

Keio University Macroeconomics Workshop

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Title: Destabilizing Effects of the Market Size in Innovation Dynamics

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Abstract:

In the existing models of endogenous innovation cycle, the market size does not affect cyclicity of innovation dynamics. This is in part due to the ubiquitous assumption of CES demand system, implying that monopolistically competitive firms sell their products at an exogenous markup rate, in spite of ample evidence for the procompetitive effect of the market size. In this paper, we extend a canonical model of endogenous innovation cycle to allow for the procompetitive effect, under a more general homothetic demand system, which contains both CES and translog as special cases, and show that a larger market size has destabilizing effects on innovation dynamics under a relatively mild sufficient condition.

Keywords:

Dynamic monopolistic competition, Endogenous innovation cycle; the Judd model, non-CES homothetic demand system, H.S.A. demand system, Procompetitive effect, Strategic complementarity in pricing, Incomplete pass-through, Piecewise-linear dynamical system, Periodic cycle, Robust chaotic attractor