

Technical change and instability in a Kalecki-Goodwin growth-cycle model

Hiroyuki Yoshida
Nihon university
College of Economics

Abstract: This paper investigates the dynamic properties of advanced capitalist economies in the tradition of Goodwin and Kalecki. We consider the principle of effective demand, the distribution of income between capitalists and workers, and the growth of labor productivity.

The first model is a growth model with exogenous growth of labor productivity. In this setting, labor productivity grows at a constant rate over time. We show that the steady state of the system is always locally unstable.

The second model is an extension of the first model. We provide a growth cycle model with endogenous growth of labor productivity in line with Kennedy's innovation possibility frontier. In this framework capitalists choose the optimal growth rate of labor productivity to maximize the instantaneous rate of unit cost reduction subject to the innovation possibility frontier. The first order condition for a maximum implies that the growth rate of labor productivity is an increasing function of the wage share; a high wage share induces the capitalists to adopt innovations of a labor-saving type. Furthermore, we show that the mechanism of endogenous innovations via the innovation possibility frontier could be a stabilizing force. The economy could possess a locally stable steady state, or could experience perpetual and structural growth cycles instead of complete instability.