The Welfare Effects of Third-Degree Price Discrimination in a Differentiated Oligopoly*

Takanori Adachi† Noriaki Matsushima‡

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Abstract

This paper studies the relationship between horizontal product differentiation and the welfare effects of third-degree price discrimination in oligopoly. By deriving linear demands from a representative consumer's utility and focusing on symmetric equilibrium of a pricing game, we characterize conditions, relating to such demand properties as substitutability and complementarity, for price discrimination to improve social welfare. In particular, we show that price discrimination can improve social welfare (especially) if firms' brands are substitutes in the market where the discriminatory price is higher and are complements in the market where it is lower, but it never improves vice versa. We verify, however, that consumer surplus *never* improves by price discrimination: welfare improvement by price discrimination is solely due to the increase in the firms' profits. This means that there are no chances that firms suffer from "prisoners' dilemma," that is, firms are better off by switching from uniform pricing to price discrimination.

Keywords: Third-Degree Price Discrimination; Oligopoly; Social Welfare; Horizontal Product Differentiation; Substitutability; Complementarity.

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†School of Economics, Nagoya University, Chikusa, Nagoya 464-8601, Japan. E-mail: adachi.t@soec.nagoya-u.ac.jp

‡Institute of Social and Economic Research, Osaka University, 6-1 Mihogaoka, Ibaraki, Osaka 567-0047, Japan. E-mail: nmatsush@iser.osaka-u.ac.jp