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Advertising and generic market entry

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Abstract

The effect of purely persuasive advertising on generic market entry and social welfare is analysed. An incumbent has the possibility to invest in advertising which affects the prescribing physician's perceived relative qualities of the brand-name and the generic version of the drug. Advertising creates product differentiation and can induce generic market entry which is deterred without differentiation due to strong Bertrand competition. However, over-investment in advertising can deter generic market entry under certain conditions and reduces welfare as compared to accommodated market entry.

JEL classification: I11; L13

Keywords: Advertising; Pharmaceuticals; Generic entry; Social welfare

1. Introduction

Since patients are uninformed and lack the information about which treatment is most effective, they depend on physicians who diagnose and suggest some treatment. Therefore, physicians directly affect the extent of competition between different providers of a treatment and they can be taken as the main determinant of whether a brand-name or a generic drug version is prescribed. This is in line with the empirical evidence in Hellerstein (1998). Hence, it is not surprising that in the pharmaceutical market, where price competition would be fierce, if the products were not differentiated somehow, the physician is the target of huge advertising expenditures. Advertising expenditures with about 20–30% of sales are often even larger than those for R&D (Hurwitz and Caves (1988)). Jacobzone (2000) shows that within the OECD countries, the research-oriented pharmaceutical firms spent 24% of sales on marketing in 1989. And Scherer (2000) reports

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that in the United States, the ethical pharmaceutical industry spent 18% of sales on marketing in 1997.

Advertising in the ethical pharmaceutical market is in general allowed, if targeted towards experts, i.e. the physicians, on the grounds that it provides necessary information which might dominate the downsides of advertising. This paper, however, emphasises the persuasive aspect of advertising and thus the 'negative' aspect of advertising and shows that, as in the literature on informational advertising[1], advertising per se is no barrier to market entry. The advantage of persuasive advertising, namely product differentiation which induces generic market entry and thus lower post-patent prices, can dominate the negative effect due to brand-loyalty, if an upper limit of advertising is not surpassed. It is analysed under which circumstances generic market entry is most likely and how these conditions can be positively influenced by the health authorities.

There is a rather extensive empirical literature that tries to capture the effect of advertising on generic market entry.[2] Hurwitz and Caves (1988) find that current and past investments in goodwill (advertising) preserve the incumbent's market share, whereas generic price discounts reduce it. Rizzo (1999) finds that brand-name advertising decreases the price-elasticity of demand in the pharmaceutical industry, because it increases brand-loyalty. Based on these effects, both papers conclude that brand-name advertising inhibits generic market entry. The present model incorporates both the goodwill effect of advertising and the decreased price-sensitivity. Similarly, it reaches the conclusion that generic market entry can be deterred by over-investing in advertising. However, since advertising induces vertical product differentiation, some advertising is a necessary prerequisite for generic market entry. As long as the incumbent invests sufficiently little in advertising, this positive differentiation effect dominates the negative effect due to brand-loyalty.

Scott Morton (2000) examines the role of pre-expiration brand-name advertising on the generic market entry decision after patent expiry. She thereby assumes advertising to be an endogenous variable which might be used to deter generic market entry. She finds that advertising is not a barrier to market entry.

Theoretically, advertising in the pharmaceutical market has mostly been modelled with respect to competition between therapeutically equivalent brand-name drugs, i.e. horizontal product differentiation models have been applied.[3] There are some notable exceptions.

Frank and Salkever (1992) analyse the brand-name pricing behaviour after generic market entry in the presence of advertising. In a Stackelberg setup, they derive the conditions under which the model can explain the empirical finding of minimal brand-name price decreases or even increases after generic market entry and the sharp decline in brand-name advertising. Cabrales (2003) studies oligopolistic competition in off-patent pharmaceutical markets, where advertising is used to create perceived differences in the quality of the brand-name and generic drug versions. However, he does not focus on the generic market entry decision, but analyses the effect of regulation on generic market shares and overall quality provision.

Equivalent to Cabrales (2003), the present model uses vertical product differentiation between brand-name and generic drugs. But it focuses on another aspect: it stresses that advertising is a

[1] See Schmalensee (1983), Ishigati (2000), and Fudenberg and Tirole (1984).

[2] See also the following rather old studies: Vernon (1971) finds no statistically significant effect of advertising on market entry. Telser et al. (1975) and Leffler (1980) find both a positive relationship between advertising and generic market entry.

[3] Konrad (2002) investigates the question whether marketing strategies distort the prescription choice and lead to suboptimal matches between patient types and pharmaceutical products. Brekke and Kuhn (2006) analyse the interaction between detailing and direct-to-consumer advertising.