

## BUYER POWER IN DISTRIBUTION

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One objective of this chapter is to provide a synthesis of the recently emerging literature on buyer power, with a particular application to retailing. Drawing on both the economics and marketing literature, we isolate various sources of buyer power, which are explored with the tools of bargaining theory. In a second step, we analyze several channels through which the exercise of buyer power could create competitive harm, including its effect on suppliers' incentives to invest and innovate and the possibility of a "waterbed" effect on rivals. The final part of the chapter discusses potential policy responses such as restrictions on contractual practices under dependency laws.

### 1. Introduction

A producer selling directly to final consumers is the exception rather than the rule. Goods typically reach final consumers only after involving several levels of distribution. At each level in the distribution channel, competitive forces are at play, which jointly determine the price as well as the quality and variety of products that are ultimately available to final consumers.

Often, formal economic analysis ignores the distribution and retailing activities.<sup>1</sup> Firms are treated either as competing directly for the patronage of final consumers or as selling through a retailing industry that, possibly due to perfect competition, represents just a "transparent window" to the marketplace. As we explain further below, today this picture is clearly not adequate for many markets. Often, the retailing sector is, at least at the appropriate geographic level, highly concentrated, and some retailers have turned into large, international, and increasingly powerful buyers.

In line with the growing importance of this topic for competition policy, buyer power has recently received increasing attention in the economic literature.

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<sup>1</sup> On the other hand, channel relationships seem to have been important in forming antitrust laws, in particular in the US. As noted in Sexton et al. (2002), the enactment of the Sherman Antitrust Act in 1890 was motivated by concerns over the power exercised by big meat packers, while the Robinson-Patman Act of 1936 was directed at competitive problems amongst retail grocers.

In order to capture the reality of many wholesale markets, where buyer power is exerted in individual negotiations and results in discounts that benefit only the powerful buyers, the academic literature has founded its analysis on tools from modern bargaining theory. One objective of this chapter is to review this recent work on buyer power. A second objective is to also provide more generally an economic perspective on a range of issues pertaining to the treatment of buyer power in antitrust policy, many of which still await formal modelling.

We organize our discussion as follows. Section 2 discusses the sources of buyer power. In it we first present the bargaining framework in which the analysis is typically couched. Secondly, we apply this framework more specifically to distribution, analyzing when and how certain of the identified levers of buyer power are more important than others. In Section 3, we deal with the potential consequences for consumer surplus and welfare, both in the short- and long-run, of the exercise of buyer power. Section 4 turns to an analysis of proposed or implemented policy responses. Section 5 concludes.

## 2. Sources of buyer power

This Section presents first the conceptual framework that will be applied throughout this chapter to analyze buyer power, namely that of bilateral negotiations over supply contracts. This is subsequently employed to analyze the different channels through which buyer power can be exercised. Though a buyer's size can be one of the main factors influencing the distribution of bargaining power, we will also argue that measures of buyer power must not to be related to size too mechanically. Furthermore, we will also pay particular consideration to characteristics of retailing such as the role of private labels.

### 2.1. The framework

The term buyer power has been employed in a variety of ways in different contexts. It may also have positive or negative implications depending on the context in which it is used and the practice that may be under consideration.<sup>2</sup> We will refer to buyer power in a very broad way as the bargaining strength that a buyer has with respect to the suppliers with whom it trades.

This is not the only possible way in which to look at buyer power. In fact, the "textbook" view of buyer power (known as "monopsony power") is different. There, it is presumed that up- and downstream firms interact in a "market".<sup>3</sup> In its

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<sup>2</sup> We should note at this point that we completely abstract here from buyer power as a merger *defence*, both in the sense that merging firms could claim efficiency gains arising from lower purchasing prices and in the sense that their own customers could exert countervailing power against any deterioration of their terms of purchase after the merger. These issues are dealt with in detail in: Inderst, R. and Shaffer, G., 2005, The role of buyer power in merger control, chapter prepared for the ABA Antitrust Section Handbook, Issues in Competition Law and Policy (W.D. Collins, ed., in preparation).

<sup>3</sup> An exposition of the "textbook" view on buyer power can be found in Blair and Harrington (1993).

simplest manifestation, buyer power then represents the perfect mirror image of seller power. As sellers may raise the market price by withholding supply, buyers may be able to reduce the (wholesale) market price for an input by withholding demand. The key assumptions for this to be possible are as follows. First, it has to be the case that purchasing a higher quantity pushes up the market price (e.g. because the marginal cost of supplying the input increases) and secondly that there is no scope for a buyer to exert power by obtaining an *individual* discount. As a result, the only way to achieve a lower price, namely by withholding demand, also benefits all other buyers. This lower wholesale price, however, harms welfare because output is reduced relative to the “competitive” level (i.e. that which would arise if all buyers were so small that their purchases had no impact on the market price).

The “textbook” view thus seems to be most appropriate for competitive commodity markets, where the assumption of a uniform trading price may be justified and where buyers and sellers often interact under the fixed trading rules of an exchange. The alternative scenario is one where relatively few up- and downstream firms, for example large retailers and the producers of branded goods, interact bilaterally. In such an environment, there could be substantial variations in the average prices paid by different buyers. Buyer power may then manifest itself precisely through the size of individually negotiated discounts.<sup>4</sup>

This setup of bilateral negotiations is the one that we examine further in the rest of this article. Before proceeding it is, however, important to note that the existence of individual discounts is not necessarily the manifestation of buyer power. A monopoly supplier with the ability to price discriminate could offer its buyers different discounts not because of differences in bargaining strength, but simply because they each have different derived demands (e.g. because they serve (independent) downstream markets of different sizes).

*A simple bargaining setting.* Suppose two parties, A and B, can realize a joint profit of  $z$ . How should we expect that this will be shared? A key factor should be what the two sides could realize outside of their negotiations. For instance, the retailer could delist the supplier’s good and start negotiations with another supplier. Likewise, the supplier could start searching for different distribution channels for its good. We denote the profits from these alternatives by  $v_A$  and  $v_B$ , respectively. Economists refer to  $(v_A, v_B)$  as the “breakdown” or “outside-option” payoffs.<sup>5</sup> The net surplus that can be jointly achieved if

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<sup>4</sup> Though we apply the framework and language of negotiations, most of the derived insights hold more generally, e.g., in settings where buyers run individual auctions. Also, though most models restrict firms to just bargaining over the price of the input, in reality firms may negotiate over other terms of supply, such as delivery times and credit facilities. Intuitively, our major arguments still apply, with powerful buyers obtaining preferential terms of supply in a more general sense. See, however, the later policy discussion on restrictions on contractual practices.

<sup>5</sup> Bargaining theory distinguishes further between “outside options”, which are realized at breakdown, and “inside options” (or the “status quo” payoffs), which the two sides realize during prolonged negotiations. For instance, during protracted negotiations the retailer may run out of stock but could then instead sell more units of an own-label good.

negotiations are successful is then  $z - v_A - v_B$ . While it is possible in principle to further elaborate on how this surplus is shared between the parties, here we remain neutral and assume that each side simply obtains one half.<sup>6</sup> This yields a simple formula: party A just obtains the sum of  $v_A$  plus one half of  $z - v_A - v_B$ , while B just obtains the sum of  $v_B$  plus one half of  $z - v_A - v_B$ .<sup>7</sup>

These simple formulas show how each party's bargaining power increases with its outside option. If A represents the buyer, then any change in behaviour or market structure that would increase, say,  $v_A$  but reduce  $v_B$  will allow the buyer to extract a larger share of the jointly realized profits  $z$ , thereby increasing its buyer power. In the following sections, we will mainly analyse buyer power as it arises from variations of these outside options.

*Some complications.* In reality, retailers negotiate simultaneously with many suppliers, even in a single product category, and suppliers rarely sell through a single retailer. Though contracts are typically still only bilateral, the presence of multiple negotiations between several (competing) up- and downstream firms is significant for how negotiations are conducted. Even in this complex setting, however, the basic insights of the previous section are still relevant.<sup>8</sup>

Competition between retailers introduces yet another element into the bargaining problem. A retailer's sales of a product depend crucially on whether and at what price the same product is sold at competing outlets. The outcome of negotiations between a manufacturer and one retailer thus imposes an externality on other retailers. Total industry profits depend on the extent to which downstream competition can be dampened; a theme that is explored in detail below.<sup>9</sup>

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<sup>6</sup> Economists apply here most frequently the so called Nash Bargaining Solution (NBS). In the current setting, the symmetric NBS would indeed postulate an equal sharing rule of the incremental profits. The NBS was first proposed by Nash as an axiomatic solution (Nash (1950)). Modern bargaining theory has shown that the NBS is also the unique equilibrium of a standard (non-cooperative) bargaining game. An introduction to the fundamental principles of bargaining theory is given, for instance, in Osborne and Rubinstein (1990).

