

Abstract

This paper studies dynamical properties of an extension of the well known Romer model of endogenous growth, introduced by [Benhabib, J., Perli, R., Xie, D., 1994. Monopolistic competition, indeterminacy and growth. *Ricerche Economiche* 48, 279–298]. This model differs from the Romer model by introducing complementarity of intermediate capital goods. It allows indeterminate steady state for relatively mild degrees of the complementarity. We derive necessary and sufficient conditions for the steady state to be interior and strictly positive, which extend those discussed in Benhabib et al. (1994). We show that Hopf bifurcation to the absolutely stable steady state is impossible and the steady state is determinate if the model parameter values belong to a certain set. For the set of parameter values that allows indeterminacy, we demonstrate possibility of the Hopf bifurcation using both analytical and numerical approaches. The indeterminate steady state can undergo Hopf bifurcation for a wide range of parameter values.

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