

Proper Treatment of Buyer Power in Merger Review

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Abstract In this paper, we assess the appropriate treatment of buyer power in merger review. We conclude that, for changes in bargaining outcomes due to a buyer merger to create efficiencies, it must be the case that, post-merger, the parties are able to arrive at a more optimal price schedule, perhaps due to reduced transactions costs. Empirical tests will be important to the evaluation of such efficiencies. We further conclude that, under certain conditions, powerful buyers may be able to prevent higher prices from a merger of suppliers. Once again, empirical tests should guide the evaluation of this merger defense.

Keywords Buyer power · Merger review · Monopsony

1 Introduction

The treatment of “buyer power” is an issue that arises in many merger cases. Although addressed in Sects. 8 and 12 of the recently revised Horizontal Merger Guidelines (“Guidelines”),¹ the treatment of buyer power continues to receive relatively little

¹ U.S. Department of Justice and the Federal Trade Commission (2010).

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attention in the Guidelines. In this paper, we examine the following question: What role should the presence of or increase in buyer power play in merger review?

We draw a sharp distinction between buyer power and the standard textbook model of monopsony power. The appropriate antitrust treatment of monopsony power is clear: Monopsony power is the mirror image of monopoly power, with output reduced inefficiently in order to increase buyers' profits. Hence, antitrust policy should appropriately be directed at limiting monopsony power.

However, the textbook model of monopsony power is a narrow description of buyer power. In a situation in which powerful buyers negotiate with powerful suppliers, a broader concept of "buyer power" is the ability for buyers to negotiate for a larger share of total surplus. Hence, in the remainder of this paper, we define buyer power as the ability for a buyer to capture a higher share of surplus when bargaining with a seller, and we assess the appropriate treatment of buyer power in merger review—both the creation of buyer power through a merger of buyers and the constraint that existing buyer power may place on price increases arising from a merger of sellers.

We first ask whether, in a merger of two buyers, an increase in buyer power should be treated as a merger-related efficiency. We conclude that, in bargaining settings—in which a buyer and a seller are generally able to negotiate non-linear pricing schedules—there is no inherent reason why a greater share of surplus going to buyers should be treated as a pro-competitive efficiency.² The relevant question for a merger of buyers—as with a merger of sellers, since we see no basis to apply different standards in evaluating the two types of mergers—is whether, under the post-merger pricing schedule, total surplus is larger than under the pre-merger pricing schedule.³ A greater share of surplus that is captured by buyers does not necessarily imply a pricing schedule that generates larger total surplus.

For changes in bargaining outcomes due to a buyer merger to create a true efficiency, it must be that, post-merger, the parties are better able to arrive at an optimal non-linear price schedule, perhaps due to lower transactions costs, which moves output closer to the competitive level. Hence, we conclude that reduced transactions costs in negotiations with sellers may potentially be an important efficiency from a merger of buyers. However, because the level of transactions costs may not be amenable to verification purely by theoretical analysis or easy-to-observe industry or firm characteristics, empirical tests will be important to the evaluation of such efficiencies when they are claimed by merging parties.

We then turn to the role of powerful buyers in the evaluation of a merger of firms that serve as suppliers to those buyers. In particular, we ask: Under what conditions can the presence of powerful buyers prevent the higher prices that would otherwise arise from the merger of two suppliers? This is the topic of Sect. 8 of the Guidelines. We conclude that, under certain conditions, powerful buyers may be able to prevent

² This is exactly analogous to stating that, in a merger of two sellers that creates seller market power, there is no necessary reason for the increased surplus going to sellers to be treated as a pro-competitive efficiency.

³ Throughout this paper, we adopt total surplus as our measure of welfare. Of course, there are circumstances in which a greater share of surplus going to buyers would lead to larger *consumer surplus* even if it lowered total surplus. Hence, a consumer welfare standard could yield different conclusions. For more discussion of the different implications of different welfare standards for the evaluation of buyer power see Salop (2005, pp. 669–715).

the higher prices that would otherwise arise from a merger of suppliers. However, these conditions do not hold in all cases and cannot be verified purely by theoretical analysis or easy-to-observe industry or firm characteristics. Hence, empirical tests of the ability for buyers to offset supplier price increases should guide the evaluation of this merger defense.

Section 2 discusses the distinction between buyer power and monopsony power. Section 3 investigates the implications for merger review of creation of additional buyer power through merger. Section 4 analyzes the effect of powerful buyers on mergers of sellers.

