

Spillovers and Strategic Innovation Activities in a Dynamic Environment: Empirical Implications for Innovation Subsidies

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(Summary)

This paper estimates a dynamic oligopoly model of product innovation to evaluate an equilibrium effect of public policy on firms' innovation activities. The model considers a multi-agent Markov-Perfect Nash Equilibrium, allowing for firm's dynamic decision making on innovation activities and entry and exit. The estimation results obtained by use of Japanese firm-level data on product innovation identify net positive spillovers among firms' dynamic innovation activities. Simulation exercises based on the obtained estimates indicate that, while the existing subsidies indeed encourage firms' innovation activities, they are far from optimal.

Keywords: Product innovation; Spillovers; Dynamic oligopoly model; Markov perfect equilibrium; Subsidies; Innovation survey

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