Cash-In-Advance on R&D and Consumption in a Schumperian model with Endogenous Market Structure

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Abstract

We explore the effects of monetary policy on the number of firms, firm market size, level output, consumption, and economic growth with a Schumpeterian growth model with endogenous market structure (EMS) and Cash-In-Advance (CIA) constraints on consumption, R&D investment and firm entry investment. EMS leads to richer implications and different results from previous studies. Under CIA constraint on consumption, a higher nominal interest rate leads to lower growth rates of innovation, output and consumption and also lower rate of firm entry in short run; while a higher nominal interest rate has no effect on economic growth in long run because of a scale-invariant property of the model as a result of entry and exit of firms. Under CIA constraint on R&D investment (firm entry investment), an increase in the nominal interest rate would decrease (increase) R&D and economic growth. The overall impact of monetary policy on growth depends on the relative effect of cash requirements in R&D investment and firm entry investment. Under a special assumption that the cash requirments are the same for R&D and firm entry, an increase in nominal interest rate has no impact on economic growth. We derive the results on both balanced growth path and transition path.

JEL classication: O30, O40, E41

Keywords: monetary policy, economic growth, R&D, firm entry, endogenous market structure

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