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Buyer power through the differentiation of suppliers☆

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ABSTRACT

This paper argues that rival retailers may choose to differentiate their supplying producers, even at the expense of downgrading the quality of the product offered to consumers, to improve their buyer power. We show that, through the differentiation of suppliers, a retailer may obtain a larger slice of a smaller pie, i.e, smaller bilateral joint profits. Thus, the "only" purpose of differentiation is to gain increasing buyer power. This result may hold (i) when retailers compete in the final market or (ii) when retailers are active in separate markets. The differentiation of suppliers, which results from a buyer power motive, may be harmful for consumer surplus and social welfare.

1. Introduction

In the last half century, the retail sector in western countries has undergone several major changes that have shifted power from manufacturers toward retailers. A rapid wave of consolidation has led to the creation of large retail groups.[1] In addition, retailers have allocated an increasing amount of shelf space to their private labels, resulting in an impressive increase in the market shares of these private labels, which has strengthened retailers vis-à-vis manufacturers.

Finally, manufacturers have been confronted with the rise of hard discounters. The German groups Lidl and Aldi have expanded throughout the EU,[2] and more recently in the U.S., with Aldi's U.S. retail chain Trader Joe's or Aldi stores. In 2009, hard discounters represented more than 20% of grocery sales in Belgium, Austria and Denmark and more than 10% in France, Spain, Portugal and the Netherlands. In the U.S., other grocery discounters, such as Family Dollar and Dollar General, have also expanded quickly. Hard discounters typically offer a small assortment of grocery products, primarily consisting of generic and private label goods,[3] and create a minimalist shopping environment that involves low distribution costs. As a result, hard discounters can offer prices up to 60 % lower than those of leading national brands and 40 % lower than large retailers' private labels (see Cleeren et al. (2010)).

In this paper, we provide a theoretical argument that helps explain why private labels often replace national brands on retailers' shelves and in particular the success of hard discounters in which private labels are the largest part of the assortment. Our paper argues that two retailers may choose to purchase from different suppliers, even if doing so entails offering a product of lower quality to consumers. The retailer may make this decision for the sole purpose of improving its buyer power in negotiations with its supplier, i.e., the retailer obtains a larger slice (increased buyer power) of a smaller pie (due to the sale of lower-quality and/or less-known goods).

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[1] Deloitte, (2004): Global Powers of Retailing. In 2002, nearly 30% of the sales turnover of the world's top retailers was generated by the top ten retailers.

[2] The two groups represented about 42 % of German grocery sales in 2009; see "The Hard Discount Model in Retailing", IESE Business School, University of Navarra, 2010.

[3] In Aldi, private label product assortment exceeds 90 % (see "Private Label Strategy," Harvard Business Review Press, 2007). Trader Joe's carries approximately 2000 products, as opposed to the 30,000 products carried at a typical supermarket. The chain does not carry familiar mass-market brands such as Coca-Cola, Budweiser or Pampers (see "Trader Joe's Recipe for Success," BusinessWeek, 2008.)

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The main argument of this paper is developed in a framework where two symmetric retailers are capacity (shelf) constrained and can offer only one product. Two products differentiated in quality are offered by different producers. We analyse a simple game where retailers first choose their assortment strategy, i.e., they commit to stocking one of the two goods, and then each retailer bargains sequentially with (and only with) its selected producer over a two-part tariff contract. Finally, the retailers sell to consumers. We show that one retailer may prefer to commit to negotiating with the low-quality producer to avoid a rivalry with the other retailer in purchasing from the high-quality producer. We highlight that the retailer finds it profitable to buy from the low-quality producer because it then extracts a larger slice of a "smaller pie" (smaller bilateral joint profits). We thus isolate a motivation for differentiating with the sole purpose of increasing buyer power (increasing the slice) of a smaller pie. Then, we develop two illustrations in standard industrial organization models, one where retailers also compete to sell to consumers, and another where retailers are active in separate markets. We show in the two cases that differentiation arises for a buyer power motive only and point out that this differentiation strategy may be harmful for consumer surplus and welfare.

Our paper is related, first, to the literature on private labels. The literature on this topic is abundant and mainly attempts to explain the emergence of private labels (cf. Bergès et al. (2004) for a survey).[4] One rationale often advanced for retailers to sell a private label is to gain buyer power vis-à-vis the national brand producers (Mills, 1995): the profit from the sale of their private label is used as an outside option in their bargaining with the national brand producer. In this paper, we contribute to explaining why private labels could not only coexist with national brands on retailers' shelves but could actually replace them, a trend that is particularly prevalent at hard discounters. The first insight is that, given the capacity constraint on the shelves, selling a private label instead of a national brand may simply be the most profitable option for a retailer: the retailer has to share the joint surplus with the national brand producer, whereas it can capture the whole surplus from the sale of a private label, which is often sold at marginal cost by a manufacturer dedicated to the retailer. However, we provide here an additional argument. Even if the retailer had *ex ante* the same bargaining power vis-à-vis the national brand manufacturer and the private label manufacturer, a retailer could be better off by selling the private label instead of the national brand because it would enjoy greater buyer power *ex post*.

