Comments on the DOJ and FTC Draft Vertical Merger Guidelines

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I. Introduction

The Draft Vertical Merger Guidelines (DVMG) that the Antitrust Division of the Department of Justice (DOJ) and the Federal Trade Commission (FTC) (collectively, the "Agencies") have put forward appear to be announcing a dramatic shift in policy in which the Agencies will challenge vertical mergers more frequently than they have in the past. It would be helpful for the Agencies to state whether they agree with this assessment and, if so, why they believe a change in policy is warranted.

One of the most significant contributions of economics to antitrust enforcement has been to get the Agencies and the courts to recognize the fundamental distinction between the economics governing the relationship among competitors (*i.e.*, horizontally related companies) and among "complementers" (*i.e.*, firms operating at different stages in a value chain or producing complementary products). For good reason, horizontal price fixing is per se illegal while vertical price restraints (and vertical restraints in general) are now subject to a rule of reason. Firms that compete at the same stage of production have a mutual interest in raising prices while firms operating at different stages of production can have a mutual interest in lowering prices. When "complementers" both have market power, a problem known as "double marginalization" can arise and, if so, a merger (or vertical agreement entailing restraints) between them can eliminate double marginalization (EDM), thus benefiting both the companies involved and consumers.

The "post-Chicago"[1] literature on vertical mergers that arose in the late 1980's demonstrated that, as a matter of economic theory, the competitive effects of vertical mergers are more complicated than the simple Chicago school analysis might seem to imply.[2] The argument that EDM is unambiguously procompetitive rests on the successive monopoly model which, by assumption, ignores any competitors that might be foreclosed. The post-Chicago literature considered a wider range of structural conditions in which foreclosure could occur and demonstrated the possibility that vertical mergers could be anticompetitive.

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[1] The idea that a vertical merger can benefit consumers by eliminating double marginalization is sometimes said to reflect the influence of the "Chicago school."

[2] Michael A. Salinger, "Vertical Mergers and Market Foreclosure," *Quarterly Journal of Economics*, vol. 103 (1988); Janusz A. Ordover, Garth Saloner, and Steven C. Salop, "Equilibrium Vertical Foreclosure," *American Economic Review*, vol. 80 (1990); Oliver Hart and Jean Tirole, "Vertical Integration and Market Foreclosure," *Brookings Papers on Economic Activity – Microeconomics* (1990); Michael A. Salinger, "Vertical Mergers in Multi-Product Industries and Edgeworth's Paradox of Taxation," *The Journal of Industrial Economics*, vol. 39 (1991). Although it appeared somewhat later than this wave of articles, another significant contribution is Michael Riordan, "Anticompetitive Vertical Integration by a Dominant Firm," *American Economic Review*, vol. 88 (1998).

That literature emerged after 1984, the year of the last merger guidelines from one of the Agencies to address vertical mergers. Since then, the European Commission has issued guidelines on the pre-merger review of non-horizontal mergers that drew heavily on the post-Chicago literature. Yet, until now, the US Agencies have not seen fit to issue new vertical merger guidelines that reflect the insights of that literature. The lag is not because the Agencies have been unaware of this literature or are averse to issuing guidelines. A natural question to ask about the DVMG is what development in our understanding of vertical mergers is causing the Agencies to signal a change in enforcement policy now.

II. The Challenge in Distinguishing Anticompetitive from Procompetitive Vertical Mergers

Example 4 in the DVMG provides an excellent foundation for understanding why the post-Chicago literature on vertical mergers did not cause a substantial change in U.S. vertical merger enforcement. It posits a single upstream firm (labeled "A" in the DVMG and "U" here) that sells an input to two competing downstream firms (labeled "B" and "C" in the DVMG and "D1" and "D2" here). If D2 did not exist, then the short run pricing incentives created by a merger of U and D1 would likely[3] create an incentive to lower prices. But since D2 does exist, the effect of eliminating double marginalization between U and D1 is not entirely procompetitive. All else equal, the elimination of double marginalization creates a foreclosure or "raising rivals' cost" (RRC) effect that can (but, crucially, need not) dominate the procompetitive effect with respect to the price D1 charges.[4]

If the agencies are going to challenge a vertical merger based on how it affects short run pricing incentives, a merger of an upstream monopolist with one of the two duopolists that it supplies is the structural condition that would seem to provide the most likely candidate for a merger challenge. A merger of U and D1 eliminates the sole independent supplier of the input to D2, leaving it at the mercy of its competitor. Intuitively, one might expect that such a merger must provide an incentive to the merged firm to raise the price of the input to D2.

