World Academy of Science, Engineering and Technology
International Journal of Economics and Management Engineering
Vol:9, No:10, 2015

Nowcasting Indonesian Economy

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Abstract : In this paper, we nowcast quarterly output growth in Indonesia by exploiting higher frequency data (monthly indicators) using a mixed-frequency factor model and exploiting both quarterly and monthly data. Nowcasting quarterly GDP in Indonesia is particularly relevant for the central bank of Indonesia which set the policy rate in the monthly Board of Governors Meeting; whereby one of the important step is the assessment of the current state of the economy. Thus, having an accurate and up-to-date quarterly GDP nowcast every time new monthly information becomes available would clearly be of interest for central bank of Indonesia, for example, as the initial assessment of the current state of the economy -including nowcast- will be used as input for longer term forecast. We consider a small scale mixed-frequency factor model to produce nowcasts. In particular, we specify variables as year-on-year growth rates thus the relation between quarterly and monthly data is expressed in year-on-year growth rates. To assess the performance of the model, we compare the nowcasts with two other approaches: autoregressive model –which is often difficult when forecasting output growth- and Mixed Data Sampling (MIDAS) regression. In particular, both mixed frequency factor model and MIDAS nowcasts are produced by exploiting the same set of monthly indicators. Hence, we compare the nowcasts performance of the two approaches directly. To preview the results, we find that by exploiting monthly indicators using mixed-frequency factor model and MIDAS regression we improve the nowcast accuracy over a benchmark simple autoregressive model that uses only quarterly frequency data. However, it is not clear whether the MIDAS or mixed-frequency factor model is better. Neither set of nowcasts encompasses the other; suggesting that both nowcasts are valuable in nowcasting GDP but neither is sufficient. By combining the two individual nowcasts, we find that the nowcast combination not only increases the accuracy - relative to individual nowcasts- but also lowers the risk of the worst performance of the individual nowcasts.

Keywords : nowcasting, mixed-frequency data, factor model, nowcasts combination
Conference Title : ICFEFS 2015 : International Conference on Forecasting Economic and Financial Systems
Conference Location : Osaka, Japan
Conference Dates : October 08-09, 2015