2 The Meaning of Monopsony Power and Buyer Power

If one were to equate buyer power and monopsony power, then the question of how to treat buyer power would be straightforward. Monopsony power refers to the incentive and ability for a buyer facing an upward sloping supply curve to restrict output in order to pay lower prices. As such, in a manner exactly symmetric to that for monopoly power held by suppliers, monopsony power is inherently inefficient and welfare reducing.⁴

Some might claim incorrectly that the ability for firms to obtain lower input prices via the exercise of monopsony power may be an efficiency, perhaps because they surmise that the lower input prices will translate into lower downstream prices. Such a claim is belied by the fact that a firm with monopsony power obtains lower prices by reducing the quantity of inputs that it purchases and thus produces less output. Hence, given a downward sloping demand curve in the downstream market, downstream prices must rise (and total welfare fall) due to the exercise of monopsony power.⁵ These higher downstream prices arise despite lower input prices because, in the monopsony model, firms do not rely on the price of the input when determining the marginal cost of an incremental downstream sale, but rather consider the shadow price of the input, which incorporates the increase in inframarginal prices that occurs when an additional unit of input is purchased.⁶ The Guidelines correctly reflect the anti-competitive nature of monopsony power.

However, the monopsony model is actually quite narrow as a description of “buyer power.” In particular, it is based on the restrictive assumptions that a buyer pays the same price per unit for all units of the input and that the amount paid per unit increases (according to the supply curve of the sellers) if more units are purchased. These assumptions are widely violated, particularly in the more sophisticated con-

⁴ For more discussion of the symmetry between monopoly power and monopsony power, see [Noll \(2005, p. 591\)](#).

⁵ In fact, even if the demand curve facing the firm were perfectly elastic so that the output price does not rise, there would still be an economic inefficiency since the firm would produce too little output. Even if other firms were to make up the reduction in output, there could still be an economic inefficiency if the production by a relatively low cost, inframarginal firm were replaced by more production from higher cost, marginal producers.

⁶ Put differently, the shadow price of the input that a monopsonist uses to price its output is not the input price but the derivative of the input supply curve (sometimes called marginal outlay).

tractual negotiations that are often associated with input purchases. For example, the monopsony model assumptions are violated by the presence of (non-cost-based) volume discounts or, more generally, non-linear pricing terms.

Hence, in the remainder of this paper we define buyer power (more generally than the special case of monopsony power) as the ability for buyers to capture a larger share of surplus when negotiating with a supplier. We consider the appropriate treatment of buyer power under antitrust policy.⁷

3 Under What Conditions can a Merger of Buyers be Efficient?

3.1 Efficiencies Due to Changes in the Bargaining Outcome

A more general setting in which to define buyer power is a bilateral bargaining game, in which a buyer and a seller (neither of which is a price taker) negotiate jointly over *price and quantity*, unlike the monopsony model in which the buyer sets the price and the sellers produce according to their marginal cost curve, taking that price as given. Because quantity can be negotiated jointly with price, there is no need for a buyer to be constrained to choose price and quantity combinations on the supply curve, and therefore it is not necessarily the case that the buyer must restrict its input purchases in order to obtain a lower price. In this context, we define an increase in *buyer power* as the ability for a buyer to obtain a greater percentage of the combined surplus created through an agreement with a given supplier.

Under this model, a relevant question is whether an increase in buyer power that is due to the merger of two buyers should be treated as a merger-related efficiency.⁸ One's first instinct may be to say yes: If a merger of buyers enables the buyers to capture a greater share of surplus, this seems analogous to other merger efficiencies that lead to price reductions (and thus greater surplus) for buyers. The problem with this logic is that, in a bargaining game, in which buyers and sellers negotiate over non-linear price schedules, the relevant question for efficiency is whether the non-linear price contract leads the buyer and seller to increase the total amount of surplus. For example, if pre-merger supply was below the competitive level, then a reduction in marginal price at all quantities will lead to greater output and greater surplus.⁹ However, the fact that the buyer captures more surplus does not imply that the relevant marginal price falls, that output is closer to the competitive level, or that total surplus has increased.

So, under what conditions can a merger of buyers lead to merger efficiencies that are due to changes in the bargaining outcome? The answer must be that, for some

⁷ It is possible that the changes that lead to increased buyer power *also* change total surplus, so that buyers could end up with more surplus even if they capture a smaller share of surplus. We would *not* call this an increase in buyer power. Rather, our definition of an increase in buyer power requires that the buyer captures a greater share of the total surplus.

⁸ Note that for this discussion, we are assuming that the merger of buyers *does* actually increase buyer power, in the sense that it increases the share of surplus captured by the combined buyers. There are certainly models where this is not the case. See, for example, Chitty and Snyder (1999, pp. 326–340) and Raskovich (2003, pp. 405–426).