[3] Just as oligopolists might collude (either tacitly or explicitly) to avoid the prisoner's dilemma inherent in their pricing, firms at successive stages might be able to agree to limit their margins to maximize their joint profits. And such agreements may be easier for vertically-related firms to reach because the agreements between them face more lenient antitrust treatment than do horizontal agreements. Still, pricing by firms with market power at successive stages is an example of a prisoner's dilemma. If firms reach an agreement to solve it, both would have an incentive to "cheat" by increasing their margins. As a general rule, I would find it surprising if independent firms are able to cooperate completely to solve the double marginalization problem.

[4] A vertical merger can create RRC pressure even if double marginalization is not present. The condition needed for a vertical merger to create RRC pressure with respect to the price an upstream firm charges for an input is that its downstream merger partner charges a positive margin prior to the merger. Some of the post-Chicago literature made assumptions under which the upstream firm's pre-merger price did not exceed marginal cost. Just as the successive monopoly model implicitly rules out the anticompetitive harm from vertical mergers, those models rule out the procompetitive benefit. The challenge for enforcement policy, though, is to find a reliable method for concluding that the anticompetitive effects are likely to dominate the procompetitive effects. A striking feature of the DVMG is that they first present potential theories of anticompetitive harm and then have a separate section on the elimination of double marginalization as a separate factor to be weighed against any RRC effects. Despite the theoretical possibility that a vertical merger can create an RRC incentive without there being any double marginalization to eliminate, the analysis of RRC should be an integrated element of the analysis of the effect of eliminating double marginalization when double marginalization is present prior to a merger.

But consider the following simple numerical example. Suppose demand for the output for D1 and D2 is given by:

(1) $Q_{1=} = 10 - 2\,p_1 + p_2$

(2) $Q_2 = 10 + p_1 - 2\,p_2$

where Q_1 and Q_2 are demand for the output of D1 and D2 respectively and p_1 and p_2 are the prices D1 and D2 charge final consumers. The key features of these demand equations are that the demand for each good is a decreasing function of its own price and an increasing function of its competitor's price. The "diversion ratio" in this example is quite high – 0.5 or 50%. For example, if D1 raises its price by 1, demand for its output drops by 2 and demand for D2's output increases by 1. Thus, half the demand D1 loses from its price increase goes to D2. As it turns out, the results of interest from analyzing this type of model do not depend on the level of costs. To keep things simple, therefore, assume that U produces the input with 0 cost and that the only costs D1 and D2 incur are the cost of the input they purchase from U.

Modeling vertical market structure poses a series of technical issues, so there is not a single correct approach to modeling the market outcome. But one standard approach would be to assume that U first determines the prices to charge D1 and D2 and that D1 and D2 then, taking both the price of the input and the price charged by their rival as given, choose their own price.[5] Let w_1 and w_2 be the price that U charges D1 and D2, respectively. Given these assumptions, the model predicts that, prior to the merger, U sets $w_1 = w_2 = 5$ and D1 and D2 both set their prices to final consumers (p_1 and p_2) to 6.67. Demand for both goods is then 3.33. The upstream firm earns profits of 5 x (3.33 + 3.33) = 33.33 while firms D1 and D2 earn (6.67 – 5) x 3.33 = 5.83.

Before turning to what the model predicts about the effect of a vertical merger, it is worth considering what it predicts about a horizontal merger between D1 and D2. Not surprisingly given that such a merger changes the market structure from duopoly to monopoly, it predicts that the merged firm would raise prices. Any of the techniques that the Agencies use to evaluate horizontal mergers would lead to such a conclusion. Merger simulation would entail solving the entire model. But one would reach the same conclusions by evaluating the upward pricing pressure (UPP). (Recall that the diversion ratio is 0.5.) And a structural analysis would conclude that the Herfindahl-Hirschman Index (HHI) would increase from 5,000 to 10,000.

While the model predicts an increase in prices from a horizontal merger, its prediction about the effect of a vertical merger between U and D1 is quite different. It is perhaps not surprising that it predicts a reduction in p_1 (from 6.67 to 3.96). What is surprising is that it predicts a decrease in w_2 from 5.00 to 4.70; and because of the combination of the lower input price and the more competitive level of p_1, the model predicts that D2 will lower its price as well, from 6.67 to 5.84. D2's profits drop, but not because of an anticompetitive RRC effect. Rather, its profits drop because of an increase in competition.

