Analyzing and Forecasting Movements of the Philippine Economy using the Dynamic Factor Models (DFM)

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ABSTRACT

The country’s small and open economy is vulnerable to both internal and external shocks. Is it therefore important for policy makers to have timely forecasts on the movement of the country’s Gross Domestic Product (GDP), whether it will increase or decrease in the next quarter, to be able to guide them in coming up with appropriate policies to mitigate say, the impact of a shock. The current method used to forecast the movements of the GDP is the composite Leading Economic Indicators System (LEIS) developed by the National Economic Development Authority (NEDA) and the National Statistical Coordination Board (NSCB). The LEIS, using 11 economic indicators, provides one-quarter forecast of the movement of the GDP. This paper presents an alternative, and perhaps better, procedure to the LEIS in forecasting the movements of the GDP using the Dynamic Factor Model (DFM). The idea behind the DFM is the stylized fact that economic movements evolve in a cycle and are correlated with co-movements in a large number of economic series. The DFM is a commonly used data reduction procedure that assumes economic shocks driving economic activity arise from unobserved components. The DFM aims to parsimoniously summarize information from a large number of economic series to a small number of unobserved factors. The DFM assumes that co-movements of economic series can be captured using these unobserved common factors. This paper used 31 monthly economic indicators in capturing a common factor to forecast movements of GDP via the DFM. The results show that the common factor produced by the DFM performed better in forecasting the movements of the GDP compared the LEIS. The DFM is a promising and useful methodology in extracting indicators of the country’s economic activity.

Key Phrases: Dynamic Factor Model, Leading Economic Indicators System, Common Factor,

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