<sup>7</sup> Note that the resulting shares of total profits,  $z$ , can then be simply calculated to be  $s_A = 1/2 + (v_A - v_B)/(2 \cdot z)$  for party A and  $s_B = 1/2 + (v_B - v_A)/(2 \cdot z)$  for party B.

<sup>8</sup> More specifically, for a given supplier, particularly if it operates under tight capacity constraints, the volume that it commits towards other retailers affects the incremental profits from serving an additional retailer. In addition, at any given retail outlet the supplier may be in competition with other suppliers of potentially even close substitutes in the same category. Intuitively, these interactions can still be captured by adequately adjusting the value of the respective parties' outside options, thereby taking into account the respective incremental costs and incremental profits, though these are now derived simultaneously in all negotiations.

<sup>9</sup> If it is possible to monopolize the downstream market despite the presence of competing retailers, then a common solution concept is that of the Shapley value. According to the Shapley value, a party's payoff depends on the incremental profits that this party creates in various "coalitions", i.e., in different supply relationships (though, in equilibrium, only the constellation that maximizes total industry profits will arise). Inderst and Wey (2005) have shown how the Shapley value arises naturally from bilateral contracts, provided that

Some further complications arise as factors other than the outside options may determine bargaining power. More specifically, the simple framework introduced above does not incorporate the role of information, e.g., whether a particular buyer knows more or less about a supplier's cost structure. It does also not extend to (tacit or explicit) coordination among suppliers.<sup>10</sup> Likewise, it does not incorporate the use of particular strategies that more sophisticated buyers could use, such as to strategically choose between multiple or single sourcing. Such factors could well be relevant in particular cases and would then clearly deserve a separate investigation.

## 2.2. *Buyer power in retailing*

In very broad terms, over the last century the retailing industry could be seen as having undergone three fundamental changes. The first was the rise of chain grocery stores early in the 20<sup>th</sup> century, which realized large efficiency gains from integrating backwards into wholesaling and to some extent manufacturing.<sup>11</sup> Eliminating often several "middlemen" at different levels of the supply chain, the chain stores were able to substantially undercut the price charged by smaller, independent grocers. Around the middle of the 20<sup>th</sup> century, the rise of the supermarket format represented the second major revolution in the retailing industry. Situated often in the suburbs and offering an unprecedented variety of goods, the rise of supermarkets went hand-in-hand with the establishment of national brands and the increase in car ownership.

More recently, a third major shift saw ever larger retailers gaining a stronger position in negotiating with once very powerful branded goods manufacturers. This went together with significant changes in technology, particularly in the area

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the downstream market can be monopolized. The proposed modelling framework, where contracts condition on different market constellations (thereby, making it unnecessary to renegotiate), is, however, also flexible enough to be applied to downstream competition. (See DeFontenay and Gans (2005) for such an extension, while DeFontenay and Gans (2004) propose a modelling framework based on renegotiations in case of the breakdown of one negotiation.)

<sup>10</sup> With a large order up for grabs, suppliers may be more tempted to undercut the collusive regime and offer the large buyer a discount. Alternatively, the larger buyer may be offered a lower price in the collusive equilibrium to stop such a deviation occurring in the first place. (For a formalization, see Snyder (1996, 1999).) These considerations however are dependent on the specific nature of the collusive agreement. If suppliers collude without being able to perfectly monitor all transactions a small buyer may be able to induce suppliers to cheat using the fact that the defection will likely go unnoticed by other members. (Scherer and Ross (1990) quote the case of the US Cement industry as an example of such a scheme.)

<sup>11</sup> The rise of the Atlantic and Pacific Tea Company, A&P, is often seen as being synonymous with this development. Before this time, one could argue that the power lay neither with retailers nor producers but in the hand of middlemen, who shopped for the cheapest generic products and sold on to small, independent retailers.

of distribution and store management.<sup>12</sup> Large retailers have increasingly taken control of the distribution and are now managing thousands of different goods in ever larger outlets. On the demand side, households have started using ever larger hypermarkets for extended one-stop shopping trips, instead of turning to different shops for different product categories.

In this Section, we use the simple framework described above to look at how some of these developments may have conferred greater buyer power upon retailers and how, more generally, different features of retailers, suppliers, and their particular industry may account for different degrees of buyer power.

*Buyer power and retailers' size.* We should first note one simple insight on the role of a buyer's size *per se*. Consider a firm A negotiating with two parties,  $B_1$  and  $B_2$ , over how to share the respective profits  $z_1$  and  $z_2$ . Suppose also these negotiations were entirely unrelated, for example because they concerned completely different product categories. Compare this context with an alternative one where A negotiated with a single party B over the profits  $z_1+z_2$ , instead of with  $B_1$  and  $B_2$  individually. In the latter case, *ceteris paribus*, A would still obtain the same share and hence the size of firm B *per se* does not confer buyer power.<sup>13</sup> As we analyze next, however, the *ceteris paribus* assumption may not always hold in practice as size may alter the outside options of all parties.

In some sectors, such as groceries, retailers have grown in size, both organically and through domestic and international mergers and acquisitions.<sup>14</sup> Size may increase a retailer's buyer power by raising the value of its own outside option in a variety of ways. First, if a buyer is large enough it can credibly threaten to incur even substantial costs and integrate backwards, thereby rendering the supplier redundant.<sup>15</sup> Less drastically than backward integration, size may also matter for how credibly a buyer may threaten to switch to another supplier, in case switching involved non-negligible one-off costs. Similarly, the presence of large buyers may increase the threat of entry. A single, large buyer may by itself find it profitable to "sponsor" entry, e.g., by sharing the entrant's set-up costs or by pre-committing a large fraction of its purchases to the entrant. The presence of large buyers may further allow an entrant to become economically viable after winning only a few contracts.

Size may also make a buyer more knowledgeable about alternative sources of supply, as it makes it profitable to have a more professional purchasing process for even relatively narrow product categories. Also, larger buyers may employ more competitive procurement methods such as auctions.<sup>16</sup> For all these reasons

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<sup>12</sup> For a discussion of structural changes in the US see Messinger and Narasimhan (1995).

<sup>13</sup> See, however, Chae and Heidhues (2004), where due to risk aversion the outcomes differ in the two scenarios. (Also in DeGraba (2003) pure size plays a role due to risk aversion.)

<sup>14</sup> For a recent account of these developments, with particular focus on Europe and the UK, see Dobson (2002, 2005).

<sup>15</sup> This argument is formalized in Katz (1987) and Sheffman and Spiller (1992).

<sup>16</sup> The importance of "buyer sophistication", which may, but need not, go along with size, is brought out in more detail in Nordemann (1995) and Steptoe (1993).

size may confer buyer power by increasing the outside option available to a retailer. Notwithstanding these observations, for some very large buyers size could, in principle, sometimes also be of a disadvantage. This is the case if smaller buyers can free-ride on the large buyer. For instance, a supplier may ask the large buyer to contribute up-front to new product development, though if this becomes sizable then the large buyer may prefer to develop a private label good.<sup>17</sup>

In retailing, a key determinant of size is also the number of goods that an outlet stocks, though the fact that an individual supplier may only account for a tiny fraction of a retailer's share should by itself not be a source of buyer power. If a retailer delists a strong brand shoppers may either switch stores or purchase this particular good elsewhere. Whether the retailer stocks only a few or a plethora of different products should then only be important to the extent to which it influences total store traffic, consumers' inclination to switch stores rather than products and the retailer's overall loss in margins if he loses some customers.<sup>18</sup> An interesting and, to our knowledge, hitherto unexplored issue is to what extent in one-stop shopping markets buyer power can be created by consumers' limited awareness of the availability and prices of all but possibly a few items.<sup>19</sup>

Empirical research confirms the role of size as a determinant of discounts, albeit with some qualifications. Several studies, in particular among the earlier literature on buyer power, have found a negative relationship between buyer concentration and suppliers' profit margins.<sup>20</sup> More recently, event based studies in the financial economics literature show that buyer mergers have on average a negative impact on suppliers' profits.<sup>21</sup> Interesting evidence also comes from the

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<sup>17</sup> This has been formalized in Raskovich (2003). A large strand of the technical literature focuses also on the role of increasing or decreasing marginal costs of production. The prevailing view is here that increasing marginal costs benefit large buyers as, to put it briefly, smaller buyers' volume comes on top of that procured by larger buyers and is thus produced "at the margin", where incremental costs are higher. See Chipty and Snyder (1999). By introducing uncertainty and some randomness in how buyers choose suppliers, Smith and Thanassoulis (2006) have, however, shown that large-buyer discounts can still arise if suppliers have decreasing marginal costs. Inderst (2006) shows that if the whole industry exhibits increasing marginal costs (or tight capacity), then this may hurt particularly large buyers, for whom it becomes harder to find an alternative if they have to deliver on their threat to take away business from one supplier, though this can be counteracted by multiple sourcing.

