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History-based price discrimination and entry in markets with switching costs: A welfare analysis

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ABSTRACT

We analyze history-based price discrimination in an asymmetric industry, where an incumbent, protected by switching costs, faces an entrant who does not have access to information about consumers' purchase histories. We demonstrate that consumer surplus is higher with uniform pricing than with history-based price discrimination. We find that the entry decision is invariant to whether the incumbent implements history-based pricing or uniform pricing. This implies that the potential abuse of market dominance imposed by history-based price discrimination is exploitation, not exclusion. Finally, we establish that the profit gain to the incumbent from history-based pricing exceeds the associated loss to consumers.

1. Introduction

Business practices with prices set on the basis of observed customer purchasing behavior are now widely observed. It has become common in, for example, telecommunication, service industries and energy markets to differentiate the prices directed to old and new customers. Typically new customers are targeted by aggressive price offers (introductory offers or poaching), which are designed to attract new customers or to induce rival firms' customers to switch even when those customers are already locked-in in another customer relationship. This form of competition is one manifestation of history-based pricing. In this study we will explore the antitrust implications of history-based pricing by focusing on the following questions: Can history-based pricing be viewed as an instrument for a dominant firm to induce exclusion of a potential entrant? Does it prevent consumers from enjoying the benefits of competition? Does history-based pricing make dominance persistent? What is precisely the relationship between history-based pricing and uniform pricing by an incumbent firm? Which are the effects of history-based pricing for consumers?

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A number of European antitrust cases have established how history-based price discrimination might facilitate predation in a way which would, according to competition authorities or courts, qualify as an abuse of a dominant market position. The seminal case exemplifying this is the ECS-AKZO case[1] where AKZO targeted selective price cuts to ECS's customers with the intention of excluding ECS from the market. According to the decision of the European Commission "the anticompetitive effect of AKZO's differential pricing involved not so much indirect injury to customers but rather a serious impact on the structure of competition at the level of supply by reason of its exclusionary effect" (Section 83 of the European Commission's Decision on the ECS/AKZO case).[2] Another example is the Irish Sugar case, where the Commission fined Irish Sugar in 1997 for abuse of its dominant position in the national sugar market. The fined corporation applied a scheme of target rebates such that the rebate was more favorable to particular customers of competing sugar packers. This ruling was upheld by the European Court of First Instance in the case Irish Sugar vs. Commission, where the Court supported the Commission's finding that the selective price cut by Irish Sugar to its rival's customers, had it been proven, would have been considered an abuse of a dominant position. For a more extensive and systematic account of European competition law towards price discrimination we refer to Geradin and Petit (2005).

The Swedish Competition Authority vs. TeliaSonera is a national competition case from year 2005 illustrating how selective poaching offers by a dominant firm to a small rival's customers may qualify as an abuse of market dominance. This case focuses on fixed line telecommunications as the relevant market, where TeliaSonera had a dominant position in the Swedish market. In this case TeliaSonera directed selective poaching offers exclusively to customers of Bredbandsbolaget, a small regional rival.[3]

In this study we analyze the effects of history-based price discrimination in an asymmetric industry, where an incumbent, protected by switching costs, faces an entrant who does not have access to information about consumers' purchase histories. As for the effects on market shares we find the persistence of market dominance for an incumbent firm to be invariant across the regimes with history-based pricing and uniform pricing. Nevertheless, consumers would benefit from a policy which bans history-based price discrimination insofar as consumer surplus is higher with uniform pricing than with history-based pricing. According to our analysis, the entry decision of a firm introducing a competing brand is invariant to whether the incumbent firm implements history-based pricing or uniform pricing. This result has strong implications for the implementation of Article 82 in Europe. It implies that the potential abuse of consumers imposed by history-based price discrimination is exploitation, not exclusion. Finally, we establish that history-based price discrimination benefits society in the sense that the profit gain from history-based pricing to the incumbent exceeds the associated loss to consumers.

An important sequence of studies has earlier explored the effects of price discrimination across separated markets on entry and welfare. Armstrong and Vickers (1993) focused on a framework where the incumbent firm operates in an exogenously determined sheltered segment as well as a segment subject to potential competition, and they found that price discrimination across markets tends to discourage entry. Cheung and Wang (1999) extended this approach in certain respects and found that price discrimination across markets may encourage or discourage entry, depending on the price elasticity of the competitive market and that of the captive market. This approach has been further developed by Jorge and Pires (2007). Armstrong (2008) and Motta (2004, Section 7.4) present general perspectives on this literature. Bouckaert et al. (2008) have extended the analysis of the effects of price discrimination across separated markets in a two-period framework. Chen (2008) also analyses history-based pricing in asymmetric duopoly and its implications for consumer surplus. While his focus is on exclusionary practices by the dominant firm in order to induce exit, we focus on market entry in a setting of extreme initial asymmetry.[4]

The studies mentioned above all focus on price discrimination within a framework where the dominant firm operates in an exogenously determined sheltered segment as well as a segment subject to competition. Contrary to these approaches, we explore the consequences of history-based price discrimination within a framework where the loyal segment of a dominant firm is endogenously determined. Contrary to these studies we design a model focusing exclusively on history-based price discrimination within one market. This means, in particular, that the loyal segment of the dominant firm is determined endogenously.

Our study is structured as follows: Section 2 presents a model of history-based price discrimination and entry. It also explores the effects of history-based pricing on market shares. Section 3 analyzes the similar market configuration for the case in which the incumbent is restricted to charge a uniform price to all buyers. Section 4 investigates the implications of history-based pricing on consumer surplus, profits of the incumbent and the entrant, and total welfare. Section 5 concludes.

2. Entry and history-based pricing

Consider a horizontally differentiated industry where an incumbent firm, firm A, is challenged by an entrant, firm B. Assume that the incumbent inherits a monopoly position in a horizontally differentiated Hotelling market with full market

[1] European Commission Decision 85/609 of 14 December 1985, ECS/Akzo, OJ L 374 of 31 December 1985, 1–27.

[2] The ECS/AKZO case actually exemplifies how price discrimination may facilitate predation. Spector (2005) presents a more thorough discussion of this aspect.

[3] Stockholm District Court Case 28 October 2005 Dnr 873/2005. Subsequently the Swedish Competition Authority withdrew the case from the Market Court because the case could not be supported by convincing empirical evidence.

[4] For more comments on the relationship between Chen (2008) and our study see a discussion in the conclusion.