[5] If this set of assumptions yielded the results that many economists expect intuitively, I am confident that they be the starting point for analyzing vertical mergers (much as the model of Bertrand competition with differentiated products is the starting point for the analysis of many horizontal mergers).

The Agencies seem to be aware of this point, which is presumably why in their description of example 4, they do not assert that the merger increases the profit-maximizing price of the input for sale to D2.[6] Instead, they observe (correctly) that the minimum price that the merged entity would accept rather than refusing to supply the input at all is higher than the minimum price that U would accept as a stand-alone firm. They then rely on bargaining theory, in which the price charged falls somewhere between the minimum price the seller would accept and the price it would ideally like to charge, as a possible theory of anticompetitive harm. Indeed, DOJ put forth such a theory in its failed attempt to block the AT&T – Time Warner merger.

The example I have presented rests on assumptions that, if changed, could result in a qualitatively different conclusion. Of these assumptions, the most important is that U and the merged U-D1 are able to set the price for the input that maximizes their profits. That is, the downstream firms are not able to bargain with the upstream supplier to induce it to reduce the price below what it would ideally like to charge.[7] The development of bargaining models is a significant recent development in the modeling of vertical mergers. It would be interesting to hear from the Agencies whether it is this theoretical development that is the "new learning" that is the justification for proposing a significant change in vertical merger enforcement.

If the development of the bargaining models of vertical mergers is the rationale for the policy change, then the change is being driven by theory rather than evidence that the existing policy has been too lax. By contrast, if the Agencies were to announce tighter policy toward horizontal mergers (that, for example, places a greater emphasis on the risk that increasing concentration increases the risk of collusion), they could cite a substantial body of evidence that the Agencies and courts have been somewhat too lenient.[8] I am not aware of similar evidence with respect to vertical mergers.

I should emphasize that in putting forward this example, I am not arguing that vertical mergers have to result in pro-competitive pricing incentives. Rather, to be economically sound, a policy that takes a more aggressive stance toward vertical mergers must rest on a reliable methodology for distinguishing between procompetitive and anticompetitive vertical mergers. Such an approach is necessary for the Agencies to provide guidance to businesses and those involved in antitrust enforcement about what

[6] As recently as 2018, former FTC Bureau of Competition Director Bruce Hoffman made this point. See D. Bruce Hoffman, "Vertical Merger Enforcement at the FTC," 1-10-2018, https://www.ftc.gov/system/files/documents/public_statements/1304213/hoffman_vertical_merger_speech_final.pdf.

[7] Another important assumption in my example is that the demand functions are linear. With other functional forms for demand, the same basic modeling assumptions tend to predict at least some price increases from vertical mergers. There is no general principle of economics that dictates that logit demand is the right functional form and that linear demand is wrong, and the sensitivity of the results to the assumptions about functional form, which are inherently difficult to test (particularly in the time frame needed for pre-merger review), makes reliance on these models for enforcement problematic.

[8] See Jonathan B. Baker and Carl Shapiro, "Reinvigorating Horizontal Merger Enforcement" in Robert Pitofsky (ed.) *How the Chicago School Overshot the Mark* (Oxford University Press) 2008 and John E. Kwoka *Mergers, Merger Control, and Remedies: A Retrospective Analysis of U.S. Policy* (The MIT Press) 2015.

vertical mergers are likely to face challenges, and, in all likelihood, for such a methodology to survive court review.

III. Successive Monopoly/Dominance

The DVMG promise enforcement based on the same sort of analysis of short run pricing incentives that they use to review many horizontal mergers. But, as I have argued, the economics of the short run pricing incentives created by vertical mergers are more complicated than the economics of the short run pricing incentives underlying horizontal mergers. I am skeptical that economists have the tools needed to reliably conclude that the net effect of a vertical merger is to harm consumers or even to result in RRC. But this does not mean that all vertical mergers should be legal or that enforcement should be limited to cases that give rise to concerns about the sharing of competitively sensitive information and avoiding price regulation. Indeed, Example 5 in the DVMG provides the sort of situation that I consider to be ideal for enforcement. It posits in effect successive monopolists where (at least) one is threatened by entry.

Example 5 understates the case for enforcement in such a setting because it ignores the fact that when there are successive monopolists, each of them is the one with the strongest incentive to challenge the other's monopoly. For example, Intel may have had the strongest incentives to sponsor entry into PC operating systems because reducing the price of the operating system would make PCs cheaper and thereby stimulate the demand for Intel chips. By the same token Microsoft may have had the strongest incentives to sponsor challenges to Intel's position in microprocessors for PCs. Potential competition cases are rare in large part because it is often difficult to identify the entire set of potential entrants and, without doing so, it is hard to conclude that eliminating one potential competitor substantially lowers the threat posed by potential competition. But, in cases of successive (or complementary) dominance, it is possible to identify the firm with the greatest incentive to enter.

