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Negotiation and Merger Remedies: Some Problems

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As Baer and Redcay (2001) observe, "in recent years, merger enforcement has largely been accomplished by negotiation rather than litigation," and over two-thirds of FTC and DOJ merger challenges in fiscal 1998 and 1999 were resolved by "negotiated restructuring." Yet, while there is a lot of economics literature on the effects of mergers, I am not aware of much on merger fixes and divestitures. Similarly, while there is a lot of economics literature on optimal government merger policy if "the government always wins," I do not know of much economic analysis of policy for the government as antitrust *negotiator and litigator*. This chapter is a very preliminary exploration, making three somewhat separate points.

First, agencies should beware of over-trusting the *buyer* of the divested assets. [1] A strong argument can be made that the buyer is a teammate not of the agency but of the merging parties.

Second, many commentators disapprove of "remedies" that do not directly fix competitive problems arising from the merger. One economic rationale for such disapproval concerns effects on incentives for firms to seek and pursue merger opportunities. Perhaps surprisingly, this could suggest a somewhat unsympathetic attitude toward efficiencies that coexist with competitive harm, even if the real policy goal is total surplus.

Third, the government does *not* always win. An oversimplified bargaining model of remedy *negotiation* between the agency and the merging parties suggests that, even if its true goal is total surplus, an agency might encourage staff to **discount (or even be hostile to) efficiencies**, especially when the parties have significant bargaining power. This is because efficiencies will already be taken into account through the parties' influence on the actual (bargaining) outcome. With symmetric bargaining power, one model suggests that if the true goal is total surplus then the government should pursue consumer (or non-parties') welfare and ignore effects on merging parties' profits such as efficiencies that will not be passed through.

I stress that this chapter is very much a suggestive exploration. None of what follows is fully worked out or ready for policy application, but it does show a need for further research.

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[1] I refer to the acquirer of divested assets as the *buyer*; as between the merging parties I do not distinguish between acquiring and acquired firms.

1. Is the Buyer an Ally of Competition?

The FTC *Staff Report* on divestitures suggests that when divestitures fail, the buyer's ignorance or lack of bargaining power (reluctance to demand much from the merging parties) may be to blame. This may reflect a general view that the buyer is broadly on the right side.

But since the buyer is buying assets from the merging parties, it has a close and flexible financial nexus with them. Standard cooperative bargaining theory, or the Coase Theorem, thus suggests that they will reach an agreement that maximizes (as best they contractually can) the sum of their payoffs. If the value of the merging parties' assets is maximized by failing to use them to the hilt – the core concept of a conventionally anticompetitive horizontal merger – then the total value to the *merging parties plus the buyer* may well also be maximized if they can replicate this outcome.

In the simplest case, an anticompetitive horizontal merger gives the merged firm an incentive to reduce output. If they would do this by shutting down some of their capacity post-merger, then much the same result can be obtained by selling this capacity to a buyer in a crippled form. Thus suppose that the merging parties have capacities k_1 and k_2, and that $k_1 + k_2$ is large enough that it pays (privately but not socially) to leave some unused. If they must divest k^* to a third firm with existing capacity k_3, but can cripple it so that it amounts only to tk^* (with $t < 1$), then, by the same token, one would expect it will be profitable to do so. That is, if, post-transaction, the merged firms 1 and 2 will control capacity $k_1 + k_2 - k^*$ and firm 3 will control $k_3 + tk^*$, then total profits to firms 1 to 3 jointly will be increased by setting t below 1. This does not involve fooling or browbeating firm 3 about the level of t, although of course that could be another reason to reduce t.

Worse, if $k_3 > 0$ then the three-way joint incentives could be to cripple some capacity ($t < 1$) even if the two-way incentives for firms 1 and 2 jointly would not be anticompetitive. Divestiture can make things worse, even assuming $k_3 < k_1 + k_2$. In effect, the divestiture can bring firm 3 into the nexus within which competitive cross-effects might be anticompetitively internalized. There is a tradeoff, not always recognized explicitly.

More specifically, without divestiture, the unilateral-effect question is whether $k_1 + k_2$ is a large enough part of industry capacity to permit the

exercise of market power (with no behavioral controls on the merged firm's ability to do so). With the divestiture, the question is in part whether $k_1 + k_2 + k_3$ is large enough to permit the exercise of market power through choices (such as defining divested assets) that the firms can achieve *given limits on the divestiture contract.* Depending on the size of k_3 and on the rigors of those contract limits, one would expect the tradeoff could go either way. Importantly, this is quite different from the question of whether $k_3 + k^*$ (or $k_3 + tk^*$) gives firm 3 unilateral market power.

