

Dynamic Analysis of Policy Lag in a Keynes-Goodwin Model: Stability, Instability, Cycles and Chaos

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Abstract

In this paper, we investigate the impact of government's stabilization policy on the dynamic behavior of the economic system in an analytical framework of a Keynes-Goodwin model of the growth cycle. In particular, we study the effects of the policy lag on macroeconomic stability analytically and numerically. It is shown that the increase of the policy lag contributes to destabilize the system, and cyclical behavior and chaotic motion emerge in some ranges of the parameter values.

Key words: Keynes-Goodwin model; Growth cycle; Policy lag;
Hopf bifurcation; Chaotic motion; Numerical simulations

JEL classification: E12, E30, E62