

BUYER POWER IN MERGER CONTROL

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The term buyer power typically refers to the ability of buyers (i.e., downstream firms) to obtain advantageous terms of trade from their suppliers (i.e., upstream firms). Such power may be created or enhanced when two or more downstream firms merge to form one larger buyer. In this chapter, we pay particular attention to the sources of buyer power and ask whether and to what extent consumers of the final product might—at least in the short run—gain from the exercise of this power. We also consider the role of existing buyer power in countervailing the ability of upstream firms to raise input prices following a merger of two or more upstream firms.

1. Introduction

This chapter discusses two channels through which the existence or creation of *buyer power* may affect the (welfare) implications of a merger and, therefore, should influence the decision of the antitrust authorities and courts. The first channel focuses on the role of buyer power as an efficiency defence in the merger of two or more downstream firms. It rests on two key presumptions: (a) a merger allows firms to exert more power vis-a-vis their suppliers, allowing them to secure better terms of trade, and (b) the exercise of this power can generate gains in total welfare and consumer surplus. The second channel takes a different perspective and focuses on the buyer power of the merged firms' customers. The issue in this case is whether the “countervailing power” exercised by large or otherwise powerful buyers can impose sufficient constraints on the merged upstream firms, preventing the imposition of higher prices or otherwise more adverse terms of supply.¹ We discuss buyer power as an efficiency defence in Section 2. We discuss the role of existing buyer power in countervailing the ability of upstream firms to raise prices following a merger of two or more upstream firms in Section 3.

This chapter is confined to the question of how the exercise of buyer power, by either the merged firm itself or by the customers it supplies, can serve as a *defence* in

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¹ The term ‘countervailing power’ as applied to intermediate-goods markets is often attributed to Galbraith (1952, 1954). According to Galbraith, one of the important manifestations of countervailing power is that powerful buyers extract better terms of trade from their suppliers and pass them on to final consumers. We deal with this argument in the first part of this chapter as it provides the key underpinning of buyer power as an efficiency defence in merger analysis. Our use of the term countervailing power is somewhat broader and captures more generally downstream firms’ ability to resist adverse changes in their terms of supply.

merger cases. However, it should be noted that in some industry sectors, such as retailing, antitrust authorities have also become increasingly concerned with the potential *adverse* long-term consequences of buyer power on suppliers' incentives to invest and innovate. As this is beyond the scope of this chapter, we will not touch on these issues.² We will also not discuss how aspects of buyer power should affect decisions on vertical mergers.

2. Buyer Power as an Efficiency Defence

The term buyer power typically refers to the ability of buyers (i.e., downstream firms) to obtain advantageous terms of trade from their suppliers (i.e., upstream firms). Such power may be created or enhanced when two or more downstream firms merge to form one larger buyer. In this section, we provide a framework in which to analyze the sources of buyer power, and we ask whether and to what extent this power will be increasing in the size of the buyer, and whether and to what extent consumers of the final product might—at least in the short run—gain from the exercise of this power. We also make a key distinction between buyer power that is viewed through the lens of a market interface, and buyer power that is viewed through the lens of a bargaining interface.

2.1 Economic Principles of Buyer Power as an Efficiency Defence

A horizontal merger of two or more downstream firms may enable the firms to realize purchasing synergies, as it may allow the merged firm to eliminate duplicate purchasing activities or adopt a more efficient purchasing system. The realization of economies of scale may extend to the whole warehousing and distribution process as the merged firm may also be able to operate with a lower combined inventory or switch to a more efficient centralized distribution system. Taken together, these efficiency gains may entail both fixed cost and marginal cost savings. To the extent that the savings are fixed, suppliers should not be affected (unless they are able to extract some of these savings in their negotiations).³ Furthermore, if these savings do not affect the marginal costs of the merged firm, they will not likely be passed on to consumers in the short run. On the other hand, marginal cost savings will, of course, generally be passed on, at least in part.

Larger buyers may also be able to reduce their purchasing costs at the expense of suppliers. In what follows, we focus on analysing to what extent a newly merged firm can indeed expect to extract a better deal from its suppliers. The concept of buyer power as an efficiency defence rests squarely on such a presumption. What is more, the argument also posits that the exercise of buyer power will not only have distributional consequences, but also increase welfare and consumer surplus by reducing deadweight loss. As we spell

² These issues have also so far received little attention by economists. Some exceptions are Chen (2004), Inderst and Shaffer (2007), and Inderst and Wey (2003, 2004), who analyze how buyer power affects suppliers' choice of product variety and their investments in capacity and cost reduction, as well as Marx and Shaffer (2004a, 2004b) and Inderst (2005b), who analyze buyer-induced vertical restraints.

³ A possible exception to this would be a system of batch production where the supplier works separately through each individual order and where there are increasing returns to scale on each batch. In this case, the bundling of purchases into a single order would allow also the supplier to realize economies of scale.

out in detail below, welfare gains may arise both at the upstream level, i.e., in the transactions between the more powerful merged firm and its suppliers, as well as at the downstream level, where the creation of buyer power may translate into increased rivalry and lower prices. The extent to which final consumers ultimately benefit is of particular importance if antitrust authorities rely more on a consumer standard when assessing mergers. If total welfare is the standard, however, distributional issues are not directly relevant and any pass-on to consumers is thus only relevant in as much as it contributes to total welfare.

Whether and to what extent lower purchasing costs will be passed on to consumers will depend, among other things, on the form the lower costs take (i.e., whether the merged firm's per-unit costs of obtaining its supply are lower) and how the downstream firms interact with their suppliers. We contrast two perspectives. According to the "textbook" view, a merged firm exercises monopsonistic power on the upstream market. According to the alternative perspective, buyer power is more narrowly exercised in bilateral transactions between individual buyers and their respective suppliers.

The "textbook" view: A market interface.

The "textbook" view of buyer power presumes that upstream and downstream firms interact via a market interface and thus remain anonymous to each other.⁴ This is perhaps best understood by considering the standard Cournot model of competition. It is helpful to first review the implications of a merger on the *downstream* market in this model. Suppose three firms – A, B, and C – compete for the patronage of final consumers. The firms sell homogeneous goods and choose what quantities to put on the market. The prevailing price is the market-clearing price, i.e., the price at which demand equals the joint supply of all three firms.⁵ Taking the output decisions of the other firms as given, each firm chooses the point on its residual demand curve that maximizes profits. The trade-off for each firm is that by increasing output it also decreases the market price and thus the margin it earns on each sold unit. While taking into account the impact of a lower price on its own revenues, each firm ignores the impact of its decision on the revenues of the other firms. This changes if two firms merge, say A and B. Subsequently, A and B will internalize the adverse effect of a higher output from A on B's revenues and vice versa. After the merger, the joint output of A and B decreases. The resulting higher price benefits rival firm C, but overall it reduces consumer surplus and total welfare.⁶

The "textbook" view of a merger's impact on the *upstream market* represents a perfect mirror image of the sketched analysis for the *downstream market*. Prior to the

⁴ An exposition of the "textbook" view on buyer power can be found in, for instance, Scherer and Ross (1990) and Blair and Harrison (1993). This seems to be the predominant view in current antitrust thinking.

⁵ This presumes a downward-sloping demand curve. Here and in what follows, we refrain from spelling out the technical assumptions needed to generate these standard results. See, for example, Vives (1999).

⁶ Depending on, in particular, the characteristics of the demand function, the optimal response of C can be either to also decrease its output or to increase it, thereby compensating for some of the lower output of the merged firm A and B. Our discussion also ignores the welfare implications that would arise if firms have different marginal costs such that a change in each firm's market share would shift production towards or away from more efficient firms. See Farrell and Shapiro (1990) for an analysis of these issues.

merger, firms A, B, and C choose what quantities to purchase on the upstream market. The prevailing uniform purchase price is again determined by the requirement that demand equals supply, although this time the market is captured by a supply curve and the quantities that are chosen by firms A, B, and C jointly make up the derived aggregate demand. Before the merger, each firm does not internalize that a higher demand reduces the profits of all other firms by pushing up the purchase price. After the merger of, say, A and B, the merged firm optimally adjusts its purchasing strategy by withholding demand.

