The Stability of Normal Equilibrium Point and the Existence of Limit Cycles in a Simple Keynesian Macrodynamic Model of Monetary Policy

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Abstract.

In this paper, a simple Keynesian macroeconomic model of monetary policy describing the development of nominal rate of interest, expected rate of inflation, and nominal money supply in the period of deflationary depression, which was introduced by Asada(2011) is investigated rigorously. The normal equilibrium point of the model is derived and its dynamic stability is investigated. Questions concerning the existence of limit cycles are studied analytically. The bifurcation equation is found. The formulae for the calculation of its coefficients are gained. A numerical example is presented by means of numerical simulations.

Key words

Keynesian macrodynamic model, Monetary policy, Dynamic stability, Limit cycle, Numerical simulations