IV. Market Definition

A striking feature of the DVMG is the discussion of market definition. It says that the Agencies will define one or more "relevant products" and one or more "related products" and challenge any vertical merger that is likely to have an anticompetitive effect in *any* relevant market. This approach is not a mere antitrust technicality. It means that the Agencies consider an increase in the price of an input (which could be a downstream margin applied to independent sources of the upstream good) to be sufficient basis for judging that a vertical merger is likely to cause a substantial reduction in competition. Because a vertical merger can result in a reduction in consumer prices despite an increase in the price of an input, such a position would imply that the Agencies will seek to block some vertical mergers that they expect would benefit consumers.

Such a position may be a defensible interpretation of the statutory wording of a lessening in competition. An increase in the price of an input for some firms reduces the competitive constraint that they provide. But the position that the Agencies might protect competitors from an increase in the price of an input even if doing so will prevent benefits to final consumers is inherently controversial. In DOJ's challenge to the AT&T – Time Warner merger, Carl Shapiro, its economic expert, testified that the net

effect of the merger would be to lower consumer surplus. It would be useful for the Agencies to state explicitly whether they believe that demonstrating a likelihood of RRC is a sufficient basis for challenging a merger and that they therefore do not have to demonstrate a likelihood of net consumer harm. If this is indeed their position, it will be interesting to see whether the courts agree.

V. Conclusions – An Alternative Approach to Vertical Merger Guidelines

The introduction to the European non-horizontal merger guidelines state, "Non-horizontal mergers are generally less likely to significantly impede effective competition than horizontal mergers."[9] Nothing in the DVMG suggests that the Agencies agree with this principle. Enforcement based on these DVMG could take US merger enforcement surprisingly close to the DOJ 1968 Merger Guidelines,[10] which set standards for challenging vertical mergers that were nearly as stringent as the standards for horizontal mergers.

If one starts with the proposition that non-horizontal mergers pose less of a threat to competition than do horizontal mergers, then the objective of vertical merger guidelines would be to identify the presumably rare conditions that would give rise to a challenge. The conditions I would recommend are mergers of successively dominant firms (such as in Example 5), vertical mergers to avoid regulation, and cases in which a vertical merger creates a substantial risk of the sharing of competitively sensitive information. This approach would not substantively alter the section on vertical mergers in the 1984 Merger Guidelines. But, given the demands to clarify vertical merger policy, the Agencies may wish to confirm the policy with new guidelines.

The policy I recommend could lead to more coherent enforcement on vertical mergers. It is puzzling, for example, that DOJ did not challenge the Live Nation – TicketMaster merger, which fit the fact pattern that I believe should give rise to challenges of vertical mergers. It is also puzzling that it cleared Comcast's acquisition of NBC – Universal (albeit with conditions) but sought to block AT&T – Time Warner. (Comcast is a dominant multi-channel program distributor in some geographic markets whereas DirecTV is not, and NBC – Universal's CNBC was dominant in the business news segment and faced entry from Fox Business and Bloomberg News Channel.)

The policy I recommend may well create a greater risk of "false negatives" (but a lower risk of "false positives") than would the more aggressive policy promised by the DVMG. Because the empirical literature on the competitive effects of vertical mergers is relatively thin, the error analysis inherent in vertical merger policy requires policy makers to make judgments about the relative likelihood and costs of false negatives and false positives in vertical merger enforcement. My opinion is that, despite many decades of lenient antitrust enforcement with respect to vertical mergers, there is scant evidence that

[9] European Commission, "Guidelines on the Assessment of non-horizontal mergers under the Council Regulation on the control of concentration between undertakings," October 18, 2008, https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:265:0006:0025:en:PDF, ¶11.
[10] The United States Department of Justice, 1968 Merger Guidelines, https://www.justice.gov/archives/atr/1968-merger-guidelines, §II.

the Agencies have cleared vertical mergers that have given rise to the sorts of anticompetitive price effects that they purport to be able to prove.

Unless the Agencies can identify a set of vertical mergers that they cleared but should have blocked and can explain why the merger analysis they propose would have led to a different outcome, they should consider a substantial revision of the DVMG before issuing a final set.