What are the key assumptions and key implications when we apply the “textbook” perspective? The key assumption is that of a market interface that captures the interaction between upstream and downstream firms. This interface presumes anonymity among firms and thus does not allow for separate bilateral contracts between individual buyers and suppliers. In the homogeneous Cournot model, there is a single (market clearing) price at which all units of the purchased good are traded. The key implication is that a merger leads to lower purchasing prices because the merged firm strategically withholds demand.

This reduction in the merged firm’s demand for inputs benefits all other (and potentially smaller) firms that compete with the merged firm on the upstream market, but it does not benefit consumers. As a result, the key presumptions on which a buyer power defense rests do not both hold; although the textbook view predicts that a merger among downstream firms can result in lower market-clearing purchasing prices, it does not predict that this will lead to an increase in welfare or benefit final consumers. To the contrary, under the textbook view, final consumers are harmed because, in the standard case of fixed-proportions technology, the reduction in the demand for inputs translates directly into a reduction in the quantity of output sold in the downstream market.

The “textbook” view of the exercise of buyer power seems to be most applicable to markets for standardized goods such as commodities where one or more buyers interact with many sellers, possibly under fixed trading rules imposed by an exchange. It does not appear to be applicable, however, to markets in which a small number of suppliers produce differentiated goods, or to markets in which firms interact bilaterally. In such environments, where there are relatively few upstream and downstream firms, there could be substantial variations between individually negotiated deals, and in this case the exercise of buyer power no longer equates to a strategic withholding of demand.

The alternative view: A bargaining interface.

An alternative view of buyer power presumes that upstream and downstream firms interact via a bargaining interface. To understand this view, it is useful first to establish a basic framework for analyzing bilateral negotiations. Suppose there is a single buyer (the downstream firm) and a single seller (the upstream firm). The two firms negotiate over the supply of a single unit, which costs the seller \$5 to produce and which the buyer can resell to some final consumer at a price of \$10. Hence, the total profit the two parties can jointly realize equals $\$10 - \$5 = \$5$. The upstream firm can also sell its unit on the “world market”, where the good fetches a price of \$7. Given production costs of \$5, the *seller’s outside option* is thus worth $\$7 - \$5 = \$2$. The buyer can purchase an inferior good on the “world market” at a price of \$4, which it can resell for only \$5. Hence, the

buyer's outside option is worth $\$5 - \$4 = \$1$. If the seller and buyer come to an agreement, the *incremental surplus* they can jointly realize equals $\$5 - \$2 - \$1 = \2 , which is the difference between the total available surplus and the joint value of their respective outside options.

Clearly, neither party will rationally settle for a deal that leaves it with less surplus than its outside option. That is, the price p that is paid by the buyer must satisfy $\$10 - p \geq \1 to be acceptable to the buyer and $p - \$5 \geq \2 to be acceptable to the seller. This gives us the requirement that $\$7 \leq p \leq \9 . How the incremental surplus of $\$2$ is shared, i.e., where precisely p lies in the interval $\$7 \leq p \leq \9 , depends now on what the bargaining literature typically refers to as the two sides' *bargaining power*. If the two sides have equal bargaining power, they will share the incremental surplus in equal proportions, each receiving one half of the $\$2$. Each side thus realizes the value of their respective outside option plus one half of $\$2$, which adds up to a total profit of $\$1 + \$1 = \$2$ for the buyer and $\$2 + \$1 = \$3$ for the seller. The agreed upon price is consequently $p = \$8$.⁷

This example points to the following potential levers of buyer power when firms interact through a bargaining interface. First, a larger or otherwise stronger buyer may have a more valuable outside option. Second, the presence of stronger buyers may reduce the outside option of suppliers. Third, a stronger buyer may be able to extract a larger fraction of a given incremental surplus. In each case, a stronger buyer is able to obtain a better deal, which in our example above implies that it will obtain a price of $p < \$8$.

We will shortly analyze how the formation of a larger buyer affects these three levers of buyer power, but before we do it is useful to explore more generally what it means for a buyer to obtain a better deal. Note that the example above dealt only with the exchange of one unit between the buyer and seller. This does not yet allow us to capture the fundamental role that contracts typically play in upstream markets. An understanding of the role of these contracts is, however, crucial as depending on the considered set of contracts and whether bargaining takes place over fixed or marginal components, the welfare implications of the exercise of buyer power may look markedly different.

Suppose thus that we modify the simple example above to allow the exchange of multiple units, i.e., the upstream firm can supply more than one unit and the downstream firm can sell more than one unit. How would we expect their negotiations to proceed? A natural benchmark to start with is the case in which the upstream and downstream firm are vertically-integrated. Clearly, in this case, the integrated firm would choose input quantities and thus final sales to consumers so as to maximize total profits. Returning to the negotiations between the two non-integrated firms, it is clearly also in their best interest to maximize joint profits, which requires them to achieve the same level of inputs and sales as the vertically-integrated firm. In general, this is only possible if the supply contracts available are sufficiently rich and allow the firms to fully disentangle the issue of maximizing joint profits from the issue of how to share these profits.

⁷ A general measure of the bargaining power of, say, the buyer is the fraction b of the incremental surplus that the buyer can appropriate for itself. Profits are then equal to $\$1 + b \cdot \2 for the buyer and $\$2 + (1 - b) \cdot \2 for the seller. The corresponding price is given by $p = \$9 - b \cdot \2 . Setting $b = 1/2$, as in the text, we get $p = \$8$.

In the simplest cases, it is not difficult for the two firms to ensure that they jointly act like a vertically-integrated firm. One way is to negotiate over what economists have called a “quantity-forcing” contract, fixing the jointly optimal input quantity that will be purchased together with a fixed total purchasing price. Alternatively, and somewhat more flexible, the two parties could use a “two-part tariff”. Such a contract would stipulate a fixed payment together with a constant purchasing price per unit. By having two parameters at hand, namely the fixed part and the per-unit part, the firms are able to disentangle the issue of maximizing joint profits from that of how to share it. For instance, if the supplier has constant marginal costs of production, then optimally the per-unit part is chosen such that the buyer just faces a constant per-unit purchasing price that is equal to the supplier’s constant marginal costs. The fixed part, on the other hand, is chosen so as to reflect the different bargaining power and outside options of the two sides – just as in the simple example above.⁸ Anecdotal evidence suggests, however, that contracts are not always sufficiently flexible to allow for joint-profit maximization.⁹

At the other extreme is a contract that stipulates only a constant unit price at which the downstream firm can purchase any required quantity. In general, with such contracts, the non-integrated firms will not be able to replicate the decisions that would be made by a vertically-integrated firm. The literature commonly refers to this as the “double-marginalization” problem. Final prices and quantities are now twice distorted compared to those in the vertically-integrated benchmark. The first margin belongs to the upstream firm, which sells at a price that exceeds its own marginal costs. The downstream firm subsequently adds yet another margin to earn positive profits when selling to final consumers. As a consequence, all quantities are lower—both input and output quantities-- and prices are higher than they are under vertical integration.¹⁰

The overall welfare implications—and effects on final consumers---of the exercise of buyer power may look markedly different depending on whether or not contracts are sufficiently flexible to allow for joint-profit maximization. This is so even though in both cases a stronger buyer may be able extract a larger share of total profits. When the firms are able to achieve the vertically-integrated outcome, for example, an

⁸ Even if the supplier’s marginal costs are not constant, it is well known that a two-part tariff can in some cases still achieve the outcome that maximizes joint profits. If there is, however, uncertainty about the buyer’s demand, then the joint-profit maximizing contract becomes more complex, prescribing a menu of quantities and prices that perfectly reflects the supplier’s different marginal costs at various quantities.

⁹ It is no longer ensured that even complex contracts would allow the firms to replicate the decisions that would be made by a vertically-integrated firm if there is uncertainty or private information about both the supplier’s costs and the demand faced by the buyer, or if problems of opportunism or moral hazard render certain contractual forms suboptimal or even infeasible. See, for example, Iyer and Villas-Boas (2003).

