

Uncertainty in the production costs in a duopoly with investment in R&D

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Abstract

We study a Cournot duopoly where firms are certain of their production cost and do not know the production cost of the competitor. We analyse the case where the new cost is either the initial high cost or a lower cost, with probabilities defined exogenously. We consider the inverse demand to be linear. We present the Nash equilibria of the quantities that allow us to compute the expected prices and the expected profits. Furthermore, firms may invest in R&D to reduce their production costs. We present the best response of each firm to the investment of their competitor.

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