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Opportunism in Multilateral Vertical Contracting: Nondiscrimination, Exclusivity, and Uniformity: Reply

By R. Preston McAfee and Marius Schwartz*

Leslie M. Marx and Greg Shaffer (2004) have usefully identified an error in our initial Proposition 2 (McAfee and Schwartz, 1994). In our view, this reveals a serious flaw in our modeling, but does not affect our basic point about the ineffectiveness of nondiscrimination clauses for deterring opportunistic recontracting when contracts involve two-part tariffs or other nonlinear pricing, instead of only per-unit prices.

Let us briefly recap our finding. Consider a monopolist input supplier M with constant marginal cost z that can sell to symmetric and imperfectly competitive downstream firms. The monopolist can offer each firm j a two-part tariff contract (r_j, f_j), where r_j is a per-unit price for the input and f_j is a fixed fee. Maximizing total industry profits requires selling to $n \geq 2$ firms (e.g., because their products are differentiated) and, because of their symmetry, at a common price, $r^* > z$ ($r = z$ would be optimal only with a monopolist downstream firm). Given *imperfect* competition, if all firms accept r^* then each earns positive operating profit π^*. If M could commit to publicly observed offers before downstream competition occurs, it would offer and all would accept (r^*, f^*), $f^* = \pi^*$. Can this outcome be achieved when M contracts with each firm bilaterally but discrimination clauses are feasible? We posited a game where M makes offers of contracts sequentially to firms 1 through n. Each firm can then invoke its nondiscrimination clause to replace its contract by any other that was accepted in the first round. Competition occurs once all firms have settled on their final contracts. Suppose all firms except the last have accepted (r^*, f^*). Then M and n can increase their *bilateral* profit by giving n a lower price $r' < r^*$, because M now ignores the fact that cutting r_n and making firm n more "aggressive" lowers other firms' profits, having previously collected their fixed fees. Such opportunism would be deterred *if* other firms would also switch to r'. Our key point, however, was that M can demand for r' a suitably chosen higher fixed fee $f' > f^*$ such that firm n would accept (r', f') but other firms—though harmed by the reduction in n's marginal cost—would prefer to stay at (r^*, f^*). In standard models of imperfect competition (e.g., Cournot or differentiated-products Bertrand), a decrease in a firm's marginal cost is worth less to it the lower is a rival's marginal cost, $\partial^2 \pi_j / \partial r_i \partial r_k < 0$. Thus, for a suitable f', firm n would pay $f' - f^*$ to reduce its marginal cost from r^* to r', but once firm n has attained r' other firms would find switching to (r', f') *not* worthwhile.

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We used this logic to claim (Proposition 2) that the above game has no equilibrium in which all firms operate under (r^*, f^*). Marx and Shaffer point out an error, analyzing the case of two downstream firms. Instead of the efficient contract (r^*, f^*), let M initially offer firm 1 a contract (r'', f''), where r'' is very high and f'' is near zero (consider $(\infty, 0)$ for simplicity), and such that firm 1 would earn zero net profit if alone in the market, along with a nondiscrimination clause. The monopolist will then optimally offer (r^*, f^*) to firm 2, foreseeing that 2 will accept and that 1 will invoke its nondiscrimination clause and switch to (r^*, f^*). With r'' very high and f'' near zero, any offer to firm 2 that caused firm 1 to stay at (r'', f'') would yield M negligible profit from 1, hence is dominated by having both firms operate under (r^*, f^*), which maximizes total industry profits and allows M full extraction. Thus, nondiscrimination clauses allow the monopolist to attain joint maximization in this game.

While this result is technically correct, in our

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view it does not provide a satisfactory resolution of the underlying economic problem for two reasons.

First, and most glaring, once all firms are at (r^*, f^*), there remain incentives for opportunistic bilateral recontracting between M and any firm. Such recontracting away from Marx and Shaffer's equilibrium is precluded only by the assumption that no further contracting is possible, as there is a final contracting stage. We posited such a game for simplicity, thinking—erroneously—that the simplification was innocuous. However, "solving" the opportunism problem by placing such strong reliance on a final contracting stage is artificial.

Second, the role of nondiscrimination clauses in Marx and Shaffer's analysis is to implement efficient contracts solely at the final stage: earlier movers accept inefficient contracts, and switch to (r^*, f^*) only after this contract has been offered to the last mover. This is harmless in the above, since all production occurs only after the final contracting stage; but this game, of course, is an abstraction. The main motivation for nondiscrimination clauses arises, we believe, when economic activity takes place over time and conditions change in ways that cannot be efficiently contracted upon *ex ante*. The supplier then would like to offer contracts that are efficient at the time while preserving flexibility to introduce new contracts as conditions evolve, but early movers will fear that such flexibility can be abused by opportunistically offering better terms to later movers. Nondiscrimination clauses offer the hope of assuring early buyers that prices will not be cut selectively to later buyers, thereby inducing early buyers to accept contracts that are efficient initially. Our key point is that this logic fails when buyers compete downstream and contracts involve two-part tariffs, because the flexibility to cut the per-unit price but raise the associated fixed fee can be used to offer a contract that only one firm will accept, notwithstanding the nondiscrimination "option."

Marx and Shaffer interpret their finding to support the power of nondiscrimination clauses. We continue to believe, however, that their efficacy is quite limited in environments with competing firms and contracts richer than linear pricing. Nondiscrimination clauses then fail to implement efficient outcomes over time and, once all firms have been offered efficient contracts, fail to eliminate the incentive for bilateral recontracting.

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