¹⁰ For an illustration, suppose the downstream firm is a monopolist facing the inverse demand $P=1-x$ for a single good, where P denotes the price to consumers. Production costs at the upstream firm are equal to $c \cdot x$ with $c < 1$. A vertically-integrated firm would maximize total profits $x \cdot (1-x) - c \cdot x$ by choosing $x = (1-c)/2$. If a non-integrated downstream firm faces the constant purchasing price of p , it will optimally choose the quantity $x = (1-p)/2$, which is strictly lower whenever $p > c$. If the supplier’s marginal costs are increasing, the “double-marginalization” problem is mitigated, as the supplier can then earn positive profits on “infra-marginal” units even if the constant unit price just covers its marginal cost for the last supplied unit.

increase in buyer power leaves production and sales decisions unaffected.¹¹ For instance, with a two-part tariff only the fixed part would be adjusted downwards to reflect the change in the buyer's bargaining power. In contrast, when firms bargain only over constant per-unit prices, i.e., simple linear tariffs, the exercise of buyer power necessarily has consequences for welfare, as the only way to increase the buyer's profit is to reduce the supplier's margin. Even if the buyer is a price-taker in the final market, this pushes down the buyer's marginal input price and thereby reduces the deadweight loss in the upstream market. If the buyer is not a price taker in the downstream market, the lower marginal purchasing costs will also translate into a lower price and a higher output in the final market. This reduces the deadweight loss in the downstream market, increasing consumer surplus by passing on some of the gains. Consumer surplus will further increase if other, competing downstream firms react by lowering their own prices.¹²

A more complicated setting arises when there are multiple upstream and downstream firms and negotiations go beyond merely choosing simple linear tariffs but nonetheless the firms are unable to obtain the vertically-integrated outcome. This setting could potentially arise, for instance, if multiple competing downstream firms purchase inputs from the same upstream supplier.¹³ Although economic theory is mostly silent about the effects of buyer power in this instance when the firms bargain over nonlinear prices (e.g., quantity discounts), there is at least one case in which strong predictions can be obtained. If contracts between competing downstream firms are unobservable (i.e., firms do not know for sure what terms of trade their rivals have been able to negotiate) then the economics literature suggests there are plausible circumstances under which an

¹¹ There are only a few econometric studies that test for the prevalence of non-linear versus linear pricing. Bonnet, Dubois, and Simioni (2004) and Berto Villas-Boas (2004) suggest that manufacturers and retailers use non-linear pricing in the markets for bottled water in France and yoghurt in the U.S. The debate about the form of buyer-seller contracts has a long history (see, for instance, Stigler (1954) and Hunter (1958)).

¹² The reaction of other firms to the lower price or increased quantity of the more powerful buyer depends on whether the firms' strategies are "strategic substitutes" or "strategic complements". See Bulow, Geanakoplos, and Klemperer (1985). Furthermore, in contrast to the textbook view of a market interface, it is now no longer immediately obvious how the purchase prices of the other downstream firms change with the creation of a more powerful buyer. One conjecture, which is commonly referred to as the "waterbed" effect, is that suppliers compensate for the loss in profits with the more powerful buyer by charging higher prices to the less powerful buyers. It is, however, not clear how this can generally be a profit-maximizing strategy, and indeed, Chen (2003) builds a model that has the opposite implication. There, it is argued that in anticipation of the pressure exerted by a more powerful buyer, a supplier may want to commit to selling to competing buyers at a lower (linear) price. This limits the potential profits that can be realized by supplying the powerful buyer, which in turn limits the surplus that even a very powerful buyer can extract. (See, however, Inderst and Valletti (2007) for a recent formalization of the waterbed effect.)

¹³ In this case, even if contracts are sufficiently flexible, a supplier may not want to sell at marginal cost. Selling at marginal cost would make buyers compete aggressively and, thereby, reduce overall joint profits below the vertically-integrated level. Reaching the vertically-integrated level therefore requires selling to the downstream firms at per-unit prices that exceed marginal cost (to dampen the ensuing downstream competition). On the other hand, if bilateral supply contracts are not observed by competing buyers, the supplier may be tempted to negotiate a more "aggressive" deal with each individual buyer. In this case, equilibrium contracts are typically no longer pinned down uniquely and the analysis may become quite involved (see, e.g., O'Brien and Shaffer (1992), McAfee and Schwartz (1994), and Rey and Verge (2004)).

increase in buyer power will not result in any change in production or sales decisions.¹⁴ Instead, in these circumstances, bargaining between the upstream firm and more powerful buyer takes place only over the fixed components in their contract, and consequently there is no pass on in the short run of the more powerful buyer's savings to consumers.

Overall, we can conclude that when negotiations take place over more than just simple linear tariffs for the purchase of the upstream firm's good, an increase in buyer power will not necessarily have beneficial implications for welfare and consumer surplus—even if the more powerful buyer is able to lower its purchasing costs. In other words, even if the more powerful buyer is able to extract a better deal from its suppliers, it does not follow that output in the downstream market will be higher or that final consumers will gain—because the buyer may not negotiate for lower per-unit prices. Instead, for example, the buyer may use its increased power to negotiate higher slotting fees, a practice that is prevalent in many retail sectors.¹⁵ If negotiations are, however, confined to simple linear tariffs, then, for the reasons discussed above, we would expect an increase in buyer power to manifest itself in lower prices to final consumers and consequently higher output, reducing deadweight loss and increasing consumer surplus.

The contrast with the market-interface view of buyer power is instructive. Recall that under the textbook view, an increase in buyer power results in lower per-unit purchasing prices—from the strategic withholding of demand—but the lower prices do not get passed on to final consumers. Instead, total welfare and consumer surplus are lower. In contrast, in the bargaining interface view, an increase in buyer power results in lower purchasing costs—without any withholding of demand—but the lower costs do not necessarily get passed on to final consumers (at least in the short run) because the emphasis of the buyer's bargaining may not have been over per-unit purchasing prices.

2.2 Sources of buyer power.

We are now ready to analyze how the formation of a larger buyer through a merger of downstream firms may affect the three levers of buyer power, which we discussed above. That is, holding aside the question of whether a larger buyer's lower purchasing costs will be passed on to consumers (which as we have argued depends on the context, industry setting, and richness of available contracts), we now seek to better understand how it is that a larger buyer may be able to extract better terms of trade.

Under the “textbook” paradigm of a market interface between upstream and downstream firms a merger leads to lower prices in the upstream market (but not in the downstream market) as the merged firm strategically reduces its demand. It is less obvious how a larger buyer can extract better conditions in bilateral negotiations. In what follows, we draw on the economics' literature to establish when a merger of downstream

¹⁴ This will be the case, for instance, when the contracts negotiated between the upstream firm and its more powerful buyers are immune to profitable bilateral deviations (i.e., under the “contract equilibrium” concept in O'Brien and Shaffer (1992) or “passive beliefs” requirement in McAfee and Schwartz (1994)).

¹⁵ This idea can be found in Shaffer (1991), where buyers prefer to use their bargaining power to obtain slotting fees even at the expense of lower per-unit input prices. Indeed, relative to a benchmark in which buyers have no bargaining power, sales in the downstream market are lower and consumers are worse off.

firms may create a more powerful buyer.¹⁶ Following the logic of the simple bargaining framework, we ask first when a merger may increase the buyer's outside option and when it may decrease the seller's outside option. Subsequently, we ask when a merger may allow the larger buyer to extract a larger fraction of the incremental surplus.¹⁷ We focus throughout on arguments and viewpoints that have received a formal underpinning by economic theory, relegating further discussion and extensions to the footnotes.¹⁸

Increasing the buyer's outside option.

Suppose the upstream firm is a monopolist and that its input is essential for the viability of each downstream firm. Consequently, a small downstream firm would be forced to shut down without the supplier's input. If a buyer is large enough (or becomes large enough via a merger), however, it may be profitable to incur even large start-up costs and integrate backwards, thereby becoming its own supplier of the required input.¹⁹ With its higher outside option, the larger buyer should thus be able to negotiate a better deal. However, as this may also require substantial knowledge and expertise on behalf of the buyer, the possibility of backwards integration may only be a feasible and therefore credible alternative for buyers that are not only large but also quite sophisticated (see Section 3.1 below for more discussion on the role of sophisticated buyers).