In short, the buyer has an incentive to help maximize the merger's anticompetitive effects, *because and as long as* the price it pays reflects the effects on the merging parties of the divestiture's competitive significance. It has no incentive to insist on, or help the agency insist on, a divestiture package that truly preserves competition. Nor has it an incentive to demand key complements that will make the transferred assets competitively potent. Doing such competition-friendly things would shrink the financial pie to be divided between the buyer and the merging parties; hence standard cooperative bargaining theory (or a private version of the Coase theorem) suggests we should not expect it.

The expression of joint market power on the part of firms 1 to 3 may not be limited to the destruction or crippling of capacity. If the three firms jointly have joint market power (as presumably they do when there is a problem to be remedied, since that suggests that firms 1 and 2 have joint market power), they may try to limit competition between the merged firm and firm 3 in other ways. For instance, they might include in the divestiture agreement various continuing entanglements such as some supply arrangements, seller financing, etc.

To a degree, these problems are well recognized. For instance, the agencies often prohibit divestiture deals that enshrine certain kinds of continuing entanglements, and of course divestitures that nakedly fix output prices would be unacceptable (and, I trust, illegal). Similarly, it is widely taken as a bad sign if the buyer is paying a zero (or negative) price, signaling that the divested capacity will have little value in the buyer's hands and is thus essentially being destroyed. But this screen has several holes. First, divestiture sales may include a variety of assets, so the price of the core capacity may be hard to pin down. Second, a buyer with a large market share might willingly buy crippled capacity, in order to make an anticompetitive deal go through. And third, the merger could create

anticompetitive gains even if the buyer gets the inframarginal or "good" capacity and the merging parties cripple some of what they keep; in that case, the buyer would presumably be willing to pay a high price for the capacity it gets. Thus, much may be riding on the agencies' behavioral rules about maintaining the assets that are to be divested: such rules may be hard to enforce, especially when staff lack specialized knowledge.[2] And, in general, I fear that the problem is sometimes underestimated.

In summary, the buyer and the parties have a common interest in limiting their competition if they have joint market power, which is presumably the starting point of the remedy negotiation process. This incentive can tempt them to cripple capacity and to structure deals so as to make the buyer dependent on the goodwill of the merged firm, but the implications go further. For instance, it will also affect the buyer's advice to staff about likely competitive effects of different divestiture packages.

This perspective, according to which the buyer is on the merging parties' team, differs in tone from (for instance) the FTC staff's 1999 *Divestiture Study*, which largely attributed failures to buyers' ignorance or lack of bargaining power, rather than to their incentives, even while expressing suspicion of the merging parties' incentives.[3]

Not only does my perspective differ from the *Study*'s, but it may seem rather pessimistic. In practice things often do seem better than this discussion might suggest, and it is interesting (if that impression is correct) to ask why. One point is that the incentives change dramatically if the divestiture price is fixed and no longer varies with what the buyer gets. Then it has an incentive to get as profitable a business as possible, and no longer internalizes the effect on the merging parties. But of course this is not an ideal solution, because the buyer now has an incentive to ask for everything!

Research and/or policy questions thus include: (a) when is the divestiture price (presumably including in-kind side payments, complicating matters) sufficiently fixed so that the buyer wants more, rather than wanting to maximize the joint profit; (b) is it empirically true that the buyer's attitude changes when negotiations have reached a stage such that it no longer has an

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[2] Baer and Redcay (2001) mention Schnuck's as an egregious failure in this respect.
[3] Baer and Redcay quote the Study to the effect that the merging parties "tended to look for marginally acceptable buyers and engage in strategic conduct intended to impede the success of the buyer."

interest in any anticompetitive effects; (c) would it be possible to structure divestiture negotiations so as to accelerate such a shift? And (d) what does all this say about optimal agency rules and practices about the negotiation of divestitures?

2. Scalps, Compensation, and Incentives

Agencies are sometimes accused of "taking scalps," demanding "remedies" unrelated to competitive *problems caused* by the merger. This is generally viewed as bad. Why?

I think there are two separate issues here.

- ■ An agency might seek to *maximize* competition, and/or demand (on behalf of consumers) a *more* competitive outcome after the merger-plus-remedy than prevailed before. I will call this *over-fixing*.

- ■ An agency might seek remedies not "closely related" to the competitive harms caused by the merger. I will call this *broad scope*.

Such behavior is often seen as inappropriate or unfair, terms that may not seem closely related to economic efficiency. Yet modern economics sometimes analyzes such concerns in terms of *ex ante* incentives. Thus consider incentives for parties to search for and pursue mergers.