<sup>18</sup> Armstrong (2005) re-phrases this in the language of the two-sided market literature.

<sup>19</sup> More generally, the impact of one-stop shopping has been widely explored in the marketing literature (e.g., Messinger and Narasimhan (1997)). Seminal references in economics are Bliss (1988) and Lal and Matutes (1989).

<sup>20</sup> Lustgarten (1975) and Schumacher (1991) are representative studies.

<sup>21</sup> By using data on input prices as well as general producer price indices for the respective industries, Bhattacharyya and Nain (2006) also draw inferences on the actual selling price. Fee and Thomas (2004) show that buying power effects are more pronounced when the downstream industry was already relatively concentrated. Interestingly, however, and similar to Sharur (2005), suppliers' share prices did not

findings of the UK's repeated inquiries into the grocery market, which depicted a widening differential in purchasing conditions in the course of only a few years, which went along with an increase in concentration.<sup>22</sup>

*Retailers' gatekeeping function and suppliers' dependency.* Size may not only increase the value of a retailer's alternatives but also reduce the value of the suppliers' alternatives. In principle, if all contracts are equally difficult to replace, when a supplier loses a large contract, and thus has to search for alternative distribution channels for a large volume, this may severely reduce the price and thus the profit that the seller can still realize.<sup>23</sup> However, different contracts may be more or less difficult to replace. In particular this may be due to the degree with which a retailer acts as a "gatekeeper" in a given local market. If a retailer faces little or no competition in a local market, a supplier has no alternative channels to serve those consumers. Therefore, in principle the sales made through a smaller retailer that acts as a monopolist in a local market may be more difficult to replace than the ones made through a larger one in a highly competitive market.<sup>24</sup>

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exhibit negative cumulative abnormal returns around the announcement date, which presents a puzzle.

<sup>22</sup> In 2000, when reviewing the prices paid for the top five branded lines of twenty-six large suppliers, it was found that the five largest multiples bought goods more cheaply than any other party. In addition, it was found that the largest multiple, Tesco, generally secured the lowest prices of all (Competition Commission (2000).) These findings were reinforced in an assessment of a proposed merger in 2003 (Competition Commission (2003)).

<sup>23</sup> Putting it more formally, losing the business of a large buyer requires a supplier to move farther down the remaining buyers' declining marginal surplus functions. This is formalized in Inderst and Wey (2004). The various inquiries conducted by the UK's Competition Commission revealed that even nationally active brand suppliers are often highly dependent on a few retail chains. For instance, in the UK it was found that on average three quarters of sales of even large suppliers went through only three retailers (Competition Commission (2000)). An argument along these lines was also used in the investigation of Aetna's acquisition of Prudential's health insurance business (United States, et al. v. Aetna, Inc, et al., No. 3-99CV1398-H (N.D. Tex.) (complaint filed June 21, 1999)). Here, it was argued that a physician's costs of replacing patients unexpectedly should increase by more-than-proportionally as the number of patients that must be replaced rises. (See Schwartz (1999) for a further discussion.)

<sup>24</sup> The role of gatekeepers is formalized in Mazzarotto (2003). The argument is related to that in Dobson and Waterson (1997) and von Ungern-Sternberg (1996). Theory has also provided a different twist to the gatekeeper argument. If the supplier can still access the market through a different retailer, it can credibly refuse to sell to any given retailer with the argument that this could compromise its higher margins at other, competing outlets. If a large retailer has, however, monopolized a large fraction of the market, this argument no longer holds true. This was formalized in Horn and Wolinsky (1988). (Recently, Milliou and Petrakis (2005) have, however, shown that this depends crucially on the form of feasible contracts.) Empirically, the level of concentration depends crucially on how the relevant market is defined. The role of gatekeeping in determining buyer power was important in antitrust cases as far back as Standard Oil (Standard Oil

The previous considerations are more relevant still if the supplier is “financially fragile”. If the supplier already has high financial commitments and cannot expect to obtain further credit facilities, then losing a substantial fraction of its business at short notice may bring the supplier into financial distress. The “threshold” value of lost profits that triggers financial distress should depend crucially on the supplier’s current financial condition and the potential to flexibly scale down its business or to quickly locate alternative channels.<sup>25</sup> Again it is important in this context to consider how easy it would be for a supplier to replace a given customer rather than to simply look at the fraction of sales that a retailer may account for.

In fact, while percentage measures are sometimes informative, when applied mechanically they may become misleading. This danger could arise, in particular, when one tries to apply a uniform definition of buyer power independent of the particular context. For instance, according to a well-known definition proposed in OECD (1998):

[A] retailer is defined to have buyer power if, in relation to at least one supplier, it can credibly threaten to impose a long term opportunity cost (i.e., harmful or withheld benefit) which, were the threat carried out, would be significantly disproportionate to any resulting long term opportunity cost to itself. By disproportionate, we intend a difference in relative rather than absolute opportunity cost, e.g. Retailer A has buyer power over Supplier B if a decision to delist B’s product could cause A’s profit to decline by 0.1 per cent and B’s to decline by 10 percent.

If applied mechanically, by this formula all but the largest international brand manufacturers would end up with almost no bargaining power vis-à-vis retail chains as the latter stock often more than ten thousand different products. By focusing on relative instead of absolute losses, this fails to adequately differentiate between strong and weak brands, where only the former may tempt a consumer to switch stores or to buy the product elsewhere if it is delisted at a particular outlet.<sup>26</sup>

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Co. v. United States, 221 U.S. 1 (1911)) and still relevant more recently in the Finnish case of Kesko Tuko (European Commission, Case no IV/M.784).

<sup>25</sup> The notion of “financial fragility” is key in establishing this type of economic dependency. As discussed in Section 2, it should not be expected that a buyer yields more power simply as it negotiates over two times the volume and thus two times the potential profits. Though the relation to financial fragility has proved important in recent European merger cases, we are not aware of any formalization, let alone an empirical test, of this theory. (In Carrefour/Promodes (Case no IV/M.1684), the European Commission asserted that a supplier whose business with the two merging chains accounted for more than 22% of revenues was to be considered as “economically dependent” upon them, as survey evidence indicated that this was the most suppliers could afford to lose without a serious danger of them being driven bankrupt.)

<sup>26</sup> For a further critical discussion of the OECD’s definition see also Doyle and Inderst (2007b).

Empirically, the role of “gatekeeping” rather than size alone is underscored by two recent studies on the US health care industry.<sup>27</sup> There, it was found that discounts are given, in particular, to buyers that act as “gatekeepers” to a subset of patients, i.e., buyers that can more easily channel patients to other pharmaceuticals or services. In contrast, pure size played, if at all, only a minor role. Finally, the dependency argument received some support from the previously mentioned studies that analyze the impact of buyer mergers on suppliers’ profits. Suppliers that were particularly reliant on the merging firms for sales revenues were found to be affected worst (cf. footnote 23).

*Private labels.* Discount brands were introduced in US supermarkets in the late 1970s, typically as cheaper versions of branded goods. Over the decades, many retailers have, however, succeeded in repositioning their own brands, building both on the ability of second-tier suppliers to replicate the quality of successful brands and the increased willingness of some top-tier brand manufacturers to also supply private-label goods. Some chains have managed to develop a successful brand image, which allows them to introduce new products on the back of their own reputation.<sup>28</sup>

The presence of private labels can substantially enhance a buyer’s bargaining position. Moreover, by stocking private labels next to manufacturers’ goods in a given category, a retailer not only makes shelf space scarcer but also enters into direct competition with its suppliers. In case the branded good was (temporarily) not stocked, some of the lost sales would be recaptured through higher sales of the private label good: the retailer’s outside option would increase.