Buyer size may also matter for how profitable and thus credible it is to threaten a given supplier with the possibility of switching to another supplier. As in the case of backward integration, only a sufficiently large purchasing volume may justify the additional costs that are associated with locating and switching to a new supplier.²⁰ Furthermore, even if no adequate alternative source of supply is currently available, the

¹⁶ That larger buyers can obtain a more favorable deal follows also from standard models in the economics' literature on second-degree price discrimination. In these models, it is assumed that suppliers cannot directly discriminate between buyers with different willingnesses to pay. Buyers with a higher marginal willingness to pay for each unit – and thus also a higher absolute willingness to pay for any given quantity – must be induced to self-separate into buying a larger quantity at an overall higher price instead of choosing the offer targeted towards smaller buyers. This is achieved by offering them a volume discount.

¹⁷ Here and in what follows, we make the standard assumption that all firms are risk neutral. Chae and Heidhues (2004) show how size can make risk averse buyers stronger in their negotiations with suppliers. In DeGraba (2005), it is the supplier's risk aversion that creates a discount for larger orders.

¹⁸ It should also be noted that the analysis abstracts from the possibility that the trading partners entered into credible agreements to split the surplus from the business relationship prior to the commitment of costs that generated the need to rely on outside options. If these credible agreements exist, the newly merged firm may not be able to change the allocation of surplus, unless, of course, the merger voids the agreement.

¹⁹ This argument is formalized in Katz (1987), and subsequently used in Sheffman and Spiller (1992), Innes and Sexton (1993), and Inderst and Wey (2005).

²⁰ While this line of argument, namely that the fixed costs associated with switching make switching less profitable for small buyers, seems to be pervasive in the literature, it is often overlooked that size can also make switching more difficult. If there is limited excess capacity in the upstream industry – or, less drastically, if all suppliers have strictly convex costs – it may be more difficult and more expensive to find an alternative source of supply for a larger buyer than for a smaller buyer. In anticipation of this, large buyers may choose to purchase strategically from multiple suppliers. For a formalization of this, see Inderst (2005a).

presence of a larger buyer may help to facilitate supply-side substitution for a number of reasons. First, the large buyer can itself take steps to encourage entry by new suppliers. One way to do this would be to directly “sponsor” new entry, (e.g., by sharing some of the entrant’s set-up costs or by contractually precommitting a fixed share of purchases to the entrant).²¹ More indirectly, the presence of large buyers should make it possible for a new entrant to become economically viable after winning only one or a few contracts.²² Winning new business may be further facilitated if buyers choose purchasing formats that reduce as much as possible any incumbency advantages of existing suppliers. Auctions are one example – and increasingly so internet-based auctions with open access to any interested supplier – of an institutional structure that may serve to aid the competitive process. Again, as in the case of backwards integration or the sponsorship of new entry, it may be only profitable or even technologically feasible for a sufficiently large and sophisticated buyer to set up and run these more sophisticated purchasing formats.²³

Decreasing the supplier’s outside option.

If a supplier fails to negotiate successfully with a small buyer, the supplier may find it relatively easy to sell its freed-up capacity to other buyers. What is more, as the quantity supplied to each of the remaining buyers increases only by a little, this leads only to a small reduction in total profits. If negotiations break down with a large buyer, however, selling the freed-up capacity to other buyers may be more difficult and may result in a larger reduction of total profits (necessary to induce these other buyers to acquire more inputs). For instance, if the buyers are retailers and if the supplier failed to come to an agreement with a retailer that controls a large number of outlets, then any attempt by the supplier to make up the difference by selling more through the remaining outlets may severely depress prices and thus lower its profits.²⁴ This argument can be seen as one formalization of the frequently used concept of “economic dependency”, which defines buyer power *relative to the* damage to each party’s profits that a failure to reach agreement can cause.²⁵ While size appears to benefit the buyer in this case, it is possible that a larger buyer would have more difficulty replacing product from a specific supplier than would a smaller buyer, and hence it is possible that a merger could reduce the merged firm’s own outside option even as it decreased the supplier’s outside option (cf. footnote 20).

²¹ Fumagalli and Motta (2005) extend this argument to the case where the presence of larger buyers reduces the coordination failure among buyers, who jointly gain from the entry of another (more efficient) supplier.

²² This would be further accentuated if the entrant’s production technology exhibited large economies of scale or if there was a steep learning curve. However, while it may be easier to obtain sufficient scale in the presence of larger buyers, future business with more powerful customers may also be less profitable.

²³ Large buyers may also be more willing and more adept at engaging in strategic multiple sourcing among suppliers, which permanently reduces their dependency on a single supplier.

²⁴ Putting it more formally, losing the business of a larger buyer requires a firm to move far more down the remaining buyers’ declining marginal surplus functions. This is formalized in Inderst and Wey (2004).

²⁵ This definition is used, for instance, in OECD (1999).

Returning to the example of retailing, a merger between two retail chains that have substantial overlap in their outlets may even further reduce the value of the supplier's outside option.²⁶ This is most evident in the case where some of the affected local markets are not served by any other retailer. In this case, the merger forces the supplier to channel its supplies through the single merged firm if it does not want to altogether lose this share of the market. In other words, the merged retailer can act as a "gatekeeper" to the markets in which it has a monopoly or near monopoly.²⁷ A "gatekeeper's" bargaining position is further enhanced as it can credibly argue that the supplier should give it a lower price because it will not have to worry about losing more profitable business with other buyers that compete in the same market and that would purchase at higher prices (because there are no other buyers in the same market). More generally, a discount to one buyer may erode the market share of other competing buyer(s), which in the case that these buyers purchase from the same supplier would reduce that supplier's profits. This is no longer the case, or applies to a lesser extent, if the merger substantially reduces competition at least for a segment of the final market.²⁸

Economic theory has also pointed to another, more subtle channel by which larger buyers can obtain a discount. Somewhat loosely speaking, if suppliers have strictly increasing incremental costs of production, then each of a number of small buyers essentially negotiates "at the margin", where incremental costs are higher. In other words, a supplier incurs high incremental costs when selling to small buyers because sales to small buyers come "on top" of the already large quantity that the supplier sells to other buyers, thereby justifying a higher price per unit for these buyers. In contrast, if these smaller buyers merged then they would account for a larger fraction of the supplier's total sales and would thus negotiate less "at the margin", thereby paying a lower price per unit. Note that this argument does not apply if the supplier has constant marginal costs.²⁹

Increasing the buyer's bargaining power.

The *fraction* of the incremental surplus that each side to some negotiation can appropriate depends on what we called above – in line with the bargaining literature – the

²⁶ Somewhat related, if there is a "critical" mass or degree of market penetration that the supplier must achieve in order to make its product viable, then this further increases the buyer power of the newly merged firm. For instance, consumers may permanently switch away from the good or even refrain from buying it in the first place if they find that it is only stocked at a few shops. In addition, the fixed costs of organizing and conducting a marketing campaign may be such that advertising becomes unprofitable if only a small fraction of consumers that were reached by the campaign can actually buy the good in their local shops.

²⁷ The role of gatekeepers is formalized in Mazzarotto (2003), but the idea is also related to that in Dobson and Waterson (1997) and von Ungern-Sternberg (1996). FTC (2001) lists the role of a "gatekeeper" as one of three variants of buyer power (next to monopsony power and buyer power without monopsony). On the other hand, one can think of some suppliers as having "gatekeeper" products in the sense that the brands of these suppliers may be so crucial to an upscale retailer's image that it could be forced to carry other products from that same supplier in all of its stores, even the stores of an acquired discount retailer.

²⁸ This argument appears in Horn and Wolinsky (1988). Importantly, however, it relies on the assumption that contracts consist of simple linear tariffs. Milliou and Petrakis (2005) provide a critical discussion.

