

Price Discrimination with Private and Imperfect Information

Rosa Branca Esteves

NIPE and Departamento de Economia, Universidade do Minho

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Abstract

This paper investigates the competitive and welfare effects of information quality improvements in markets where firms can price discriminate after observing a private and noisy signal about a consumer's brand preference. I show that firms charge more to customers they believe have a brand preference for them, and that this price has an inverted-U shaped relationship with the signal's accuracy. In contrast, the price charged after a disloyal signal has been observed falls as the signal's accuracy rises. While industry profit and welfare fall as price discrimination is based on increasingly more accurate information, the reverse happens to consumer surplus. The model is also extended to a public information setting. For any level of the signal's accuracy, moving from public to private information, will boost industry profit and welfare and reduce consumer surplus.

Keywords: Competitive Price Discrimination; Imperfect Information, Welfare, Bayesian Games.