Downstream new product development and upstream process innovation

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Abstract

In assembly industries, when input prices are low, downstream firms can easily introduce new products. Because the introduction of new products increases the demand for inputs, upstream firms promote cost-reducing research and development (R&D). We consider both downstream R&D aimed at introducing new products and upstream R&D aimed at cost reduction. We show that if the upstream R&D is efficient (inefficient), the new products introduced downstream become strategic complements (substitutes). Furthermore, because the introduction of new downstream products decreases input prices through upstream R&D, it has a positive endogenous spillover effect on rival downstream firms.

Keywords: New product introduction; Cost-reducing R&D; Upstream input supplier; R&D efficiency; Endogenous spillover

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