²⁹ This is formally explored in Chippy and Snyder (1999), Inderst and Wey (2003), and Raskovitch (2003).

bargaining power of the respective party. While the literature on buyer power in Industrial Organization has to our knowledge not yet formally explored the question how the formation of a larger buyer can affect this parameter, game theory offers several insights that may be applicable to this case.³⁰ One such insight is that a party may be able to extract more of the incremental surplus the more “patient” it is, i.e., the less costly a temporary impasse in negotiations is for the respective party. If a buyer accounts for a large fraction of a given supplier’s total sales, even a temporary loss of the respective revenues may seriously endanger the supplier’s financial viability. Consequently, one might expect that a supplier will be less “patient” when dealing with a large buyer, which in turn may tilt the outcome of negotiations in favour of the large buyer. Importantly, this argument relies on two assumptions: first, the buyer must account for a large *fraction* of the supplier’s business, i.e., it is not the absolute size of the buyer and its order that matters; and second, the supplier must have limited financial resources.

Another insight comes from the formal work in the bargaining literature that is devoted to studying how asymmetric information affects the distribution of bargaining power. What is found is that typically a party can obtain a better deal if it has more information about the other side’s outside option or, more generally, more information about the incremental surplus that is on the table. If a larger buyer has more opportunity and more incentive to gather such information, this could further enhance its bargaining power.

A merger may also expand the range of possible strategies by which a buyer can stimulate competition among its potential suppliers. One option is for the merged firm to reduce the number of suppliers with which it deals. To illustrate how this could work, we return once more to the example of retailing. Following the merger, the large retailer may announce that it will no longer stock the goods of all previous suppliers. Though this may no longer allow it to stock at each outlet the range of goods that would best suit local preferences, the announced delisting strategy may make suppliers compete more aggressively: while previously suppliers were more differentiated as each of them may have had an advantage at supplying a particular retailer and its outlets, after the merger and after the implementation of the new purchasing strategy, this differentiation erodes. Suppliers are forced to compete on a more equal basis for the contract to supply all outlets, and as a consequence this forces them to compete by lowering their prices.³¹

Buyer share and collusion among suppliers.

³⁰ In particular, the non-cooperative bargaining theory has developed models that derive the sharing rule from first principles. For an overview of this literature, see, for instance, Osborne and Rubinstein (1990). Of course, long-run reputation effects may make it difficult to exploit short-run opportunities in contractual relationships. Opportunistic business partners may find few interested trading partners in the long run.

³¹ Inderst and Shaffer (2007) have formalized this argument with an application to retail mergers. Dana (2004) applies a similar argument to buyer alliances, while Marx and Shaffer (2004b) and Inderst (2005b) apply it to the study of slotting allowances. See also O’Brien and Shaffer (1997) for an earlier treatment of the benefits to a buyer from single sourcing. This argument opens up an interesting trade-off that a large buyer may face. On the one hand, by bundling purchases the larger buyer may be able to stimulate competition among suppliers and thereby obtain lower prices. On the other hand, a large buyer may want to buy from multiple sources in order to ensure the long-term viability of competition in the upstream market.

Until now all arguments for why a merged firm may enjoy more favourable terms of supply—with the exception of the market interface paradigm---were based on our simple bargaining framework. This framework is static in nature and essentially assumes that all parties behave non-cooperatively. However, even if suppliers tend to act cooperatively, i.e. if they collude explicitly or act in parallel, a larger buyer may once again be at an advantage. To see this, note first that collusion can only be supported if it benefits all suppliers. If the market is fragmented due to the presence of many small or medium-sized buyers, this can make market-sharing agreements among suppliers easier. Also, each time one of the small-volume contracts is up for renewal there may be little temptation for any supplier to underbid the “chosen” winner because of the risk of endangering the whole collusive scheme. In contrast, a large buyer is more likely to tempt suppliers into deviating from the collusive strategy in order to win the large order.³²

2.3 Measuring Buyer Power

To make the buyer power defence more applicable in antitrust, it is paramount to develop appropriate measures of buyer power. If the focus is on whether relative size, or some other structural feature that is created or changed by the merger, can lead to lower purchasing costs, then a natural first step is to investigate whether comparable buyers to the proposed merged firm are currently receiving more favourable deals. Alternatively, one can rely on estimates of the potential benefits obtained from the merger. The aforementioned theories consider both the absolute size of the merged firm (in terms of total purchases of the specific input) as well as the fraction of total purchases at specific suppliers that the merged firm accounts for. The theories further suggest various checkpoints (such as whether suppliers are capacity constrained, whether they are strong or weak financially, or whether and to what extent they can find alternative buyers) that may be useful to estimate the degree to which size can be levered into lower prices.³³

Unfortunately, little empirical evidence exists to aid this analysis. Early studies found some evidence that a more concentrated downstream market reduces the profits of upstream firms. Recent studies using data on discounts in the pharmaceutical and hospital-service markets conclude that discounts are enjoyed, in particular, by buyers that have superior outside options, e.g., buyers that can more easily channel patients to other pharmaceuticals or services.³⁴ Finally, some of the potential sources of buyer power have received support in the experimental literature, though this literature is also very small.³⁵

³² This does not imply that collusion becomes harder simply as buyers’ size and thus total demand for the suppliers’ inputs increases. In fact, if one were to “scale up” the whole downstream market, the scope for collusion might even increase as this would increase the difference in joint profits between a collusive and a competitive regime. Hence, for the argument to hold one must keep the total market size constant, while decreasing the number and thus increasing the size of buyers. This is formalized in Snyder (1996, 1999).

³³ To our knowledge, these theories have yet to be translated into a workable concept of how practically to measure buyer power.

³⁴ Scherer and Ross (1990) provide a useful survey of the earlier literature. Exemplary studies on the health-care industry are Ellison and Snyder (2001) and Sorensen (2003).

³⁵ See Ruffle (2005) for a survey.

2.4 Past Experience with Buyer Power as an Efficiency Defence

In this section, we briefly review the past experience in the U.S. and abroad with the buyer-power defence. Surprisingly, this experience has thus far been limited despite the trend towards a more receptive approach overall to efficiencies in merger appraisals.

As is discussed elsewhere in this Handbook, in the U.S., merger-specific efficiencies are no longer seen as harmful (as they were in the (in-)famous Brown Shoe case); instead they are now recognized as a valid defence. The Merger Guidelines (of 1992, revised 1997) explicitly mention a range of potential efficiency claims that may be taken into account, amongst them efficiencies of production, distribution, innovation, and purchasing. However, among these potential efficiencies the exercise of buyer power receives a particularly sceptical treatment. Specifically, the Merger Guidelines observe that “procurement, management, or capital cost are less likely to be merger-specific or substantial, or may not be cognizable for other reasons” (Merger Guidelines §4).³⁶

One case that illustrates this scepticism is the FTC’s challenge of the proposed merger of Office Depot and Staples, two large office supply superstores, in 1997.³⁷ The court recognized the central role of buying power in the industry, stating that Staples’ “buying power was a catalyst that forced everyone else in the industry to focus on cutting their prices”.³⁸ However, the court argued that the asserted efficiencies from purchasing were not merger specific.³⁹ Given that both chains were expanding rapidly, it was argued that organic growth would also have generated the respective efficiencies - provided the resulting efficiency gains from buying power were indeed sufficiently substantial.⁴⁰

Besides the burden of proving relevance for merger analysis, there seem to be more generally two additional hurdles an efficiency defence based on buyer power has to overcome. First, if one takes the “textbook” view (presented in Section 2.1), then viewed as a mirror image of the exercise of seller power vis-a-vis consumers the exercise of buyer power could be seen to raise additional anticompetitive concerns rather than serve as a defence for the merging parties. (Recall that according to this view, a merged firm would have incentives to withhold demand so as to reduce the input price prevailing in

³⁶ We did not treat separately the effects of buying power on the capital market. With perfectly functioning capital markets, a firm’s size should not affect its ability to raise finance or its cost of capital. With less developed financial institutions, size may matter, albeit economic analysis suggests that the benefits will be larger if a firm diversifies into unrelated businesses. See, for instance, Inderst and Faure-Grimaud (2005).

³⁷ *FTC v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1997).

³⁸ *Id.*, p. 1093.

³⁹ The court was also not convinced about the size of the asserted efficiency claims. It was noted that the defendants’ claimed cost savings exceeded those stated in internal communications by almost 500 percent.