Over-Fixing

Consider first a merger between two firms that jointly lack market power. If profit-seeking, the merger presumably is motivated by a prospective efficiency gain. An agency might be able to "hold up" the merger by demanding concessions, competition-related or not. Some, though not all, such demands would make the market work even more competitively and efficiently than it would with just the merger, although (by revealed preference) the parties would not gain. Is it bad for a competition authority to seek opportunities to improve market performance?

One obvious answer is that insistence on over-fixing might make the parties abandon the efficient merger. By analogy with double marginalization concerns generally, this might be all the more a concern where multiple agencies can demand concessions from a given merger

(whether through overlapping jurisdiction, as with communications mergers in the United States, or because of the need for clearance in multiple geographic jurisdictions).

A more subtle economic answer might be that, even if *ex post* the merger will go ahead, over-fixing confiscates part of the rents from finding the efficient merger and thus discourages firms from seeking out and pursuing efficiency-oriented mergers. This concern echoes modern economics' general concern with *ex post* holdup power even where it is (in a short-run sense) efficiently exercised.

If we want firms to have incentives to seek out all and only efficient mergers, it seems the ideal ("first-best") remedies policy would seek to make non-parties in aggregate (consumers plus other firms) exactly whole. That makes the parties residual claimants on the merger's efficiency effects, and plausibly gives them (jointly) efficient search incentives.[4] It would focus merger policy plainly on the *external effects* on non-parties such as consumers, consistently with much economic policy generally.

Such a policy might justify criticism of agency efforts to over-fix even through solely competition-oriented demands. But it would also have other implications.

For instance, it could require disgorgement in the case of efficient mergers that otherwise benefit consumers! More fundamentally, it seems there may be an internal consistency issue, at least if there are only a limited discrete number of possible remedies. The logic suggests that a merger that increases total surplus but harms consumers should not be approved, even if the policy goal is overall efficiency, since approval of such mergers would yield excessive ("rent-seeking") incentives to seek them out. But then if not all efficiency-enhancing mergers go through, it is no longer so clear that, for optimal search incentives, policy should seek to make the parties residual claimants when a merger does go through.

This suggests that incentives to pursue mergers should be analyzed in a "second-best" way; first-best arguments (such as the argument above against overcompensating consumers) are not necessarily compelling. A good

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[4] This also depends on the search and negotiation aspects of the merger game among firms. I do not pursue this here.

research topic would be the second-best remedies policy taking into account incentives to seek and pursue mergers.

Broad Scope

Suppose a merger will generate efficiencies but will also be anticompetitive. From the an economic—as opposed to legal—perspective, it is not immediately clear why a remedy must take the form of restoring competition. Why not ask more broadly how the winners (e.g. the parties) may most cheaply compensate the losers (e.g. consumers)? For instance, merging firms might simply share, through side payments, part of the cost savings from the merger. Or there might be pro-competition changes in some other market or along a different dimension (as with star pagination, perhaps). As long as the merger's efficiencies outweigh its inefficiencies, a Pareto improvement could be found in principle, and might be worth seeking in practice.

In a broad sense this would be consistent with the fundamental economics of the price system itself. That system can be viewed as a streamlined means of diagnosing an efficiency-improving choice (a "potential Pareto improvement") by forcing its beneficiaries to turn it into an actual Pareto improvement.[5] A similar program here would help test for whether the merger actually increases total surplus. That is, if parties capture only the efficiency gains and not the efficiency gains plus transfers, their incentive to search for and design deals would be closer to efficient.[6] Moreover, often a more closely targeted remedy inevitably threatens the potential efficiencies from a merger; why not countenance lower-cost ways to compensate consumers?

I suspect that many antitrust commentators would dislike this idea, and I may even agree; can we say why? I do not know the answer, but can see some problems. First, there may be a tendency to compensate only those losers who might otherwise block the deal: for instance, those likely to approach antitrust agencies, or to testify against the merger. Future consumers, in particular, might be left in the cold. Second, "distant"

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[5] That is, rather than investigate whether A or B more highly values A's car, and handing it over to B if B values it more highly (and thus *could* compensate A), the system requires that B *actually* compensate A. Among other properties, this can (especially in a smoothly functioning market) be a good way of finding out whether indeed B values the car more than does A.

[6] In particular it is not obviously a good answer that anticompetitive mergers reduce economic efficiency and that side payments do not fix that problem: if side payments can be well calibrated, there is a market test of the merger's efficiency contribution.

remedies may more likely be inadequate or excessive, because they might be substantively harder to calibrate and perhaps also for political-economy reasons. But there is obviously scope for much research on this.