Also, in particular if private labels are purchased from second- or third-tier brand manufactures, large retailers may obtain in-depth knowledge of the production side. In contrast, producers of first-tier brands may be more reluctant to share sensitive information with a particular retailer. Information regarding the structure of costs in the particular industry may, in turn, prove an important asset in bargaining with first-tier brand manufacturers.

Although the rise of private labels may have reduced the viability of second- or third-tier brands and thus the bargaining position of their producers, it is doubtful whether the same would apply to producers of first-tier brands.<sup>29</sup> Producing for private label goods without cannibalizing their brand image may have allowed them to use excess production capacity and to spread costs for new developments over a larger volume. In other words, though potentially enhancing

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<sup>27</sup> See Ellison and Snyder (2002) and Sorensen (2003).

<sup>28</sup> Berges-Sennou et al. (2004) and Steiner (2004) provide recent surveys on both the economic literature and industry trends. Dobson (2005, Table 4) summarizes evidence of the high penetration of own-label grocery products in the UK, which when averaged over the leading multiples far exceeds 50% for many categories such as bakery or dairy products.

<sup>29</sup> While we focus here mainly on how private labels have shifted bargaining power, they also shift important functions away from the supplier and to the retailer. These functions include marketing as well as the certification of quality, for which now the store image is essential (see also Marvel and McCafferty (1984) for a theoretical consideration).

retailers' bargaining position, the joint (channel) profits may have equally gone up, and therefore such manufactures may still have earned more in total profits.<sup>30</sup>

Empirically, there is evidence that private labels bestow indeed often substantial bargaining power on retailers. Moreover, some evidence suggests that in recognition of this retailers seem to sometimes develop and position them also with an eye on improving their bargaining position vis-à-vis brand manufacturers.<sup>31</sup>

### 3. Consequences of buyer power

Having established the different sources of buyer power, we turn next to the possible consequences of its exercise. Most naturally, the exercise of buyer power should lead to individually negotiated discounts. We further discuss whether the exercise of buyer power may make foreclosure, both on the upstream and on the downstream level, more likely and how it may interact with dynamic efficiency by affecting incentives to invest and innovate.

#### 3.1. Discounts to Powerful Buyers

For a thorough analysis of how individually negotiated discounts affect consumers, it must first be established in which way these discounts are given and whether they potentially go hand-in-hand with higher wholesale prices for other retailers. Furthermore, we discuss whether differential purchasing conditions for more or less powerful buyers may distort competition and reduce efficiency in the long run.

*How are discounts obtained and possibly passed through?* If a retailer can obtain better terms of supply, then this should at least in the long run affect its competitive position on the downstream market. In the short run, whether the retailer will pass on some of the obtained discounts into lower prices depends, however, crucially on a number of factors, including the form of contracting between the retailer and its suppliers, the level of competition in the retail market, and the shape of the final demand curve. We explore here the role of the contractual form.

For illustration purposes consider the following chain of production: a monopolistic supplier producing at constant marginal costs  $c$  sells to a retailer at

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<sup>30</sup> In a related vein, Dukes et al. (2006) argue that increased retailer efficiency can enhance the profitability of a supplier. (In their model of multilateral negotiations, the incumbent supplier preserves upstream market power due to its differentiation.)

<sup>31</sup> Several studies in the marketing literature, e.g., Kadiyali et al. (2000) and Sudhir (2001), test for the role of private labels in determining revenue sharing between manufacturers and retailers. Morton and Zettelmeyer (2000) and Sayman et al. (2002) find that in the presence of strong national brands, private labels are positioned closer, possibly in an attempt to shore up bargaining power (as predicted in Mills (1995)). Other studies document, amongst other things, the high profitability of private labels. (See, for instance, Steiner (2004) for an overview.)

a constant wholesale price  $w$ . Suppose that the supplier has all the bargaining power and that the retailer has no alternative source of supply. In this case, the supplier will be able to freely choose  $w$  so as to maximize its own profits  $(w-c)x(w)$ , where  $x(w)$  denotes the retailer's (derived) demand. The retailer, in turn, will choose the final price  $p$  so as to maximize its own profits, which if we ignore its own costs are equal to  $(p-w)q(p)$ , where  $q(p)$  denotes the inverse final demand. Along the distribution channel, two margins are earned on the product: a margin of  $w-c$  by the supplier and a margin of  $p-w$  by the retailer. The resulting retail price  $p$  will strictly exceed the price that would be chosen by a vertically integrated firm, that is the price that maximizes total industry profits  $(p-c)q(p)$ . In this example, the supplier and the retailer fail to perfectly coordinate the distribution channel, leading to the known problem of "double marginalization".

In such a setting buyer power would lead to a lower wholesale price  $w$  and therefore also to a lower retail price  $p$ .<sup>32</sup> However, in this example the distribution channel could easily be coordinated to eliminate the double marginalization problem with relatively simple contracts. One way would be to negotiate over "quantity-forcing" contracts that prescribe the purchase of a fixed volume. Alternatively, a "two-part tariff" could be used stipulating a lump-sum payment  $T$  together with a constant wholesale price  $w$ . In the latter case, setting  $w=c$  would ensure that joint profits are maximized, while  $T$  can adjust to split joint profits according to the relative bargaining power. With such contracts in place the exercise of buyer power would, at least in the short run, have no impact on the marginal wholesale price and thus also no impact on the retail price.<sup>33</sup>

Outside the area of franchising, there seems to exist only limited research on the nature of contracts between retailers and their suppliers (possibly, with the exception of the impact of retail price maintenance clauses). Take the case of grocery retailing. Here, some anecdotal evidence seems to confirm both the use of very complex contracts, which should provide ample scope to avoid problems of double marginalization, and cases of seemingly extreme double marginalization.<sup>34</sup> Furthermore, recent theoretical work has shown that there may

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<sup>32</sup> Put differently, buyers' "countervailing" power acts here in consumers' interest, as envisaged by Galbraith (1952).

<sup>33</sup> The question of whether, in our example, also a reduction in  $T$  will be passed on to consumers in the long run is analogous to that of whether, more generally, fixed-costs savings are passed on.

<sup>34</sup> For instance, Smith and Thanassoulis (2006) report that contracts for the supply of milk in the UK, where both the retail sector and that of milk producers is heavily concentrated, specify a simple per-gallon price. Moreover, evidence that retailers operate on a fixed-percentage margin for a given product category should also suggest a high pass through (see, for instance, for the US bread industry Werden (2000)). On the other hand, more systematic empirical studies by Bonnet et al. (2004) for bottled water in France and by Villas-Boas (2004) for yoghurt in the US provide support for the use of non-linear contracts. Also Villas-Boas and Zhao (2004) provide some, albeit limited, evidence for channel coordination as some estimated wholesale prices were below the (calculated) optimal uniform prices. In the UK there is evidence of the use of very informal and frequently negotiated contracts for fast moving perishable goods, and of

be a trade-off between avoiding double marginalization on the one hand and reducing downstream competition as well as reducing supplier moral hazard on the other hand.<sup>35</sup> Furthermore, the direct study of pass-through rates in retailing is complicated by the fact that retailers optimally manage the whole respective product category.<sup>36</sup>

Finally, in markets where downstream demand is perfectly elastic, e.g., as the price for the final good is determined in the world market, no pass-through to consumers would occur. In these cases, given that consumer surplus is unaffected by the exercise of buyer power, and even more so if no deadweight loss can be expected in the upstream market, buyer power would hardly seem an issue worth worrying about for an antitrust authority. In this case, the exercise of buyer power results (at least in the short run) purely in a transfer of wealth between buyers and sellers.