⁴⁰ It is difficult to believe that with internal growth alone Staples would really have been expected to open up the same number of stores as necessary to match the size of a combined Office Depot/Staples chain. It is more likely that the court reasoned in this case that any advantages of size with respect to buying power had already been reached by both parties, and thus that the proposed merger offered no new opportunities.

the upstream market.)⁴¹ In general, antitrust authorities and courts have indeed tended more towards treating an increase in buyer power in the same way that they treat an increase in seller power instead of viewing it as something altogether distinct.⁴²

The Robinson-Patman Act poses a second hurdle for the use of buyer power as a defence. As we have seen, it is important for the merged firm to engage in bilateral negotiations with suppliers if the exercise of its buyer power is to improve welfare. But if the Robinson-Patman Act is strictly interpreted and enforced, then the merged firm's ability to obtain lower purchasing prices may be limited, as any concession that would be made to the larger buyer might also have to be made by the supplier to all competing buyers.⁴³ Even though the Robinson-Patman Act may have lost some of its bite over the years as antitrust authorities and courts seem to have become more reluctant to invoke it, in industries with less complex and less secretive pricing, and in fear of treble damages, it may still constrain the ability of more powerful buyers to extract better terms of trade.

The general scepticism on the use of buyer power as an efficiency defence in the U.S. seems also to be shared by their respective counterparts in other jurisdictions. To single out one example, in merger cases brought before the European Commission the buyer-power defence has so far played no role. The European Union has only recently shifted towards recognizing an efficiency defence in merger control. In its guidelines to the new merger control regulation, the European Commission states that such efficiencies may be decisive when "the efficiencies generated by the merger are likely to enhance the ability and incentive of the merged entity to act pro-competitively for the benefit of consumers, thereby counteracting the adverse effects on competition which the merger might otherwise have."⁴⁴ While the guidelines also explicitly recognize that buyer power can lead to lower purchase costs and that these cost advantages may well be passed on to consumers,⁴⁵ this comes with the caveat that the guidelines also explicitly take the "textbook" view of a market interface. That is, it is argued explicitly that buyers may exercise their power to withhold demand so as to ultimately lower purchase prices.⁴⁶

⁴¹ In addition, concerns may be raised whether large buyers may abuse their size in order to "prey" on their downstream competitors by pushing up the price in the upstream market. See, for instance, Salop (2005).

⁴² The principle of treating buyer power in symmetry to seller power extends beyond mergers, e.g., to collusive practices. One exception may be in the health-care industry, where courts and antitrust authorities both seem to have become more lenient towards the creation of buyer power through co-operation among physicians, and through mergers of hospitals or insurers (see, for instance, Grimes (2001) and Tobey (2003)). There, the view seems to prevail that downstream firms act as "purchasing agents" on behalf of consumers. For a critical assessment of this view, see Pitofsky (1997) and Hammer and Sage (2004).

⁴³ See, for example, O'Brien and Shaffer (1994), which looks at the interplay between the observability of contracts, bargaining, and the constraints imposed on buyer-seller agreements by the Robinson-Patman Act.

⁴⁴ Guidelines, par. 77.

⁴⁵ Ibid., par. 62.

⁴⁶ Ibid., par. 61.

2.5 *A Critical Review of the Use of Buyer Power as an Efficiency Defence*

The creation or increase of buyer power through a merger of two or more downstream firms may, at least in principle, result in higher consumer surplus as well as higher total welfare. Economic analysis suggests, however, that for such gains to be realized in the short run, it must be that (a) upstream and downstream firms interact through a bargaining interface, and (b) the newly merged firm will prefer to use its increased power to obtain lower per-unit purchasing prices (rather than, say, higher slotting fees). It must also be the case that at least some of these gains will be passed on to consumers (e.g., in the case of a consumer-welfare standard), which means that they must be large enough to outweigh any lessening of competition in the downstream market that may be expected to arise as a result of the merger. Whether these various conditions are likely to be jointly satisfied can only be evaluated on a case by case basis.

To the extent that these conditions may be difficult to determine *ex-ante*, particularly the form and the magnitude of the merger-specific efficiencies that may arise as the result of the increase in buyer power, a healthy skepticism may be warranted. This accords with the prevailing antitrust law and practice (on both sides of the Atlantic), which has thus far made it hard to recognize such gains under an efficiency defence.

In essence, an efficiency defence in merger analysis based on buyer power relies on the argument that it is sometimes beneficial to make downstream firms stronger and thereby shift the distribution of profits “downward”. We have focused on short run arguments. But, as noted in the introduction, in some industries, such as retailing, there is also concern about the *long-term* consequences of such a shift of profits away from upstream firms. By reducing suppliers’ profits, the exercise of buyer power may dampen suppliers’ incentives to invest and innovate and may ultimately lead in the long run to a shake-out among suppliers. With fewer firms present in the upstream market, prices may go up in the long run. Hence, even if in the short run welfare and consumer surplus may increase as profits are shifted away from suppliers and towards downstream firms, the long-term consequences of creating more powerful buyers may be the opposite of that.

Finally, the recognition of buyer power as an efficiency defence may also raise doubts on a conceptual level. In essence, the defence rests squarely on the presumption that stronger buyers can impose worse terms on their suppliers. One may ask to what extent is this less objectionable than if a merger between two sellers allows them to impose worse terms on final consumers?⁴⁷ To us it seems a distinction can only be made on two grounds. First, antitrust law and antitrust authorities have the explicit remit to prioritize or protect final consumers. Second, there is a strong presumption that both short and long-term losses in welfare will be greater if market power is exercised “downwards” instead of “upwards”. These issues provide an ongoing challenge for antitrust scholars.

⁴⁷ See Schwartz (2004) for similar concerns.

3. The Role of Countervailing Power

In this section, we change perspective and focus instead on the buyer power of the merged firm's own customers. The core argument that is often given is that the presence of strong buyers can mitigate or even fully avert adverse consequences for consumer surplus or total welfare that would otherwise arise from a horizontal merger of suppliers. While the merged firm may want to raise prices or impose anticompetitive practices, the "countervailing power" of strong buyers may impose sufficient constraints on suppliers.

In what follows, we discuss the key aspects of the "countervailing power" defence. Building on our discussion in the previous section, we review the arguments for why some buyers, e.g., those that are larger or those that are more sophisticated, may be more likely to place competitive constraints on the merged firm. We also discuss how these constraints could potentially protect other buyers, i.e., those that are smaller or those that are less sophisticated, from a worsening in their own terms of supply.

3.1 *Economic Principles of Countervailing Power*

Throughout this section, we take the perspective of a "bargaining interface" between suppliers and buyers (see Section 2.1). We do so because under the "textbook" view of how buyer power is exercised (as presented in Section 2.1), which essentially presumes the operation of some kind of anonymous market between upstream and downstream firms, we are not aware of any argument that could support a defence based on countervailing power.⁴⁸ In fact, it is sometimes argued (though only informally) that under the textbook view, the presence of buyer power might actually aggravate the adverse effects that a merger of suppliers could have on welfare and consumer surplus. That is, it is sometimes argued that, with a market interface, the presence of stronger buyers would rather lead to "coalescing power" instead of "countervailing power".⁴⁹

Countervailing power due to size and ability to substitute.

We can now rely on much of the discussion of the origins of buyer power in Section 2.2. What constrains the pricing power of upstream firms is the buyers' threat to substitute among suppliers or, where feasible, to create alternative sources of supply. An upstream merger may erode the disciplining role of the first of these threats as it reduces the buyers' available choices.⁵⁰ However, it need not affect the buyers' latter threat.

⁴⁸ A merger of upstream firms will result in a reduction of supply for the usual market power reasons, and this, coupled with a downward-sloping demand for inputs, will cause input prices to increase.

⁴⁹ A prominent proponent of this view is Adams (1987). In general, one has to be careful to distinguish two different variants of this argument. The variant we have in mind here asks whether higher downstream concentration would aggravate the consequences of a merger among upstream firms. The other variant is more concerned with the creation of buyer power in the presence of an already concentrated upstream market. It asserts that forging more powerful buyers would not provide a countervailing force to suppliers' market power but would instead lead to a coalescence of market power throughout the supply chain.