3. Bargaining and Attitude to Efficiencies

Merger policy is typically analyzed as if "the government always wins." That is, economists have focused on identifying those mergers that should go through and those that should not. That research program would tell the agency what to do if it simply got to decide.

But it doesn't. Litigation is costly and risky for the government as well as for the merging parties. Therefore there may well be joint gains available relative to the default of litigation. What should an agency's negotiating strategy be?

In this section I sketch an oversimplified model of bargaining between the parties and an agency leading to a negotiated settlement. I then ask in the model how agency staff should be instructed to behave, in order to get settlements that maximize a higher-level payoff function.[7] I find that staff should be asked to be less sympathetic to efficiencies, and more narrowly pro-consumer, than the "true" payoff function, and that this "bias" should be stronger the more bargaining power the parties have (the weaker the agency). In a simple symmetric model, if the true goal is overall efficiency then staff should be instructed to disregard effects on the parties' profits, including efficiencies that are not passed through to consumers.

In the bargaining, the parties already represent their own efficiency interests, whereas narrowly consumer interests are represented only by agency staff. If the staff also took into account the parties' efficiency interests, those interests would be double-weighted, and hence (when the two conflict) consumers would be under-represented. This is an interesting light on the longstanding question whether antitrust should seek to protect consumer interests or total efficiency.

Analysis with an Ad Hoc Bargaining Model

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[7] I phrase this as "staff", but there are in fact many layers of principal-agent relationship, so what I call "staff" might in fact be the entire agency and court system, with the true goal represented only at a political or even a Platonic level.

Bargaining is, in part, compromise, so one might hope to model its outcome as maximizing a weighted sum of the bargainers' objective functions. Suppose the government "bargains for" an objective V, while the parties bargain to maximize their joint profits, P. Then this model predicts an outcome that maximizes the weighted sum $V + bP$, where $b \geq 0$ measures the parties' bargaining power relative to the agency's. For instance, if $b = 0$ then the agency can do whatever it wants; if b is large the parties can do what they want and the agency is powerless; if $b = 1$ then they have equal bargaining power.

Observant readers will note that this is not really a well specified model, since for example doubling V (which will not affect the agency's tradeoffs and thus should not affect anything) changes the prediction. In a swashbuckling spirit of initial exploration, I will ignore this problem and push ahead, leaving it to future work to see whether anything of value emerges. The Nash bargaining solution is a more rigorous approach; I give some Nash-bargaining analysis below.

Pushing forward with this *ad hoc* model, however, suppose for instance that the agency's true goal W is total surplus. If it simply pursues this goal in bargaining, then the outcome will over-weight the parties' profits relative to other components of total surplus, by a factor of $(1 + b)$. If $b = 1$, the parties' profits are double-counted.

Suppose then that the agency can negotiate as if its goal V were something different from its true goal W. It might do this, for instance, by "instructing staff" to maximize some other pseudo-goal V, even though front-office goals are W.[8] How should staff be instructed?

The answer in this model is simple: set $V = W - bP$. Then the bargaining outcome, which maximizes $V + bP$, thereby maximizes W. Two special cases seem instructively stark, and a thorny question arises.

First, if $b = 1$ and W is total surplus, then V should exclude the parties' profits, and thus exclude any merger efficiencies that will not be passed through. As between the consumer welfare standard and a simple

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[8] See Michael L. Katz, "Game-Playing Agents: Unobservable Contracts as Precommitment," *Rand Journal of Economics* **22**:3 (Autumn 1991), 307-328, for discussion of issues raised by this assumption.

formulation of the total surplus standard, this might suggest that even if total surplus is the true goal, staff should be instructed to focus on consumer surplus. In the previous section I sketched some reasons why *preserving* consumer surplus might seem a sensible goal; here the argument is for negotiating to *maximize* consumer surplus. In both cases the point is that even total surplus may be pragmatically better served in that way. One might express this as an argument that staff should be consumer advocates rather than arbiters of total surplus.

Second, if $b > 1$ (the parties have a lot of bargaining power), an argument for hostility to efficiencies emerges! Even if W is total surplus, V will now put *negative* weight on the parties' profits. The logic is that the parties will be fighting very effectively for their efficiencies; the agency should push back. Obviously this idea could have some strange and dangerous properties; if nothing else, I would recommend exploring it carefully in a better specified bargaining model. An interesting light on this is that those concerned with total surplus often suggest that if enforcement agencies become hostile to efficiencies their goals should be changed and their power should be reined in. This analysis suggests that increasing an agency's power (reducing b) may encourage it to take a more pro-efficiency line.

