Unemployment, The Output Gap, and Monetary Policy in Japan: An Estimated New Keyensian Model[†]

Goro Komatsu[‡]

Kyushu University

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Abstract

We develop and estimate a DSGE model a la Galí, Smets, and Wouters (2012) on Japanese quarterly time series including unemployment rate as observable variable. The inclusion of the unemployment rate makes possible the identification of wage markup and labor supply shocks, and the roles played by these shocks as sources behind business cycle fluctuations of output and unemployment. Using the model, we then provide new measure of the output gap, which correlates well with the observed and nonstationary unemployment rates. Finally, we apply the unemployment rate to the Taylor rules, which are shown to outperform the conventional feedback rules with HP-filtered GDP. Our findings point to the need to explicitly incorporate the nonstationarity of the unemployment rate for both DSGE modeling and monetary policy design for Japanese economy.

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