

The analysis of the Cournot oligopoly model considering the subjective motive in the strategy selection

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Abstract

In the behavior analysis of a company we propose a method considering subjectivity of each company. We introduce some motives for strategy selection by a company and construct his subjective game by using his motive distribution. It is desirable that each company follows his Nash equilibrium strategy for his own subjective game. We apply this method to the Cournot oligopoly market model and obtain the subjective Nash equilibrium strategy for each player. Moreover by some numerical examples we examine the influence of the motive distribution on the equilibrium strategy.

Keywords : *The Cournot oligopoly model, strategy selection, motive distribution, subjective game.*

1. Introduction

The concept of the Nash equilibrium (Nash [5]) in non-cooperative game has been utilized broadly in the area of micro-economics. The Nash equilibrium is an equilibrium which all players reach by aiming at maximizing personal payoff respectively. Although all players should take the Nash equilibrium strategies in order to realize this Nash equilibrium, many game experiments by human beings report that a player does not

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