*Virtuous and vicious cycles (“The waterbed effect”).* If a powerful retailer obtains a discount that is, at least partially, passed through into lower retail prices, this should benefit its own clientele.<sup>37</sup> Furthermore, this may give rise to a “virtuous” cycle. Given that lower retail prices lead to a further growth in sales, the retailer, having grown in size may obtain further discounts. This process, by inducing more competition among retailers, could also lower retail prices at rivals’ outlets.<sup>38</sup>

This argument makes, however, two presumptions. The first presumption is that competing retailers will not be squeezed too much and exit the market, which could result in higher concentration and prices in the long run. The second presumption is that even if all other buyers stay in the market, the discount that is

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more complex and long-term agreements for branded goods (see Competition Commission (2000), Chapter 11). Overall, both empirical research and antitrust practice suggests that the specific circumstances of retailer-manufacturer contracting must receive more attention (see also Froeb et al. (2004)).

<sup>35</sup> See Iyer and Villas-Boas (2003) on suppliers’ opportunism and Milliou, Petrakis, and Vettas (2004) on the role of downstream competition.

<sup>36</sup> That is, they may simultaneously adjust the prices of all goods in the same category. In a recent study, Besanko et al. (2005) found that the pass-through for trade promotions varies considerably across product categories, from as low as 0.22 to as high as 5.58. (A figure larger than one implies that the retailer cuts the shelf price by more than the reduction in the wholesale price.)

<sup>37</sup> This assumes that the exercise of buyer power leaves unchanged the variety of goods. Inderst and Shaffer (2004) show, however, how the use of delisting as a strategy to increase buyer power reduces variety and may thus also harm some of the retailer’s own customers.

<sup>38</sup> Formally, this holds if prices are strategic complements, which is indeed the case in most models of retailing.

given to the more powerful buyer will not have a “waterbed effect”<sup>39</sup> on the purchasing prices of other, less powerful retailers.<sup>40</sup>

The most basic argument that is sometimes used to support the existence of such a “waterbed effect” is that in order to remain in business, suppliers are simply “forced” to recoup elsewhere the margins they lost in their transactions with more powerful retailers.<sup>41</sup> This begs the question, however, of why suppliers would now be able to charge significantly higher prices without rivals undercutting them in the market. Put differently, the argument leaves unanswered the question of why suppliers could not have set higher prices to these retailers before.

Recent economic research has, however, provided some theoretical foundations for a possible “waterbed effect”. If the rise of a powerful buyer erodes suppliers’ profits, then in the long run some suppliers may be forced to exit or merge with other suppliers in order to survive. This may put upward pressure on the wholesale prices faced by less powerful retailers.<sup>42</sup> But even if the upstream market structure remains unchanged, smaller and less powerful buyers’ bargaining position may deteriorate in the face of more competitive pricing by their larger, more powerful rivals. This may be the case if their weaker competitive position and their smaller volume makes them less attractive for other suppliers or, likewise, makes it less credible and profitable for them to switch suppliers. As the value of their outside option deteriorates, their current suppliers may indeed be able to raise prices.<sup>43</sup> However, it is important to note that even with a waterbed effect final consumers may not suffer. If the effect of

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<sup>39</sup> This term is used, for instance, in Foer (2006) when discussing the potential impact of Wal-Mart.

<sup>40</sup> This possibility is explicitly recognized in the European Commission’s Guidelines on horizontal agreements, here in the form of buyer groups (European Commission (2001, par. 126 and 135)).

<sup>41</sup> For very small buyers, who have to buy at fixed list prices that offer volume discounts, in the (very) short run such a waterbed effect would also possibly arise somewhat mechanically if the more powerful retailer eats into their market share. As shown in Chen (2003), however, if a supplier chooses the list prices to small buyers strategically, then he may, in principle, even reduce list prices so as to increase its negotiation power vis-a-vis more powerful buyers.

<sup>42</sup> A related argument suggests that there may be a “tipping point” for the economic viability of some of the supporting infrastructure that smaller retailers jointly rely on, such as buyer groups or independent wholesalers. If market shares become sufficiently low, the generated business may be too small to support this infrastructure, which would further deteriorate the purchasing conditions of small retailers. This argument is suggested in OFT (2006), where it is applied to the entry of large multiples into the convenience store market.

<sup>43</sup> See Majumdar (2005) and Inderst and Valletti (2007) for formal arguments. The latter paper also shows that a waterbed effect is likely to be stronger when the affected retailer is already particularly weak. In contrast, in a bargaining setting it can also be shown that a very strong buyer can demand a “me-too” discount if he learns that a similar discount was given to a rival (an “anti-waterbed” effect). (See also Dobson and Inderst (2007) for a more policy oriented discussion of the “waterbed” effect.)

the powerful buyer's lower costs is sufficiently strong, rival buyers that compete with it downstream may still be forced to lower their prices.

*Possible distortions in the retail market.* If the exercise of buyer power creates asymmetries between buyers that are not justified by differences in own costs, the resulting shift of market share away from disfavoured retailers may lead to an inefficient allocation. In a simple spatial context, some consumers will end up undertaking longer shopping trips than would be necessary in order to buy a given basket of goods. On the other hand, if buyers are large and powerful as they operate more efficiently or provide more attractive services to consumers, then, at least at the margin, the additional shift in market share that would arise from a discount compared to what is charged to smaller buyers could increase rather than decrease allocative efficiency.<sup>44</sup>

Furthermore, if retailers who benefit from more favourable purchasing conditions enter new markets, it is sometimes feared that incumbent retailers may react in ways that will ultimately hurt consumers.<sup>45</sup> In particular, it is feared that their lower market share will force them to reduce their product range or even shut down.<sup>46</sup> While fierce competition could indeed force some less successful retailers to exit or to take some of the affected products off their shelves, which could hurt consumers living in close proximity to the respective outlets, this leaves, however, open the question of how total consumer surplus might be affected. Also, the increased market discipline could force rivals to become more efficient themselves, or to sell their outlets to more efficient firms. In fact, though it is sometimes argued that large discounts can shield powerful buyers from effective competition, these discounts should themselves provide incentives to become more efficient and grow.<sup>47</sup>

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<sup>44</sup> Formally, this holds as in many models of asymmetric competition the least efficient firms tend to have too large market shares. For instance, if in the standard Hotelling model with linear "shoe-leather costs" retailers only differ in their marginal costs, equilibrium prices differ only by one third of the respective cost differential, implying that the marginal consumer is too close to the less efficient firm.

<sup>45</sup> Aggressive loss-leader pricing by multiples, in particular, is feared to drive out smaller retailers. As a number of theoretical and empirical studies have shown, however, forbidding loss-leader pricing, in particular in one-stop shopping markets where consumers purchase a whole basket of goods at each shopping trip, may seriously dampen competition and lead to a reduction of both welfare and consumer surplus. (See, for instance, OECD (2006) for an overview.)

<sup>46</sup> In an interesting recent study, Dukes et al. (2005) find that the impact on smaller retailers can be very different. In particular, smaller retailers can exploit higher store traffic that is created by the proximity of large retailers and sell a larger volume of higher-value items, thereby avoiding head-on competition.

<sup>47</sup> This is formalized in Inderst and Valletti (2006), who show how the prohibition of discriminatory pricing may stifle downstream firms' incentives to become more efficient. If, as in many standard models, firms have insufficient incentives to reduce marginal costs as they fail to take into account consumer surplus, an increase in incentives should lead also to higher welfare.

### 3.2. *Buyer power and foreclosure*

Agreements between retailers and their suppliers have recently received considerable attention both in Europe and in the US.<sup>48</sup> One of the main concerns in this area has been the possibility that such agreements may result in retailer foreclosure.<sup>49</sup> One of the key insights of the large literature on foreclosure is that the party that wants to exclude a rival must essentially “bribe” firms on the other side of the market into such an arrangement by sharing some of the higher profits generated by the exclusion. The question is then whether such arrangements are more likely if some or all of the incumbent retailers are powerful.<sup>50</sup>

We take first the case of excluding rival retailers. An important observation is that the arrival of a competing retailer may also end up reducing total industry profits even if there is little interbrand competition. This holds as any given supplier may be unable to perfectly eliminate intrabrand competition as he may be tempted to grant individual retailers selective (and secret) discounts at the costs of their rivals.<sup>51</sup> This may also make a manufacturer more hesitant towards starting to supply to a new retailer (or retail format).<sup>52</sup> If suppliers have still to be bribed or coerced into excluding a particular retailer, then powerful incumbents may be better placed to do so. This may be the case if their larger share of the total channel profits essentially provides them with more “currency” to bribe a supplier into excluding a rival retailer.<sup>53</sup> Moreover, though we are not aware of a formalization of this argument, a large and powerful buyer may be in a better

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<sup>48</sup> See FTC (2001) and Competition Commission (2000).

