SHORT-RUN GDP FORECASTING IN G7 COUNTRIES: TEMPORAL DISAGGREGATION TECHNIQUES AND BRIDGE MODELS

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Abstract

The delayed release of quarterly National Account data for GDP is an impediment to the early understanding of the current economic situation. However, during the reference quarter, a number of monthly short-run indicators are timely released. In order to get an early picture of the evolution of the current economic activity, alternative tools can be used. Among possible approaches, the Bridge models (BM), i.e. dynamic quarterly models, can “bridge the gap” outlined above between GDP and indicators release times, and can provide one-quarter ahead GDP forecasts, as shown in Baffigi, Golinelli and Parigi (2004), and in Golinelli and Parigi (2004). Another approach relies on dynamic temporal disaggregation (DTD) techniques, such as the dynamic extensions of Chow-Lin (1971, see Di Fonzo, 2003 and Proietti, 2004) and the ARIMA-based (Guerrero 1990) approaches.

In both BM and DTD approaches, the model selection and the choice of the indicator series are the crucial ingredients for an acceptable performance. BM can select the more suitable indicators and the more parsimonious BM specification on the basis of a search informed by both the researchers’ a priori knowledge, and a number of in-sample specification tests. The DTD technique requires the a priori selection of few (one or two) specific monthly indicators, and does not allow for extensive specification searches. However, the use of the DTD approach also provides the researcher with monthly GDP data (for both the sample period and the forecast horizon), while BM estimates are at quarterly frequency only. Our main idea is that the simple DTD approach (i.e. using only the monthly production index) can be improved by combining it with BM results. Overall, our methodology can be interpreted as an additional way to assess the DTD performance.

The core of our approach is to compare the one-quarter-ahead GDP predictive performance of BM versus DTD techniques in situations that are as close as possible to the actual forecasting activity: without available monthly indicator data, and with one- two- or three-months of data availability. The country coverage is for both single countries (US, Japan, Germany, France, UK, Italy, and Canada), and area-wide (G7, European Union, and Euro area). The sample period for models’ estimation goes from 1985 to 2000, leaving 2001-2004 quarters for out-of-sample forecasting exercises.