⁹ We assume that the negotiated $p(q)$ schedule has the property that $p''(q)$ is negative.

reason, buyers and sellers were not able to arrive at an efficient contract (in which marginal price equals marginal cost at the competitive level) pre-merger, but are able to do so (or at least come closer to doing so) post-merger.

Why would this be the case? One possibility would be a reduction in transactions costs that are due to the merger. Perhaps it is simply easier for a seller to work out, monitor, and enforce a single, efficient contract with one buyer than it was with multiple buyers. Alternatively, if there is more surplus at stake in negotiations with a larger buyer, perhaps there is sufficient return to incentivize firms to pay the transactions cost to work out an optimal contract. Or, perhaps by combining the information possessed by multiple buyers and reducing the number of buyers that a seller must study, a buyer merger can solve the asymmetric information problems that were preventing optimal contracts.¹⁰

3.2 Need for Empirical Analysis

It is clear that, as a matter of theory, efficiencies due to reductions in transactions costs or reductions in asymmetric information should be incorporated in merger review. But how is one to measure such efficiencies? Certainly one can try to look at existing contracts, as well as company documents on how the merger may change those contracts, but measurement of transactions costs and asymmetric information is likely to be quite slippery in practice. Hence, we recommend strong emphasis on industry-specific empirical evidence. In the remainder of this section, we propose some of the types of tests that might be used.

First and most basically, to the extent that there have been previous mergers between buyers in the industry, we would encourage strong reliance on the outcomes of these mergers. In particular, the effect of previous mergers on output (both input purchases and downstream output) is likely to be particularly informative. Evidence of increased output that followed previous buyer mergers suggests important efficiencies from such mergers.

Absent previous buyer mergers, alternative sources of variation should be sought to test whether efficiencies are likely to exist as a result of a merger of buyers. One possibility arises from noting the analogy between the efficiencies being discussed here (for horizontal buyer mergers) and efficiencies commonly claimed in *vertical* mergers. In each case, the argument is that, pre-merger, buyers and sellers cannot arrive at optimal contracts (with marginal price equal to marginal cost at the competitive output) and that the merger can help to overcome these contractual difficulties. Hence, if there have been previous vertical mergers in the industry, evidence of improved outcomes (*e.g.*, greater output) following these mergers supports the claim that there are important contractual inefficiencies to be overcome.

Alternatively, if there are certain buyers who do not participate in all geographies or product lines, then one could attempt to use cross-sectional variation to measure the

¹⁰ Note that analogous arguments could be made in the case of a merger of suppliers. So, an alternative statement of our conclusion is that, in markets characterized by bargaining between buyers and sellers, mergers of buyers or suppliers can create efficiencies if they enable the formation of contracts that are closer to the socially optimal ones.

effect of variation in the number (or market share) of buyers on marketplace outcomes. In this case, it will be important (and potentially quite difficult) to control for the other differences across regions or products or to use exogenous sources of variation in buyer counts as instruments.

4 Under What Conditions can the Presence of Powerful Buyers Prevent the Higher Prices that would Otherwise Arise from the Merger of two Suppliers?

4.1 Levels Versus Changes

In this section, we consider the argument that powerful buyers may be able to mitigate price effects from a merger of two upstream sellers.¹¹ As an initial matter, we note that it is far from certain that the presence of powerful buyers will prevent (or even reduce) the price effects that arise from a merger of two suppliers. It is certainly natural to expect that powerful buyers can command lower price *levels* than other buyers. However, what matters for merger analysis is the *change* in prices due to the merger. Economic theory indicates that powerful buyers are already likely fully utilizing their power pre-merger. From this starting point, a merger of suppliers changes relative bargaining power—leaving all buyers, even powerful ones, with fewer options to use in negotiations—and thus likely leads to higher prices.

Indeed, it is entirely possible that the presence of powerful buyers could lead to *larger* price effects from a merger of suppliers. Consider the following simple example: There are only two sellers. Absent powerful buyers, the sellers recognize their mutual interdependence and set monopoly prices. Hence, a merger will have no effect. Now suppose powerful buyers can prevent monopoly pricing by playing the sellers off against each other (as is often claimed when buyer power is used as a merger defense). In this case, in the presence of powerful buyers, pre-merger pricing will be at duopoly levels, while post-merger pricing will be at monopoly levels. Hence, the presence of powerful buyers may *increase* the adverse pricing effects that flow from a merger. Though this is a specialized example, it illustrates that there is no theoretical necessity that the presence of powerful buyers must always lessen the price effects from a merger.