<sup>49</sup> While there is, as will be evident shortly, only very limited research on the impact of buyer power on foreclosure, research on other vertical restraints, in particular those with the objective or effect of dampening downstream competition, is virtually absent. For instance, while Shaffer (1991) shows how slotting allowances can be used to dampen interbrand competition, the impact of buyer power on this practice is not clear.

<sup>50</sup> While we restrict ourselves to the case of full exclusion, the arguments apply typically also to practices that, without achieving full exclusion, put rival retailers at a competitive disadvantage with the intent of restraining downstream competition.

<sup>51</sup> See Hart and Tirole (1990).

<sup>52</sup> On the other hand, if the supplier can overcome this commitment problem, then a wider distribution may also enhance his bargaining power as any given retailer becomes more substitutable. See Chemla (2003).

<sup>53</sup> This has been formalized in Marx and Shaffer (2005a). Though somewhat more intricate, their argument rests on the following insight. If buyers are powerful and can thus extract much of the jointly realized profits, in any non-exclusive arrangement the supplier would only earn low profits. This, however, makes it possible for any individual retailer to offer the supplier a deal that induces exclusivity and increases total channel profits, while sacrificing the other retailer’s profits. Instead, if the supplier can extract most of the profits from all channels, then it is more likely to supply additional retailers if this increases total profits. In Marx and Shaffer (2005a), retailers have symmetric power, while the structure of the bargaining game makes it impossible for the potentially excluded retailer to bribe the supplier back into supplying him. Also, an important feature of the model is that exclusivity arises even though contracts that condition explicitly on exclusivity are not permitted. (Rey et al. (2005) show that, once we allow for such contracts, exclusive contracts become indeed *less* likely.)

position to threaten suppliers to withhold future business in case they do not comply with a tacit agreement not to sell all or certain goods to new entrants. In sum, large and more powerful retailers may have both bigger “sticks” and bigger “carrots” to achieve the full or partial exclusion of a rival.

Turning to the foreclosure of competing suppliers, the picture is much less clear. Again the key starting point is that any such agreement must compensate retailers for the business they lose by not stocking the excluded supplier’s good. Even if total industry profits would increase after the entry of a new supplier, the incumbent may be able to play a strategy of “divide and conquer”, by which it only compensates a subset of retailers, with whom it explicitly engages in exclusive arrangements, relying on the fact that the residual market share may then be too small to encourage entry of a competing supplier. Likewise, the supplier may be able to exploit co-ordination problems among retailers, who would jointly benefit if another supplier was not excluded.<sup>54</sup> Coordination failure, in particular, may play less to an incumbent supplier’s advantage if there are fewer and larger retailers. On the other hand, fewer buyers have to be brought on board to make exclusion of other buyers profitable if already one or two of them account for a large volume. Unfortunately, up to now there is no research that would provide us with more systematic insights.<sup>55</sup> What is more, some research also indicates that far from having to be bribed into excluding a particular supplier, retailers may actually benefit from committing to single sourcing (in a given product category). While reducing competition “on the shelf” this can sufficiently enhance competition “for the shelf” so as to make it a worthwhile strategy for the buyer.<sup>56</sup>

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<sup>54</sup> See Rasmusen et al. (1991) and Segal and Whinston (2000).

<sup>55</sup> In a variation of the last theme, Doyle and Inderst (2007b) show that a large chain may want to team up with a supplier to develop a private label as this negatively affects the quality of its rivals’ products given that their (independent) supplier then has lower incentives to invest. Another twist on this is formalized in Berges-Sennou and Chambolle (2006). In an attempt to preserve future competition among suppliers a powerful buyer may also seek to prevent predatory conduct of a dominant supplier. In the case where the incumbent serves retailers who operate competing outlets, exclusion may be more likely if the presence of fewer and larger buyers also reduces downstream competition. This follows from the insight of Fumagalli and Motta (2006) that fierce downstream competition may make exclusion less likely as a deviating retailer, who purchases potentially cheaper or superior products from a rival supplier, may subsequently be in a position to win a large share of the total market. (See, however, Abito and Wright (2006) and Simpson and Wickelgren (2004) for different perspectives.)

<sup>56</sup> The optimality of single sourcing, and how it depends on bargaining power, is derived in Inderst and Shaffer (2004). See also Majumdar (2005), Inderst (2005), and Marx and Shaffer (2005b) for similar arguments and O’Brien and Shaffer (1997) for an earlier account of the optimality of single sourcing.

### 3.3. *Incentives to invest and innovate*

It is often suggested that the exercise of buyer power could stifle suppliers' incentives to invest and innovate.<sup>57</sup> If it were possible for suppliers and buyers to jointly contract on, say, the development and introduction of a new product, then the decision to undertake the required investments should, however, be independent of how overall profits are shared between these parties. As such "complete contracting" is clearly not always realistic and feasible, in reality a supplier may have to unilaterally shoulder a larger fraction or even all of the upfront costs to develop a new product, hoping that it can subsequently realize an adequate return when negotiating with its different buyers. This would indeed suggest that if buyers are powerful, implying that they can extract a large fraction of all future profits, then the supplier may have inadequate incentives to undertake the required investment.<sup>58</sup>

The presence of a large, powerful buyer may, however, also help to overcome the contractual problems that give rise to problems of "hold up" between suppliers and retailers in the first place and thereby make innovation easier. While small buyers may try to free ride, a large buyer may have sufficient incentives to co-sponsor the investment. Furthermore, the presence of fewer but larger buyers may reduce transaction costs and co-ordination problems, thereby allowing for more efficient contracting on how to share the costs and profits of new investments.<sup>59</sup> A supplier may also be more willing to share sensitive information with only a few, large buyers, thereby providing a better overall framework for long-term investment.

Even if the presence of fewer but more powerful buyers does not alleviate contracting problems, it is important to note that a reduction in a supplier's profits does not necessarily imply that its incentives to invest and innovate are lower. Such incentives generally depend not so much on the overall level of its profits as on the incremental profits that may be generated by the investment, which need not be lower in the presence of larger or otherwise more powerful buyers. For instance, if a buyer controls a large share of the market then it may be particularly important for the supplier to innovate as this will make it easier to sell through various alternative channels and hence make the supplier less

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<sup>57</sup> For instance, a report by the FTC (FTC 2001, p. 57) raises concerns that when facing increasingly powerful buyers, "suppliers respond by under-investing in innovation or production". Likewise, a report on buyer power prepared for the European Commission suggests that when facing powerful buyers, suppliers may "reduce investment in new products or product improvements, advertising and brand building" (EC 1999, p. 4).

<sup>58</sup> Chen (2004) applies this to study the impact of a monopsonist's buyer power on variety, while Battigalli et al. (2006) analyze investment in quality in a context of competing retailers.

<sup>59</sup> Fumagalli and Motta (2000) formally model the co-ordination and free-riding problems among multiple buyers. A related effect arises under group purchasing in Mathewson and Winter (1996), where variety is captured by the number of different one-product upstream producers.

dependent on any individual retailer.<sup>60</sup> Furthermore, by making its own product more attractive or making its production more efficient, a supplier increases the loss that it is able to inflict on a retailer by supplying only its rivals. (That is, this undermines the value of the retailer's outside option.) The presence of powerful buyers may thus even generate higher incentives for suppliers to improve their products.<sup>61</sup> As some of the referenced literature indicates, a key distinction may be between incremental investments and innovations, for which incentives may go up once buyer power is exercised, and "non-incremental" investment decisions such as the introduction of a new product or the decision to enter or stay in a given market. For the latter decisions, it may indeed be more the lower *absolute* level of a supplier's profits that proves to be decisive.

Another key distinction is between the potential sources of buyer power. That is, an increase in buyer power may have different implications for suppliers' incentives depending on the underlying source of the buyer power. We illustrate this with the example of private labels (c.f Section 2.2.4). In contrast to second- or third-tier brands, manufacturers of first-tier brands may derive additional incentives to invest and innovate as they have to differentiate their products sufficiently in order to still have some leverage over retailers.<sup>62</sup> In fact, compared to a situation where product innovation, branding, and promotion are all dominated by manufacturers, the presence of large and sophisticated retailers with their own strong umbrella brands may also stimulate innovation by creating fiercer "vertical competition", that is competition between upstream and downstream firms over the share of the functions of innovation, marketing, production etc. in the supply chain and the associated margins.<sup>63</sup>

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<sup>60</sup> This is formalized in Inderst and Wey (2004). They also show that when facing larger buyers, a supplier may adopt production technologies that expand total output, thereby benefiting consumers. Montez (2005) extends this logic and shows that a downstream merger may induce a monopolistic supplier to expand capacity.

