Market Share Competition through Stage Games in the Japanese Oil Industry

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Abstract

In this paper, we examine the mechanism of market share competition being played out in the Japanese oil industry. The competition in this industry can be divided into two stages: the refiners' game and the retailers' game. Refiners run their businesses as a Cournot oligopolist in the first stage to maximize their profits by adjusting production quantities. Retailers, on the other hand, play a Bertrand game by determining the retail price in the second stage. Through the two-stage game, the refiners pursue larger profits. The result of the game is such that a company with larger market share grows quickly while a company with smaller market share shrinks even though their cost structures are identical. Through empirical study using panel data of all the prefectures in Japan over 24 years after the completion of a series of deregulation programs, we find that higher market concentration brings higher retail sale price. This implies that larger companies' increases in number of gas stations improve their profitability and smaller companies' increases hurt it. This result supports our theoretical outcome.