Unemployment and Income Distribution in the Medium-run Growth Model

Hideyuki Adachi
University of Marketing and Distribution Science

Abstract

Constructing a medium-run growth model that extends Solow's model so as to include the unemployment rate as an endogenous variable, this paper explores medium-run evolutions of major macroeconomic variables. Instead of assuming the real wage rate to be perfectly flexible to ensure full-employment in the labor market, we introduce a wage-setting equation that assumes a negative relation between the level of real wage and the unemployment rate a la Blanchard (1997). If the rate of technological progress is constant and labor-augmenting, this model has a unique steady growth equilibrium that includes a constant rate of unemployment and satisfies the stability conditions. Applying this model to Japanese economy, we attempt to explain the trend of major macroeconomic variables in the last 50 years. As the growth rate of real GDP tended to decline over last 50 years in Japan, the unemployment rate, the capital coefficient and the labor share had tended to rise over time. The trend of these macroeconomic variables are shown to be explained consistently, according to our model, by the following three factors: ① decreases in the rate of labor-augmenting technological progress along with decreases in the level of capital efficiency, ② decreases in the rate of saving, and ③ the elasticity of substitution between labor and capital being larger than unity. These factors seem to conform to what happened in the Japanese economy in the last 50 years. The framework of our model is so simple and general that it may provide interpretations of medium-run evolutions not only in Japan but also in other countries.

[References]