<sup>61</sup> Somewhat loosely speaking, the presence of powerful retailers thus keeps the supplier more "on his toes". The preceding argument follows Inderst and Wey (2005), who also obtain the somewhat surprising result that negotiations with large buyers allow suppliers to pocket a larger fraction of incremental profits. This follows as powerful buyers' attractive alternative supply options already effectively pin down the wholesale price, leaving no scope for haggling.

<sup>62</sup> Ward et al. (2004) provide recent evidence from the US food and beverage industry, indicating that first-tier brands indeed responded with more promotional expenditures and greater differentiation to the introduction of private labels, thereby avoiding head-on competition with retailers' house brands. In contrast to earlier studies (e.g., Cotterill and Putsis (2000)) they also show that retail prices for branded goods increased. Steiner (2004) provides some anecdotal evidence on how leading national brands try hard to continue staying on top of the ever faster copying of their innovations by private labels.

<sup>63</sup> The notion of "vertical competition" has been much used by Robert Steiner. (See Harbour (2004) for a recent perspective on Steiner's work.)

#### 4. Policy responses

In this Section, we first point out potential pitfalls when trying to find an appropriate metric to identify buyer power. We then briefly discuss possible policy responses to buyer power.

##### 4.1. Identifying buyer power

Relating back to our analysis of the sources of buyer power in Section 2, we discuss several ways how to establish and measure buyer power. We also pay special consideration to the way how retailers' buyer and seller power may interact.

*Choosing the right framework and the right metric to analyze buyer power.* As noted in Section 2, taking a "textbook" view of buyer power may only be appropriate in very particular circumstances. This could be the case if the good represents a standardized commodity. In such a context, if the industry supply curve was upward sloping, buyer power would be exercised by strategically withholding demand, thereby pushing down the uniform input price. This in turn would lead to a lower quantity being sold to final consumers at a higher price.<sup>64</sup> In contrast, if contracts are bilaterally negotiated, the exercise of buyer power can lead to a much more varied set of outcomes both in the intermediate and the distribution market. Depending on the circumstances, buyer power may have adverse effects but it may also lead to an increase in the purchased volumes and to lower final prices.

In Section 2 we reviewed several theories in order to establish a list of factors that may be conducive to buyer power under a bargaining framework. This also suggests that different metrics of buyer power may be useful; such as the buyer's share of a particular supplier's total business, the buyer's share of the overall market, or whether a particular buyer controls some (geographic) markets where it can act as a gatekeeper due to the absence of local competition. For instance, a retailer's share of the total national market may provide one of the relevant metrics for buyer power vis-à-vis a national mass marketer.<sup>65</sup> Furthermore, as we discussed above, some of the harm that could follow from the exercise of buyer power arises from the *difference* in buyers' bargaining power. To investigate these concerns, an appropriate metric would not only have to capture the absolute, or aggregate, level of buyer power but also its "skewness", that is the

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<sup>64</sup> If the "textbook" framework is deemed appropriate the analysis could follow relatively similar lines to the traditional analysis of seller power. In particular one can rely on standard measures of the degree of market power, using market shares and elasticity of supply. See, for instance, Blair and Harrison (1993, p. 52-53), who proceed in this way to construct an index of buyer power. (Incidentally, in particular under the textbook framework buyers may for predatory purposes want to strategically "overbuy" in order to drive up the purchase price for their rivals (Salop (2004)).

<sup>65</sup> For instance, Carstensen (2004) argues that for goods that require national marketing and presence, even a share of only 20% of the national market would create buyer power. In Competition Commission (2000), an even lower threshold of 8% has been employed to determine whether a retailer is able to control the relationship with its suppliers.

extent to which its distribution is biased to only one or a few particularly large and powerful buyers.

The analysis in Section 2 also shows, however, that simple measures of size, be it absolute size or concentration measures, should not be used too mechanically. If size in itself does not affect the buyer's or the supplier's dependency through an impact on the respective outside options, the first response should be that it does not confer buyer power *per se*. If, for example, a producer can flexibly scale down its business, losing the contract of even a relatively large retailer may inflict only limited losses. Likewise, for product categories where contracts are relatively short-term, or even on-the-spot, it may be easier for a supplier to switch and bid for another retailer's contract after losing one client. In contrast, if suppliers and retailers tend to be "locked" into relatively lengthy commercial relationships, a delisted supplier may end up underutilizing its capacity for some time. The economics of producing and distributing the particular product, including how pervasive long-term contracts are, the extent of spare capacity in the industry, or the presence of economies of scale in production, and the lifetime of products should all be considered in determining the chosen threshold.

Finally, though the two steps of defining and measuring buyer power and that of subsequently determining its impact on competition may in practice be undertaken separately, conceptually they can not be seen in isolation. Take an analysis of standard horizontal effects. There, the use of certain (market share) thresholds is already informed by the potential impact of market power on welfare or consumer surplus, in particular through the short-run impact on prices and quantities. More generally, the choice of the right metric and thresholds for an analysis of market or buyer power must be linked to the type and extent of potential harm that can be expected. Though it could be the case that substantial buyer power can be exercised at low levels of market share or size, by the preceding argument this should, however, *not* imply that antitrust authorities should therefore apply lower thresholds. In fact, as the exercise of buyer power may, in sharp contrast to the exercise of seller power vis-à-vis final consumers, even increase consumer surplus, there cannot be a threshold that is significant under all circumstances. In sum, any threshold should be arrived at and interpreted in conjunction with an analysis of the way in which consumer harm might arise from buyer power under the particular circumstances.<sup>66</sup>

*The interaction of buyer power and retail power.* Some of the sources of buyer power we identified originate directly from the degree of competition in the retail market. As noted above, retailers may yield substantial gatekeeping power if they control access to particular segments of the market, for example because their outlets face little or no competition in some local areas. Moreover, even if there is competition between outlets, this competition may not extend to all products as shoppers, given their limited awareness, may put different weight on the availability and prices of different products when choosing between

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<sup>66</sup> For further thoughts on whether to choose a "different" metric for buyer and seller power see also Schwartz (2004).

outlets. The exercise of buyer power would in these cases be directly linked to the lack of retail competition, which could be addressed more directly.

A related argument concerns private labels. As noted earlier, the presence of private labels may confer substantial buyer power to retailers. The presence of private labels can, however, also give rise to competitive effects at the retail level. Some studies have shown that retailers may price less aggressively on branded goods if profits from their private-label sales are at stake.<sup>67</sup> Furthermore, if in a given product category private labels become pervasive, thereby almost eliminating independent national brands, then the lack of intrabrand competition might reduce transparency for shoppers.<sup>68</sup> Again, to the extent that the source and exercise of buyer power is linked to restricted retail competition, this could be addressed more directly.

#### 4.2. Policy responses

This Section must remain only tentative in its attempt to state and discuss possible policy responses to the exercise of buyer power. We first discuss policies that have the primary objective of protecting dependent suppliers, in particular through imposing restrictions on bilateral contracts. Subsequently, we turn to policies that seek to address potential harm that may arise if some buyers but not all obtain substantial discounts.

*Protecting suppliers.* If the exercise of buyer power allows a retailer to extract better terms from a given supplier and if this lowers the retailer's marginal purchase price, thereby increasing the purchased quantity, then at least in the short run consumers are not likely to be harmed. In the long run, the exercise of buyer power may affect the upstream market structure, for example through the exit of suppliers, as well as the remaining suppliers' incentives to invest and innovate. We noted that there should be no presumption that this would necessarily hurt consumers. In fact, the increased pressure from buyers may also provide additional incentives for suppliers, thereby leading to more innovation and greater product variety.

Some countries have imposed restrictions on the dealings between powerful retailers and their suppliers. Overall, these restrictions are aimed at prohibiting the imposition of abusive or exploitative terms of supply. For instance, such terms and practices include undue delay of payments, retrospective reductions in price, or changing specifications (including quantity) without giving reasonable notice to affected suppliers.<sup>69</sup> The tendency to leave some of the terms of supply

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<sup>67</sup> See, e.g., Kadiyali et al. (2000). This may also be the consequence of higher wholesale pricing by brand manufacturers, who faced with competition by private labels focus more on the price-inelastic set of consumers (see, e.g., Gabrielsen and Sorgard (2000) for a formalization).

