

EconWorld2014@Prague

Equilibria In A Dynamic Model Of Differentiated Duopoly with Demand Enhancing Investment

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ABSTRACT

This paper examines a dynamic game of differentiated duopoly with demand enhancing investments in which one firm's investments have spillover effects on the demand for the rival firm's product. We consider two settings regarding firms' investment decisions, one in which the firms undertake investments noncooperatively and the other in which they choose investments cooperatively. We show that under each of the two settings, there exists a unique symmetric open-loop Nash equilibrium and that each firm's investment level is larger under the case of cooperative investment than under the case of noncooperative investment at open-loop Nash equilibrium. We also demonstrate that there exist stable linear Markov perfect equilibria. Furthermore, we examine non-linear Markov perfect equilibria.

KEYWORDS Differential games; Product differentiation; Bertrand competition; Spillovers

JEL C73, D43, L13