4.2 Situations in Which Powerful Buyers may be able to Limit Merger Price Effects

The above discussion notwithstanding, there are certainly conditions under which powerful buyers may be able to mitigate the price increase from the merger of suppliers, many of which have been developed in previous economic literature.

¹¹ The economic forces in this section are analogous to those in Sect. 3. If buyers and sellers bargain with one another, it need not be the case that mergers of suppliers always reduce total surplus, as efficiencies (*e.g.*, reduced transactions costs) resulting from the merger may lead to sufficiently improved contracts that total surplus rises. However, in this section, we presuppose that, absent powerful buyers, the merger of sellers *would* lead to inefficiently higher prices and then ask whether powerful buyers can prevent this effect.

As one example, the threat of vertical integration by powerful buyers may mitigate any price effects from mergers.¹² In particular, if, in pre-merger negotiations between buyers and sellers, the threat that the buyer will “backward integrate” into the production of the suppliers’ product is a “marginal threat”—that is, a primary reason that sellers do not raise prices beyond their observed levels—then, because this threat is not diminished by a merger of suppliers, supplier mergers may have little effect on prices. Similarly, to the extent that a threat by powerful buyers to sponsor new entry is a marginal threat, then a merger of sellers may have little effect on pricing.

Alternatively, there may be conditions under which powerful buyers are able to enforce conditions that ensure pricing is at or near “undifferentiated Bertrand” levels, meaning that the presence of two or more suppliers is sufficient to ensure that price equals marginal economic cost. In such conditions, mergers of suppliers (other than two-to-one mergers) will have little or no effect on prices. For example, large, sophisticated buyers may have sufficient information to recognize the claimed sources of product differentiation are relatively unimportant—or to undo sources of differentiation by modifying products or providing supplementary services themselves—thus ensuring that competition is focused primarily on price. A more subtle version of this effect may be that the sources of differentiation that are often important when dealing with less sophisticated buyers (including end consumers)—such as brand image or product reputations—may be particularly hard for new entrants to replicate. In contrast, when dealing with a sophisticated buyer, a new entrant may need only replicate the technical specifications of the incumbent firms’ products (with the powerful buyer perhaps providing those technical specifications to the potential entrant), without needing to match the incumbent firms’ established image or reputation. If so, entry or repositioning may be more relevant when dealing with sophisticated buyers.

As another example of conditions under which powerful buyers can enforce pricing like that in the “undifferentiated Bertrand” model, powerful buyers may be able to recognize attempts by sellers to act in an oligopolistic fashion, and to induce more competitive behavior by offering very large sales volumes (perhaps as part of a long-term contract) to sellers that defect from any non-competitive pricing equilibrium, and then to monitor seller behavior to ensure that the defection actually occurs. More generally, powerful buyers may be able to move large sales volumes between sellers in response to small price differentials, thus creating the large price elasticities that are at the heart of the undifferentiated Bertrand model and that drive prices down toward competitive levels.

Finally, similar to the points raised in Sect. 3, above, one might expect sophisticated buyers to have negotiated non-linear contracts with suppliers that, among other things, eliminate double marginalization. If so, then even if a merger of sellers increases the sellers’ bargaining power, this will only affect lump sum transfers of rents, with the marginal price faced by the buyer—and thus the downstream price paid by end consumers, which determines output—determined by the suppliers’ true, underlying marginal cost of production, both pre- and post-merger.¹³

¹² For more discussion, see, for example, [Steptoe \(1993, pp. 493–504\)](#).

¹³ If there is only a short run rent transfer (with no change in marginal prices), then at least in the short run, there is no efficiency effect. However, in the long run, investment in the industry could be affected adversely.

4.3 Need for Empirical Analysis

The factors listed above, which determine whether powerful buyers will or will not offset price increases following mergers of suppliers, are not primarily about the size of buyers (or other easy-to-observe metrics of buyer power) but rather about specific institutional details with regard to the nature of bargaining between buyers and sellers. As such, the extent to which powerful buyers can offset potential merger effects may be very hard to intuit from theoretical analyses or easy-to-observe industry or firm characteristics. Hence, determining whether the existence of powerful buyers mitigates competitive harms from a merger of suppliers calls for empirical analysis.

Several types of empirical evidence are likely to be informative about whether mergers of suppliers are or are not likely to have price effects in the presence of powerful buyers.¹⁴ Most basically, to the extent that there have been previous mergers between sellers in the industry—at times when the mix of buyers was similar to today—we would encourage that strong reliance be placed on the outcomes of these mergers, both for input prices and for downstream prices, as these outcomes capture the relevant aspects of the underlying game. It may also be informative to study mergers in similar industries, or in the same industry in other geographic areas, if those alternative markets feature similarly positioned buyers as the market in question.