<sup>68</sup> Clearly, private labels may also lead to more effective competition, e.g., if the eliminated brand manufacturer previously acted as a "common agent" to dampen intrabrand competition. Once again, these issues must, however, await future research.

<sup>69</sup> For a very detailed account see also Dobson (2006).

open and incomplete has also been identified as a potential means by which powerful buyers could extract higher profits from their suppliers.

Some of these restrictions may indeed shift bargaining power. For instance, preventing powerful retailers from delisting suppliers without giving them sufficiently long notice could both increase the supplier's and reduce the retailer's outside option thereby making a supplier relatively stronger in negotiations. Other restrictions seem to leave the distribution of bargaining power unchanged such that retailers will simply be forced to extract profits in a less efficient way. This could apply, in particular, if contractual freedom is severely restricted.<sup>70</sup>

To illustrate this, consider the alleged practices of leaving open some terms of the contract or imposing unilateral changes. As has long been recognized in the literature on law and economics, it may sometimes indeed be efficient to leave contracts open to "self-completion" by one party.<sup>71</sup> Though this may leave one party at a disadvantage ex-post, the efficiency gains that are realized by using this contract instead of another may be sufficient to (ex-ante) compensate this party. Moreover, giving retailers (explicitly or implicitly) the right to ex-post adjust some contractual terms, or to delay payment without paying interest, may reduce incentives for suppliers to behave opportunistically, for example in their choice of quality or the time of delivery. Though this in turn may expose the supplier to opportunistic behaviour by the retailer, the retailer may be disciplined by its desire to uphold its reputation with respect to all other suppliers.<sup>72</sup> Applied for example to late payments, one could likewise speculate that powerful retailers use their discretion as a flexible tool for such an ex-post adjustment of contractual terms, acting once again in a "quasi-judicial" function.<sup>73</sup>

*Targeting selective discounts.* If buyer power manifests itself by selective and non-cost related discounts it may inflict commercial harm on other, competing retailers. Even if there was no "waterbed" effect, rivals could be put at a, potentially substantial, competitive disadvantage. As argued above, however, if

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<sup>70</sup> One could also argue, more generally, that such intervention would fall more to commercial law enforcement than to competition policy. As discussed in Rey (2003) with the example of terms of "acceptable" delivery, forcing contracts to be more specific or adjusting enforcement standards may also result in inefficiencies by destroying reputation mechanisms, making contracts more rigid, and penalizing efficient parties.

<sup>71</sup> For an overview, see Masten (1999).

<sup>72</sup> Arrunada et al. (2005) provide evidence of such reputational concerns in the automobile distribution industry, where contracts often leave substantial discretion to the franchisor. A careful consideration of this argument, taking into account both that a powerful retailer may interact with many different suppliers and that it may also be able to inflict greater losses as a form of punishment, is, however, still missing. (Likewise, also suppliers may derive incentives from reputational concerns.)

<sup>73</sup> This term is borrowed from Arrunada (2005). Based on evidence from a study among European companies he concludes that there is no obvious relationship between measures of retailer power and payment periods. Instead, he finds that payment periods are longer for goods where it takes longest to know their quality with the greatest detail (e.g., textiles vs. perishable food), which seems to support the efficient contracting perspective.

these discounts are passed through into lower retail prices, which is also a prerequisite for an immediate impact on rivals, then in the short run consumers may benefit, both directly through the lower prices of the powerful retailers and as other retailers may have to follow suit and lower their own prices. We also noted that, from the perspective of welfare, there may be even positive allocative effects if market share shifts to powerful retailers. However, the picture could look different in the long run, depending on how weaker rivals respond. Some responses, such as a change of their product range in order to avoid head-on competition, may benefit consumers through higher product variety. Other responses, in particular exit, could clearly harm consumers in the long run if they are left with fewer outlets and higher prices. In short, the overall outcome in the downstream market will depend crucially on the range and nature of strategies that are available to weaker rivals.

Further increases in buyer power could be prevented by adopting a strict merger policy. Alternatively, a more direct route, aimed at putting all retailers on a more equal footing, has been followed in some countries by actively prosecuting the use of non-cost related discounts. While prohibiting such discriminatory pricing in the intermediary market would create a more level playing field between different retailers, the economic profession has, however, for decades warned against the potential drawbacks of introducing or strictly enforcing such provisions.<sup>74</sup>

An alternative approach may be to force suppliers to disclose the discounts they grant to individual buyers. It is, however, doubtful how, if not combined with a threat of intervening in cases where price differentials become too large, this would generally force a supplier to grant similar discounts to all buyers.<sup>75</sup> In contrast, making all wholesale prices publicly observable may allow the supplier to commit not to act opportunistically by giving secret discounts to individual buyers, which could allow them to monopolize the downstream market despite the presence of competing retailers. Also, greater transparency may allow suppliers to sustain a collusive scheme, raising prices for all buyers and final consumers.<sup>76</sup>

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<sup>74</sup> The following list is not exhaustive: i) Katz (1987) shows how imposing uniform pricing may lead to inefficient backward integration; ii) Cooper (1986) shows how uniform pricing may foster collusion; iii) McAfee and Schwartz (1993) show how uniform pricing may raise final prices by alleviating a supplier's opportunism problem; iv) DeGraba (1987) shows how it may induce inefficient forms of product differentiation; v) O'Brien (2002) shows how it may make a supplier stronger in negotiations, thereby potentially pushing up all input prices; vi) Inderst and Valletti (2006) show that it may reduce efficiency in the downstream market as retailers have lower incentives to invest and innovate. More generally, imposing restrictions on firms' strategies may dampen or distort competition, e.g., by preventing selective price cuts in targeted campaigns.

<sup>75</sup> In a setting where buyer power is captured by the better information that one buyer has on the supplier's costs, Hviid and Mollgaard (2001) show how making deals public could help the less informed buyer.

<sup>76</sup> Albaek et al. (1997) show for the Danish ready-mixed concrete industry that this is more than just a theoretical possibility. Interestingly, they report that the Danish

## 5. Conclusion

This chapter has two objectives. First, we want to provide a survey and synthesis of recent contributions to the economic literature on the sources and consequences of buyer power. Second, we also try to give an, often admittedly short, economic perspective on a wider range of issues that seem to be of direct relevance for antitrust authorities that have to deal with buyer power. As we repeatedly noted, many of these issues have not yet received adequate consideration in the economic literature.

Amongst the several issues that would, in our opinion, require additional formal work are the following. Whether the formation of larger and more powerful buyers is conducive to harmful vertical restraints, in particular those aimed at foreclosing rivals at the up- or downstream level, is not entirely clear on the basis of the current theory. In particular, it would be important to investigate whether the presence of market power at *both* the upstream and downstream level of the supply chain could be particularly harmful. Put more generally, does buyer power in the presence of seller power exert a “countervailing” force, working to the benefits of consumers, or does it lead more towards “coalescing market power”?<sup>77</sup> Also, more formal modelling seems to be required to determine to what extent particular “exploitative and abusive” contractual practices are the outcome of efficient negotiations or whether they are, also in the short-run, harmful to efficiency and consumers.

Better data availability could also help to shed light on the empirical side of contracting between retailers and their suppliers. In particular, this may help to differentiate more precisely between different sources of buyer power and to determine their respective relevance. Also, as the (at least short-run) impact of the exercise of buyer power seems to depend crucially on the form of contracts, a better understanding of when retailers use different contracts, i.e., short- or long-term contracts as well as simple, uniform or complex, multi-part tariffs, seems necessary.

Finally, from a more applied perspective, for antitrust practitioners it would seem important to develop a much better understanding of when the different potential sources and consequences of buyer power, both on the downstream and the upstream level, may play a more prominent role. Despite the discussed caveats on the use of thresholds and concentration measures, we feel that developing alternative, quantitative measures would make the process of analyzing buyer power in market and merger inquiries both more efficient and more transparent.

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competition authority has also taken the step of publishing the *negotiated prices* of the largest wholesalers in a number of industries, including the production of flat glass, double-glazed windows and electrical suppliers.

<sup>77</sup> On the notion of “coalescing market power” see Adams (1953).

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