

# Endogenous demand creation and economic growth

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## Abstract

In this paper, we analyze a model of economic growth in which each commodity follows the *S*-shaped “logistic” demand function and the firm decides on its expenditure for R&D activities by taking account of their positive effect on the expected rate of birth of a new commodity. Consequently, we find that the first order condition of the firm’s expected profit maximization problem concerning the optimal R&D level is conceptually identical to that of the optimal capital accumulation problem in the existence of adjustment costs for investment, and that the expected rate of “profit on stock of experience” can be defined in relation to that of profit on stock of capital. Moreover, we reveal that both the expected rate of “profit on stock of experience” and the stationary optimal rate of birth of a new good are influenced positively by the initial level of demand and the speed of diffusion of demand but negatively by the unit cost of production and the rate of interest. Finally, we confirm that along the stationary optimal path, the expected rate of growth of real output converges to the stationary optimal birth rate of products.

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