⁵⁰ It is important to note that even if the terms of trade do worsen for the downstream firms, the ultimate effect on overall welfare and on final consumers in the downstream market (at least in the short run) will

Depending on their knowledge and the specifications of the required input, for some buyers, an upstream merger may substantially shrink or even eliminate the choice between potential suppliers. If these buyers are also small, it may not be profitable and may thus not be credible to build up new alternatives by searching for other suppliers or adjusting production so as to accommodate different inputs. Larger buyers, however, may find it profitable to search for a new supplier even if the expected savings per unit of the purchased input are low.⁵¹ Furthermore, large buyers may find it easier to substitute to alternative sources because they may already be procuring from different sources.

A large buyer may also provide more of a constraining influence on upstream market power because it may be more able and willing to assume market structure responsibility on the supply side. That is, a large buyer may take it upon itself to encourage entry of new suppliers or engage in strategic multiple sourcing among suppliers so as to ensure that there is always sufficient competition between economically viable suppliers (see also Section 2.2). Also, if a merger threatens to significantly reduce the availability of alternative supply sources or if after the merger the supplier attempts to increase prices by a sufficiently large margin, a large buyer may be able to respond by integrating backwards to produce the respective input. Altogether, the presence of larger buyers among the downstream firms is thus likely to increase the scope of supply-side substitution, thereby imposing tighter constraints on the market power of upstream firms.

A merger of upstream firms may prove to be anticompetitive if it increases the likelihood and extends the scope of (both tacit and explicit) collusion. This is because a reduction in the number of competitors may make it easier to orchestrate as well as to sustain a collusive scheme. As discussed in Section 2.2, however, the presence of large buyers can reduce the threat of upstream collusion. Large orders made by buyers that control a substantial fraction of the final-goods market can make collusion less stable and thus less likely as they make it more difficult to implement market-sharing agreements and as they create more incentives for suppliers to deviate from such collusive schemes.⁵²

depend on whether and how the buyers' per-unit purchasing prices are affected. If, for example, the stronger upstream firm uses its increased bargaining power after the merger to negotiate, say, lower slotting fees instead of higher per-unit prices, then consumer surplus and total welfare after the merger need not change. For instance, O'Brien and Shaffer (2005) show that if the merged firm can bundle its product offerings when negotiating with a single downstream firm, consumer and total welfare need not change as a result of the merger. If, however, the merged firm is unable to bundle its product offerings, then whether consumers will be better or worse off after the merger will depend on the merged firm's bargaining power.

⁵¹ This argument suggests that commanding a larger purchasing volume essentially reduces the "lock-in" with a particular supplier as it becomes more profitable (and thus more credible) to switch. On the other hand, a smaller buyer may find it easier to temporarily tap into the spare capacity of a new supplier, while a large buyer may find it harder to locate a supplier with sufficiently large free capacity. Which way the argument cuts most will depend, in particular, on industry characteristics and the business environment (e.g., whether there is a boom with tight capacity). See Inderst (2005a) for a formalization of this trade-off.

⁵² To sustain a collusive scheme it is also vital to detect any deviations. It is, however, not obvious whether the presence of large buyers makes it harder or easier to detect deviations. On the one hand, the outcome of competition for a very large order should receive much more attention and scrutiny from all suppliers. On the other hand, to be sufficiently tempting a deviation in a fragmented downstream market may involve underbidding other suppliers on several orders, which may in turn increase the likelihood of detection.

Buyers' size and sophistication.

The main source of buyer power, which represents also the key constraint on suppliers' ability to behave anticompetitively, is the ability to substitute away from any given supplier's input. As discussed above, in general the profitability and thus the credibility of substitution should increase with the buyer's relative size. The larger is the buyer's intended purchase the more profitable, and thus the more credible it will be to switch suppliers or even to take pre-emptive steps such as (strategic) multiple sourcing in response to any price increase. The ability to substitute to other suppliers may, however, depend also crucially on the buyer's knowledge and sophistication, as we discuss next.⁵³

To locate an alternative supplier, the buyer may need crucial information along many dimensions. For example, the buyer will have to know about the existence of other suppliers, some of which may be located at quite a distance and even in different countries.⁵⁴ Here, once again, the incentives for becoming more knowledgeable about the upstream market can be expected to be increasing in the buyer's size. If downstream firms themselves have a high technical know-how or if there is overlap with the know-how that is required to produce the input, a buyer may even be able to provide a new entrant to the upstream market with the necessary know-how.⁵⁵ What is more, in the absence of perfect substitutes the buyer must know which firms produce products that make it both technically feasible and ultimately profitable to replace an existing supplier.

How broad is the shield of countervailing power?

The countervailing power defence rests on the presumption that powerful buyers will be able to protect themselves – and thus, ultimately, also final consumers – against adverse changes in the terms of supply following a merger of suppliers. Often, not all buyers in an industry are large and powerful, which raises the question of whether and under what circumstances the presence of (few) powerful buyers also shields other, smaller or less powerful buyers from the imposition of more adverse terms of supply.

One way that smaller (or otherwise less powerful) buyers may benefit from their larger counterparts is if the countervailing power exerted by these other firms frustrates collusion among suppliers. To see how this can work, consider first the suppliers'

⁵³ It is sometimes also argued that the preparedness of a buyer to switch suppliers will depend on how the costs of purchasing the particular input compare to the firm's total costs. We do not find this convincing, however, because a profit-maximizing firm should be willing to switch suppliers if the resulting benefits exceed the associated costs, irrespective of the *fraction* of total costs made up by this particular input.

⁵⁴ Another argument posits that a more knowledgeable buyer may also be more adept at spotting any "supracompetitive" pricing by its suppliers, presumably because it has a better idea of their costs. However, on the other hand, absent differences in the costs of switching, a lack of such knowledge may sometimes be beneficial to the buyer as it also makes it more difficult for suppliers to share increases in their production costs given that the buyer cannot distinguish between cost-justified and unjustified increases in prices.

⁵⁵ This should apply in particular if the buyer was previously vertically integrated or if it outsources only a small fraction of its required inputs. For instance, car manufacturers are arguably very sophisticated buyers in this sense as their expertise and technical know-how often exceeds that of their chosen suppliers. In addition, car manufacturers may often possess the patents under which their suppliers produce components. See also Nordemann (1995), who singles out car manufacturers as being particularly sophisticated buyers.

competition for the large buyer's contract. As discussed above, it is more tempting for an individual supplier to deviate from the collusive regime if the order size is large. This makes collusion on the large buyer's order less likely. Suppose now suppliers try to collude on just the small buyers' contracts. The fact that the large buyer's contract is no longer part of the "collusive pool" implies that the threat of destabilizing the collusive regime, which prevents firms from deviating, will be less powerful than before. This, in turn, implies that collusion on the small buyers' contracts will also be less likely. Hence, the large buyer may benefit all buyers, as it may undermine the scope and the likelihood of collusion not only on its own contract but also on the small buyers' contracts.⁵⁶

When there are only unilateral effects from a merger, the argument for why smaller (or less powerful) buyers can be equally protected by the presence of more powerful buyers is less clear-cut. If some buyer derives its power from its sophisticated purchasing strategy, there is no generally convincing reason why other buyers should be directly affected. While the more sophisticated buyer has more and better abilities to substitute for any given supplier, suppliers do not have to grant less sophisticated buyers a similar discount to prevent them from switching. As we argued above, however, larger buyers may also be more willing to assume market structure responsibility and encourage or even sponsor the entry of new suppliers. As long as this is not done on the basis of exclusive relationships, this should increase the outside option of all buyers.⁵⁷ This also suggests that the degree and nature of downstream competition among the various buyers may be important. Fiercer downstream competition may induce larger firms to take steps that protect only themselves from a lessening of competition between suppliers, as these firms may stand to gain from an increase in their rivals' costs after an upstream merger.

3.2 Past Experience with the Countervailing Power Defence

The U.S. merger guidelines do not specifically recognize a defense based on powerful or sophisticated buyers preventing the merged firm from exercising its market power. Notwithstanding its absence from the guidelines, in numerous cases the enforcement agencies and courts alike have approved mergers on the grounds that the markets were characterized by buyers that were large or otherwise powerful enough to counteract the market power of the merged firm.⁵⁸ The importance of buyer power in merger analysis has been further trumpeted in a number of speeches by agency officials.⁵⁹

⁵⁶ This argument follows Snyder (1996).