In addition, this paper follows a recent literature stream pertaining to the factors affecting the size of vertical channel profit and how that profit is shared among channel participants (Iyer and Villas-Boas (2003); Dukes et al.(2006)). Among the determinants of buyer power, the literature often puts forward that larger firms can obtain larger discounts from a negotiation partner (Chipty and Snyder (1999), Inderst and Wey (2007), Inderst and Shaffer (2007), Montez (2007), Misra and Mohanty (2008)). Our paper contributes to this literature by showing that differentiation of suppliers may be a new source of buyer power.

Further, our results contribute to the standard literature on product differentiation which shows the incentive of a duopoly to differentiate its offer in order to relax competition (e.g., Gabzsewicz and Thisse (1979) or Shaked and Sutton (1982)). In our paper, two competing retailers may also have an incentive to offer differentiated goods, not to relax downstream competition, but instead to avoid a rivalry in purchasing from the high-quality good producer.

Finally, our paper relates to a literature on the consequences of buyer power for social welfare (see Inderst and Mazzarotto (2008) for a survey). Most articles have focused on the price effects of buyer power: as retailers exert their buyer power to reduce their costs, these gains are partly passed on to consumers through lower retail prices.[5] Another important issue is that of the "non-price" effects of buyer power, in particular, its impact on innovation or on the variety of products offered by retailers. Our paper responds to these recent research developments by raising the question of the implications of buyer power on retailers' assortment. From this angle, several articles are directly related to our work. For instance, Avenel and Caprice (2006) have shown that the balance of power in the vertical chain affects competing retailers' equilibrium product lines. However, in their model, only the high-quality producer has market power toward retailers, and their result relies on a gap in the production costs of the two qualities of products. Unlike the situation in this paper, without a disadvantage in cost for the high-quality producer, the two retailers would always offer the same product line to consumers. Inderst and Shaffer (2007) identify a new mechanism through which a cross-border merger between retailers can increase buyer power. Before the merger, retailers are in separate markets and buy from two different producers. After the merger, the newly consolidated retailer may commit to a single sourcing strategy to increase its buyer power, which may be detrimental to consumers.

The paper proceeds as follows. Section 2 presents the general framework of the model, in which retailers single source and commit to their assortment strategy in a first stage. Section 3 characterizes an equilibrium in which one of the retailers buys from a low-quality supplier for the sole purpose of increasing its buyer power. Section 4 then derives the implications of our result for consumer surplus and welfare in the case of two illustrations, one with retail competition and linear costs in 4.1, and another where retailers are active in separate markets with convex production costs in 4.2. Section 5 shows that a similar result obtains when retailers imperfectly compete in prices and discusses the robustness of our main result to our bargaining assumptions. Section 6 concludes.

2. The model

Two producers offer vertically differentiated products $K = \{L, H\}$ of respective qualities $k = \{l, h\}$ with $0 < l \leq h$. Each producer offers only one good, and thus the producer of good H (resp. L) is also referred to as the supplier H (resp. L). For simplicity, assume both producers have exactly the same cost function $C(q)$ with $C'(q) \geq 0$.[6] Thus, if H produces a higher quality good, this may be explained for example by a better reputation established in the past (thanks to a sunk cost). One can consider here, for instance, that H is the producer of the first national brand and L the producer of a second national brand or a private label. We assume that the cost function is weakly convex ($C''(q) \geq 0$) and will further discuss this assumption.

Producers cannot sell their product directly to consumers but instead must sell through retailers. We assume that there are two retailers $i = \{1, 2\}$ with limited shelf space: each of the two retailers has a single slot for a product.[7]

Consumer demand for good K at retailer i increases with the quality level k and decreases according to the price, denoted P_i^K. As in the original vertical differentiation model of Mussa and Rosen (1978), each consumer purchases at most one unit of the good and has a marginal willingness to pay for quality θ, and this parameter is distributed according to the distribution function $F(\theta)$, continuously defined on the segment $[\underline{\theta}, \overline{\theta}]$. The corresponding probability density function is denoted

[4] Note that recent literature analyses the consequences for producer's quality investments of the coexistence of private labels and national brands on the shelves, (e.g., Berges and Bouamra-Mechemache (2012), Chambolle et al. (2015) and Inderst et al (2015)).

[5] See Inderst and Shaffer (2008) for a survey.

[6] Assuming instead that the low-quality good has a smaller production cost would not qualitatively change our results. Our goal here is to avoid any "trivial" assumptions that could explain why a retailer would prefer offering the low instead of the high-quality good; a difference in the production cost may be one of these assumptions.

[7] For example, consider the case of a product with a certain facing width: the available space only allows one facing of a product to be visible on the shelf, while additional units of the same product can be stored behind the facing. Marx and Shaffer (2010) show, for instance, that retailers may commit themselves to scarcity of shelf space in order to reinforce the competition between manufacturers.