Constrained efficient locations under delivered pricing

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Abstract

In this article, we extend previous results on competitive delivered pricing by considering the second-best problem in which the social planner can regulate firm's locations but not their pricing. Assuming constant marginal costs, we show that the constrained socially optimal locations are an equilibrium of the location-price game when: (i) demand is perfectly inelastic and (ii) demand is price sensitive but firms practice first-degree price discrimination. However, with elastic demand and linear delivered pricing, the market equilibrium provides too much spatial differentiation.
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1. Introduction

The first formal results on location choice under delivered pricing were derived by Hurter and Lederer (1985) and Lederer and Hurter (1986). They studied a two-stage game where firms first choose locations and then the price schedules. Assuming perfectly inelastic demand and constant marginal production and transportation costs, they showed that the price at each market point equals the higher marginal delivered cost and that the socially optimal location pair is an equilibrium of the location-price game.[1]

The Lederer and Hurter results hold even if space is multidimensional and for very general distribution of customers. However, if we drop the assumption of constant marginal

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  [1] However, the authors remark that there may exist equilibria of the location-price game, which are not socially optimal. In fact some equilibria may correspond to local maxima of social welfare.