

The robustness of industrial commodity oligopoly pricing strategies

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Abstract

Industrial commodity markets are typically oligopolies in which firms set prices but need to make sunk and durable investment decisions, requiring them to make predictions of future prices. Mark-up pricing models are attractive both for setting prices and predicting future prices for investment analysis. Simple algorithms can find Nash equilibria, but these equilibria are not necessarily robust. This paper examines fixed and proportional mark-up models and demonstrates that they are robust to single firm Nash Cournot deviations but not against more sophisticated deviations in the deterministic case. Cournot equilibria are not robust under demand uncertainty, where proportional mark-up models emerge as the most robust when marginal costs are increasing.

Keywords market modelling, mark-up equilibria, robustness, oligopoly

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