The Cournot–Bertrand duopoly with quality leadership

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Abstract

I consider quality decision games between a foreign firm and a domestic firm. The foreign firm competes in prices while the domestic competes in quantities. Therefore, I show that the effect of quality leadership on two firms' profit depends on the relative quality gap. Quality leadership by the foreign (domestic) firm increases both of the two firms' profits when relative quality gap $\frac{q_H}{q_L}$ is higher than $\frac{3}{2}$ ($\frac{q_H}{q_L}$ is higher than $\frac{5}{4}$ and lower than $\frac{3}{2}$). Furthermore, following the endogenous timing decision model of Hamilton and Slutsky (1990), I demonstrate that the subgame perfect Nash equilibrium (SPNE) arises when relative quality gap $\frac{q_H}{q_L}$ is higher than $\frac{3}{2}$, and it although arises when relative quality gap $\frac{q_H}{q_L}$ is higher than $\frac{5}{4}$ and lower than $\frac{3}{2}$.

Keywords: vertical product differentiation; Stackelberg equilibrium; Cournot-Bertrand equilibrium; endogenous timing decision game

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