Absent previous mergers, alternative sources of variation should be sought to test whether the presence of powerful buyers will mitigate or eliminate merger price effects. If there are certain sellers who are not active in certain geographies, product lines, etc., then the effect of variation in seller count (or market share) on prices may be highly informative. To draw inferences from such cross-sectional variation, however, requires that sufficient controls are available for the other differences across regions and products or that there are sources of exogenous variation in seller counts that can be used as instruments.

Absent experiments in which the number of sellers varies across regions or over time, other less direct tests of efficiencies from merger may be possible. For example, if most buyers (and especially powerful buyers) do (not) negotiate with all available suppliers when making purchase decisions, this indicates that it is (not) helpful to negotiate with the full set of sellers and thus that supplier mergers are (not) likely to have significant pricing effects. Alternatively, note that, according to standard bargaining models, changing the number of sellers matters to the extent that it affects the outside options that are available to a buyer during negotiations with a given seller. Hence, evidence on other how other factors that affect buyers' outside options (*e.g.*, the

Footnote 13 continued

We encourage additional study of the investment effects of mergers, including both investment-enhancing efficiencies and investment-deterring rent transfers.

¹⁴ In addition to the empirical tests described here, it will likely also be informative to ask large buyers for their views of the merger. If they support it, this provides strong evidence that they are able to mitigate or eliminate anti-competitive price increases. If they do not support it, the merger could still be pro-competitive, but the rents accruing to large buyers must decline, suggesting cause for skepticism with regard to buyer power defenses that are advanced by the merging parties.

ability to use substitute production processes that do not require the input in question or availability of in-house sources of supply) affect prices may allow the calibration of a model of bargaining effects, which could then be applied to the specific supplier merger at issue.

4.4 Effects on Large and Small Buyers

Even if evidence indicates that powerful buyers can protect themselves against merger-related price effects, there may still be effects on smaller buyers. An important question for antitrust policy to grapple with is whether to be concerned about the price increases on smaller buyers—even if those price increases drive the small buyer out of business—as long as large buyers survive and compete.

We propose the following high-level answer to this question: If there exists a reasonably large number of large buyers, such that the downstream market would remain highly competitive even without price constraints from the smaller buyers, then there is little cause for concern. Although small buyers may be harmed, total (and consumer) surplus will not diminish. However, there is cause for concern if competition among the larger buyers is imperfect, such that an increase in costs for the smaller buyers would create a “pricing umbrella” for higher prices to end consumers.

Although this general framework should serve as the guide to antitrust policy, it may be difficult to determine how competitive the market would be if only large buyers survived. More generally, it is likely to be difficult, as a matter of theory, to determine the extent to which differential cost changes on small and large buyers will affect downstream prices. Once again, appropriate empirical tests are called for. One fruitful test may be to examine situations in which differential cost changes (perhaps due to different production locations, differential effects of exchange rates, etc.) have affected different firms, so as to study the ultimate effect on downstream prices.

5 Conclusion

Despite the relative lack of attention that is paid to the topic of powerful buyers in the Guidelines, the role of powerful buyers raises thorny questions for merger review. Such questions include the extent to which mergers of buyers can lead to more efficient contracts with suppliers and the extent to which the presence of powerful buyers can offset higher prices from supplier mergers. The difficulties arise from the fact that answers to these questions turn on specific details of underlying bargaining games, which are hard to observe in practice. Hence, answers to these questions will depend on empirical tests that have been applied to the specific industries and firms in question.

In this paper, we have suggested the types of tests that may be most fruitful. We hope that subsequent literature will continue to analyze these complex issues, develop appropriate empirical tests, discuss methodological issues with the implementation of the tests, and present results for specific mergers in a range of industries.

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References

- Chipty, T., & Snyder, C. M. (1999). The role of firm size in bilateral bargaining: A study of the cable television industry. *Review of Economics and Statistics*, *81*, 326–340.
- Noll, R. (2005). 'Buyer power' and economic policy. *Antitrust Law Journal*, *72*, 589–624.
- Raskovich, A. (2003). Pivotal buyers and bargaining position. *Journal of Industrial Economics*, *51*, 405–426.
- Salop, S. (2005). Anticompetitive overbuying by power buyers. *Antitrust Law Journal*, *72*, 669–715.
- Stephoe, M. L. (1993). The power-buyer defense in merger cases. *Antitrust Law Journal*, *61*, 493–504.
- US Department of Justice and the Federal Trade Commission. (2010). Horizontal Merger Guidelines. Retrieved January 20, 2011, from <http://www.justice.gov/atr/public/guidelines/hmg-2010.html>.