

**Draft Vertical Merger Guidelines issued by the Department of Justice and the Federal Trade Commission for Public Comment**

**Comments by:**

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**1) Introduction**

We thank the Department of Justice and the Federal Trade Commission (“Agencies”) for providing us with the opportunity to submit comments on the Draft Vertical Merger Guidelines.<sup>2</sup> The Draft lays out the Agencies investigative framework. The over-arching framework mirrors that used in investigations of horizontal mergers by seeking to weigh the potential anti-competitive effects of a vertical merger against any pro-competitive benefits in order to determine whether on balance the merger is likely to lessen competition. The Draft describes various reasons for which a vertical merger may create competitive concerns as well as various ways in which it can generate efficiencies. Prominent among the concerns is the merged entity’s incentive and ability to raise the price of an input (“related product” or “upstream product”) to its rivals. (raising rivals’ cost, “RRC”). Other concerns can stem from the fact that a vertical merger can provide the downstream division of the merged entity access to sensitive information with regards to how much of the related product is purchased by rivals and on what terms. Such information can potentially lead to unilateral and/or coordinated effects.

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<sup>2</sup> Draft Vertical Merger Guidelines Released for Public Comment on January 10, 2020 by U.S. Department of Justice and the Federal Trade Commission (<https://www.ftc.gov/news-events/press-releases/2020/01/ftc-doj-announce-draft-vertical-merger-guidelines-public-comment>)

Prominent among the sources of efficiencies is the elimination of double marginalization (“EDM”) within the merged entity that can potentially lead to reduction in the merged entity’s price to consumers. The Draft indicates that to consider EDM to be an efficiency, it must be merger-specific, e.g. should not be achievable through an arms-length contract between the merging firms. Other sources of efficiency can include those associated with the decision of a firm to make rather than buy an input e.g. better coordination of upstream and downstream production, greater incentives to make input-specific investments due to reduction of “hold-up” concerns, etc.

We believe that some of these important issues have been debated extensively in the economics literature, and benefits and harms associated with them are relatively well understood. We also believe that the importance of some of these issues in any given vertical merger are ultimately likely to be assessed from factual information that are uncovered during the investigation. In our comments, we focus on a relatively less settled issue: How to weigh RRC concerns against the benefits of EDM in economic analysis? The Draft points to the relevance and need for such analysis when it states:

*“Where sufficient data are available, the Agencies may construct economic models designed to quantify the likely unilateral price effects resulting from the merger. These models often include independent price responses by non-merging firms. They can also incorporate the elimination of double marginalization to give a likely net effect from changes to pricing incentives as well as incorporate cognizable efficiencies.”<sup>3</sup>*

Our comments draw upon our experience of analyzing vertical mergers as well as our recent research. Our comments should not be interpreted as opinions about whether vertical mergers have been over- or under-enforced by the Agencies in recent years. Instead, we hope that these insights from our experience and research will help to inform the conversation as the Agencies move forward towards crafting a final version of the Vertical Merger Guidelines.<sup>4</sup>

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<sup>3</sup> *Id.* 2 at §5.2 (emphasis added)

<sup>4</sup> Assessing the incentives of a merged entity to refuse to supply the related product to rivals altogether (“foreclosure”) is a simpler analysis relative to assessing the competitive harm that is caused when the merged entity

## 2) Empirical Framework for Investigation of Net Effect from Changes to Pricing Incentives

As the Draft Vertical Merger Guidelines explains, vertical mergers can potentially create both competitive harm and competitive benefits. Both are created by the change in the objective of the merging firms from own profit maximization (before the merger) to joint profit maximization (after the merger). Antitrust analyses of vertical mergers have historically treated RRC and EDM as two separate effects which need to be weighed against one another. For example, in the DOJ's recent challenge to AT&T/DirecTV's acquisition of Time Warner, the DOJ acknowledged that the merger will likely create benefits through the elimination of double marginalization in DirecTV's rates of Time Warner programming. At the same time, the DOJ failed to persuade the Courts that the merger would lead to increase in prices of Time Warner programming paid by rival TV distributors.<sup>5</sup> Recent research, however, has shown that RRC and EDM are not two separate phenomena. Instead, they are inseparably linked because the size of EDM, through its effect on the merged entity's share of the relevant market, affects the strength of the merged entity's RRC incentive. This makes EDM to be a determinant of RRC, not just a stand-alone competitive benefit to be weighed against RRC.<sup>6</sup>

