The effect of advertisement competition; a case of mixed oligopoly market

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Abstract

I investigate an effect of advertisement competition in a mixed oligopoly market. Following the setting established by Glaeser and Ujhelyi (2010), I assume that the advertisement has following two properties. One is that the advertisement is pure public goods. This means that if one firm advertises, then all firms benefit from it. The second is that the advertisement is "persuasive". In other words, the advertisement does not convey any useful information that raises people's true utility. Rather, people are persuaded to buy the goods that might be more expensive than their willingness to pay.

The firms producing homogeneous goods play a two-stage game. In the first stage, the firms simultaneously choose its advertisement level under quadratic advertising cost. The advertisement raises the intercept of the demand curve. In the second stage, observing the total advertisement level in the market the firms choose its production quantity under constant marginal cost of production.

The main results I obtain are following; (1) the total advertisement is excessive from the viewpoint of social welfare if and only if the private firms' advertisement exceeds the public firm's. This shows that one can see whether total advertisement is excessive or not by comparing the public firm's advertising to that of private firms. (2) When the number of private firms in the market increases, each private firm increases advertisement and production level, which is the opposite response from private oligopoly market. This is due to the reversal of strategic effect between the two markets. The firms' relationship is characterized as strategic substitute in private oligopoly, while it is strategic complement in mixed oligopoly. (3) When the advertisement is perfectly informative, the private firms do not make any advertisement and the total advertisement level is always insufficient. This is because the public firm takes marginal cost pricing strategy to the boosted demand function, leaving no room for private firms to increase the production.