⁵⁷ Katz (1987) shows that less powerful buyers may benefit from the ability of a more powerful buyer to integrate backwards if price discrimination is either not feasible or illegal. In this case, less powerful buyers can enjoy the same discount (see also O'Brien (2002)). However, this argument may no longer apply if buyer power is due to size as this allows the supplier to engage in second-degree price discrimination by offering discounts for high-volume purchases, which may be difficult to challenge successfully in court.

⁵⁸ See Kleit and Coate (1993).

⁵⁹ See, for instance, Mary Lou Steptoe, *The Power Buyer Defense in Merger Cases*, Remarks before the ABA Section of Antitrust Law (Aug. 10, 1992); Robert Pitofsky, *Thoughts on "Leveling the Playing Field,"* Remarks before the National Health Lawyers Association Twentieth Annual Program on Antitrust in the Health Care Field (Feb. 13, 1997); and Marius Schwartz, *Buyer Power Concerns and the Aetna-Prudential Merger*, Address at the Fifth Annual Health Care Antitrust Forum (Oct. 20, 1999).

As this chapter does not provide the scope for a thorough review of the evidence from the numerous cases, we confine ourselves to offering a quick glance at the discussion in Steptoe (1993). Two arguments for how existing buyers may constrain the market power of a newly merged upstream firm stand out. First, Steptoe observes that the presence of “informed buyers”, who can quickly spot suppliers who engage in supra-competitive pricing and find alternative suppliers, was decisive in several instances. Second, Steptoe observes that the ability of buyers to integrate backwards (or sponsor new entry) may also serve as a constraint on the ability of a newly merged upstream firm to engage in supra-competitive pricing, though less so if the input is highly complex.

Turning again to the other side of the Atlantic, the European Union’s new merger regulation of 2004 and the new guidelines on horizontal mergers take explicit account of the possible role of countervailing power.⁶⁰ Countervailing power is recognized as having potentially a strong constraining effect on the merged firm. The guidelines understand countervailing power “as the bargaining strength that the buyer has vis-a-vis the seller in commercial negotiations due to its size, its commercial significance to the seller and its ability to switch to alternative suppliers”.⁶¹

3.3 A Critical Review of the Countervailing Power Defence

The role of countervailing power has played an important role in a number of merger cases – both in the U.S. and across the Atlantic. In these cases, the exercise of countervailing power by larger or otherwise more powerful buyers was presumed to be sufficient to constrain the (newly gained) market power of a merged supplier. Though U.S. authorities, in particular, have clearly shown care and scepticism when resorting to arguments of countervailing power, the general attitude stands in marked contrast to the undeniable reservations that are shown towards buyer power as an efficiency defence.

Whether the more favorable treatment of the role of countervailing power is justified is not clear. The countervailing power defence suggests that vertical tension through the exercise of countervailing power is an adequate substitute for horizontal competition among sellers. The arguments presented above relate, however, almost exclusively to the short run. That is, one asks whether after a merger a supplier can increase prices or impose more generally adverse changes in the terms of supply. Constraining the short-run market power of firms is, however, only one benefit of competition. Competition is a vital disciplining device, which forces firms to cut back on slack and internal inefficiencies. Competitive forces are typically also invoked as the

⁶⁰ Article 2 of Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings and the guidelines on the assessment of horizontal mergers (2004/C 31/03).

⁶¹ See par. 64. An important qualification, however, which is in line with the arguments in Section 3.1, is that countervailing power cannot off-set potential adverse effects of an upstream merger if it only shields a particular segment of customers from adverse conditions (par. 67).

main drivers for product development and cost innovations. One wonders to what extent countervailing power can be expected to exert the same kind of pressure on suppliers.⁶²

The whole notion of countervailing power also suggests that more “symmetry” (or “balance”) between upstream and downstream markets increases efficiency and welfare. One defence of such a view could come from long-run considerations. A more balanced market structure may ensure that both upstream and downstream firms have sufficient incentives to invest and to stay in the market in the long run, while tilting the balance of power too much towards one side may erode incentives on the other side. The importance of investment incentives on either side of the market should, however, vary substantially between industries. To what extent these issues should affect the treatment of countervailing power in merger analyses is an open question and awaits further study.

4. Conclusion

Economic analysis suggests that the exercise of buyer power can, at least in principle, constitute a valid merger defence. We presented various arguments for why a merger of downstream firms may make it easier for them to extract more favourable terms of trade from their suppliers. Facing lower purchase prices, the merged firm may then increase its input purchases and, unless it is a price taker in the downstream market, also reduce its own prices and increase the quantity it supplies to final consumers. Furthermore, the merged firm’s competitors in the downstream market may respond by cutting their prices and or increasing their supply, which would further enlarge the gains in both total welfare and consumer surplus. Altogether, the associated benefits may, at least in principle, more than outweigh the loss in welfare and consumer surplus that could follow more directly from a lessening of competition in the downstream market.⁶³

Economic analysis also suggests, however, that this line of argument hinges crucially on two assumptions. First, buyers must be able to deal individually with their respective suppliers, e.g., by engaging in bilateral negotiations. The reason is that, Robinson-Patman issues aside, the negotiated supply contracts potentially may allow for discrimination – both in purchase volume and in price – between different buyers, with larger or otherwise more powerful buyers obtaining better deals. In contrast, the opposite view, which perceives the upstream and downstream firms as interacting through an anonymous market interface, generally offers no role for buyer power as a possible efficiency defence. This is because, under this view, the exercise of buyer power derives from the buyers’ withholding of demand for inputs. Although this reduces the market price for inputs, the associated restriction of demand does not benefit final consumers.

The second assumption that underlies the argument behind buyer power as an efficiency defence in merger analysis is that the merged firm uses its increased power to negotiate lower per-unit prices. Otherwise, as we discussed above, a shift in power between upstream and downstream firms may then have only distributional implications,

⁶² Of course, this argument could also cut the other way. In an industry in which there are a small number of buyers and sellers, co-operation on product development and R&D may be fostered. In contrast, in much less concentrated markets problems of free-riding and co-ordination may hinder such co-operation.

⁶³ This trade-off has been made explicit in von Ungern-Sternberg (1996) and Dobson and Waterson (1997).

without changing either total welfare or consumer surplus. For example, when negotiations take place over more than just simple linear tariffs for the purchase of the upstream firm's good, an increase in buyer power will not necessarily have beneficial implications for welfare and consumer surplus---even if the more powerful buyer is able to lower its purchasing costs---because the buyer might simply negotiate lower fixed fees.

Thus, buyer power as an efficiency defence would seem to be more appropriate for (or limited to) markets in which a small number of suppliers produce differentiated goods, or in markets in which firms tend to interact bilaterally. In such environments, where there are relatively few upstream and downstream firms, there could be substantial variations between individually negotiated deals, and in these cases the exercise of buyer power no longer equates to a strategic withholding of input demand. Buyer power as an efficiency defence would also seem to be more appropriate for (or limited to) negotiations that are confined to simple linear tariffs because only then could one be sure that an increase in buyer power would manifest itself in a lower per unit purchase price. Of course, in addition, the expected gains must be large enough to outweigh any lessening of competition in the downstream market that may arise as a result of the merger. Whether these conditions hold can only be evaluated on a case by case basis.

Finally, we have reviewed several arguments that suggest that larger or otherwise more powerful buyers may find it more profitable or easier to substitute away from their current suppliers, which may in turn protect them against a worsening of their terms of trade following a lessening of competition in the upstream market. Economic analysis also suggests that large buyers can make collusion among suppliers less likely and less effective. One possible caveat is that the presence of powerful buyers may not shield smaller buyers from, in particular, the unilateral effects of an upstream merger. Though still open to formal analysis, this may, in particular, be the case if buyers are themselves competitors in the downstream market. More generally, many of the arguments – and their formalization – fall short of fully considering downstream competition. This leaves open many unanswered questions such as whether a market with fewer buyers and sellers might increase the potential for cooperative agreements that may extend vertically.⁶⁴

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⁶⁴ This is also one of the key themes in Adams (1953). Adam's example is that of workers (as providers of input) and firms colluding jointly to the detriment of consumers.

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