).