Solving a hold-up problem may harm all firms: downstream R&D and transport-price contracts

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Abstract

In vertical relations, by raising input price after downstream research and development (R&D) investment, upstream firms can extract the R&D benefit and have an incentive to set higher input price. As downstream firms underinvest for fear of this hold-up by upstream firms, outputs and input-demand shrink, and all firms become worse off. Previous literature emphasizes that a fixed-price contract in which upstream firms first commit themselves to input prices and downstream firms subsequently invest can resolve the hold-up problem and make all firms better off. By contrast, we show that in a vertical relation between firm-specific carriers and exporters, the fixed-price contract of transport price can make all firms *worse off* because an efficiency improvement in exporters intensifies inter-regional competition.

Key words: Transport-price contracts; Downstream R&D; Firm-specific carrier; Hold-up problem

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