Third, the discussion so far concerns weighing the parties' profits against consumer surplus. How should the interests of rivals, and in general of non-party firms, be treated? The logic above suggests that if the true goal is total surplus then non-parties' interests might be treated much like consumers'. Again this raises well-known dangers that should be explored.

A final point arises if we focus specifically on a conventional horizontal merger's price effects. Consumers pay the full price effect X but the merging parties capture only a fraction of that effect: to first order (one would expect), the joint share s of the pre-merger parties and the buyer. With a fixed-cost efficiency of F, the parties' private objective function P might be roughly $F + sX$. Meanwhile the effect on total surplus is roughly $F – rX$, where r measures the first-order deadweight loss effect of a price change (typically nonzero if we do not start with a perfectly competitive equilibrium). To make the outcome $V+bP$ equal to $F – rX$, V must be *(1 – b)F – (r + bs)X*. So—again assuming that the true goal is total surplus—the model suggests that not only should large b cause the agency to give little or

negative weight to proprietary efficiencies, but in addition b and s interact to increase the weight on price effects (relative to efficiencies) beyond r.

There is (at least) an extra degree of freedom available: if the bargaining maximizes a constant times W, it will maximize W. To make the outcome thus align with $F - rX$, the model suggests that V should be $(c - b)F - (cr + bs)X$ for some constant $c > 0$. This reminds us that the bargaining model is poorly specified and at best exploratory.

Analysis with Nash Bargaining

Above, I used the poorly specified "maximize $V + bP$" approach to bring out the compromise aspects of bargaining. Here I briefly pursue the better specified Nash bargaining model, reproduce some implications from above, and find an oddity.

In Nash bargaining, rather than maximizing the weighted sum $V + bP$, bargaining maximizes the weighted product $(V - V_0)(P - P_0)^b$, where the 0 subscripts denote the values that arise if no agreement is reached.[9] Unlike the weighted-sum formulation, this is properly invariant to affine transformations of either bargainer's objective function.

As above, I contemplate choosing V strategically so that the bargaining outcome will maximize a true goal W. Then $V = W/(P - P_0)^b$. If W were, for instance, equal to consumer welfare CS, this formulation could then "explain" actual hostility toward profits and efficiencies—perhaps even efficiencies that will be passed through, if they increase profits more than they increase W. This latter possibility did not arise in the poorly specified model above unless $b > 1$.

More interestingly, suppose that W is total surplus, which we can write as $W = CS + P - P_0$. (Including P_0 makes no substantive difference but makes the following manipulation easier.[10]) Then V can be written as

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[9] A simple transformation shows that this incorporates the generalized Nash bargaining solution in which each party's gains relative to the default are raised to a separate positive power. In general one must distinguish the disagreement outcomes such as litigation that arise if negotiation fails, from those that flow to the parties during protracted bargaining; I leave this to future work.

[10] At least, it should make no difference. As I send this chapter to press, I wonder whether although affine transformations of the payoff functions leave the Nash bargaining outcome unaffected, they might somehow affect the strategic choice of bargaining pseudo-payoff analyzed here. If so, all this section

$$V = CS/(P - P_0)^b + (P - P_0)^{1-b}.$$

In this formulation V will reflect hostility to incremental profits at least when $b \geq 1$ and sometimes even for $0 < b < 1$. As above, even efficiencies that are passed through (and thus raise CS) could lower V by increasing P. Another provocative implication of these formulae is that the degree of hostility to a given increase in profits (measured as the compensating increase in CS that will leave V unchanged) increases as the *baseline* profit level P_0 rises.

One oddity is that when $b = 1$, the V derived from a consumer-surplus standard $W = CS$ is identical (up to a behaviorally irrelevant additive constant of 1) to that derived from a total-surplus standard $W = CS + P - P_0$. I conjecture that the implications for V of different profit weights in W may therefore change qualitatively as we pass through $b = 1$.

Commitment Problems

There are well-known commitment problems in giving such strategic incentives to agents (see the Katz paper cited above). Moreover, the parties can potentially counter by giving strategic incentives to their own agents, although the government might be better able to establish a reputation through repeat play with different opponents. It seems that in this model there is a strong second-mover advantage: for instance, given the agency's behavioral goal V, the parties could find a behavioral goal Q to make the bargaining outcome replicate P. Thus a deeper model is needed.

Concluding Remark

I have used this forum to urge economic research on negotiation aspects of remedy, and to suggest directions for such research. I do think buyers' incentives are less well aligned with competition than is often thought, although I find questions even there. The other sections of the chapter are emphatically incomplete, suggestive, and even provocative.

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would have to be radically re-thought. **[[This struck me as rather strange. Shouldn't the reader expect you to have worked this out? Or is this something you are planning to do before publication?]]**