

Learning to Play Best Response

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ABSTRACT

Following Dana & Montrucchio (1986), Léonard & Nishimura (1999), Bischi, Chiarella & Kopel (2002) and others we consider a quantity-setting duopoly market where firms lack perfect knowledge of the market demand function. They use estimated and therefore misspecified demand functions instead and determine their optimal strategies from the corresponding subjective payoff functions. The central issue of this paper is the question under which conditions a firm can learn the true demand function as well as the reaction function of its competitor through repeated estimations from historical market data. As soon as estimation errors are negligible, the correct payoff function is known and a firm is able to play best response in the usual game theoretic sense.

References

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