Cost Reduction can Lower Profit and Welfare in a Monopoly *

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Abstract

This paper presents a model in which a monopolistic firm produces two vertically differentiated goods that involve a within-product network externality. In particular, it examines the degree to which the cost of the high-quality good affects the firm's profit and welfare, demonstrating a surprising possibility that both the profit and welfare are U-shaped in relation to this cost. It also shows that two assumptions, namely the fulfilled expectations equilibrium and multi-product monopoly, produce the counterintuitive result that a decrease in the marginal cost reduces the monopoly profit. Furthermore, changes in production costs and in quality lead to cannibalization, such that the consumption of one of the goods increases, while that of the other decreases.

Keywords: Multi-product firm, Monopoly, Cannibalization, Network externality

JEL Classification Numbers: D21, D43, L13, L15

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