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raises the price of the related product to rivals. The principal difference is that in the absence of a substitute input, foreclosure prevents rivals from producing the product altogether. Thus, analytical complications that can arise from having to determine rivals' independent responses are absent. In this note, we thus focus on the challenges associated with analyzing the competitive harm that is caused when the merged entity seeks to raise the price of the related product to its rivals.

<sup>5</sup> See, DOJ's Complaint to enjoin AT&T's acquisition of Time Warner. *United States of America* (plaintiff) v. *AT&T Inc., DIRECTV Group Holdings LLC and Time Warner Inc.* (defendants) (US. v AT&T, hereafter), *Complaint* filed on 11/20/2017 with United States District Court for the District of Columbia (Case 1:17 – cv - 02511), (available at <https://www.justice.gov/opa/pr/justice-department-challenges-atdirectv-s-acquisition-time-warner>).

See also *Memorandum Opinion* of the District Court in the matter dated June 12, 2018; §IV (II) titled "Conceded Consumer Benefits of Proposed Merger" (pp. 66) and §IV (IV) titled "The Government Has Failed to Meet its Burden to Show that the Proposed Merger is Likely to Substantially Lessen Competition on the Theory that AT&T will Act to Harm Virtual MVPDs Through its Ownership of Time Warner Content" (pp. 150)

<sup>6</sup> "Equilibrium Analysis of Vertical Mergers", Gopal Das Varma and Martino De Stefano, *SSRN working paper*, December 2018 (available for download at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3307150](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3307150)). Other authors have independently discovered the implications of this link between RRC and EDM while performing merger simulations. See "Simulating Vertical Mergers and the Vertical GUPPI Approach", Gleb Domnenko and David Sibley, *working paper*, January 1, 2019. An older working paper that discovered the implication of this link when the functional form of demand is linear is "A note on vertical mergers with an upstream monopolist:

### 3) EDM and RRC Can Each Increase Output and Share of the Merged Entity

EDM and RRC both can allow the merged entity to profitably increase its output and its share of the relevant market. Both phenomena offer the merged entity with a cost advantage relative to its rivals. EDM serves to directly reduce the cost of the related product for the merged entity. RRC serves to raise the cost of the related product for its rivals, and thus create a cost advantage for the merged entity vis-à-vis its rivals. The cost advantage can be used by the merged entity to profitably expand its output, and thus its share of the relevant market (before independent responses by non-merging firms is taken into account). Some of the cost reduction due to EDM can be passed through to consumers to achieve an output increase. Similarly, if RRC causes rivals to have to raise their prices, then a portion of their lost sales may be diverted to the merged entity, thereby increasing the merged entity's output. This similarity in the role of EDM and RRC – to allow the merged entity to profitably grow its share – is a point of contrast with a horizontal merger. In a horizontal merger, efficiencies can lead to an increase in the output of the merged firm. However, a price increase by the merged firm, enabled by loss of competition, can only reduce the merged entity's share (before independent responses by rivals is taken into account).

The extent of output increase by the merged entity, and its profitability, can differ depending on whether it is due to EDM or RRC. Pass through of EDM by way of a lower price generates additional customers for the merged entity in two ways. First, the lower price adds new customers who previously did not purchase the product because they found the product to be too expensive. Second, the lower price relative to rivals causes some (marginal) customers of rivals to switch to the merged entity. Importantly, EDM by itself, does not result in a reduction of the aggregate output in the relevant market.

In contrast, if rivals, faced with RRC, raise their prices, then some of their customers may switch to the merged entity, but others – who consider the merged entity's product to be a poor substitute of rivals' products – may cease to purchase the product. Thus, the merged entity faces a tradeoff. For every customer of a rival that switches to the merged entity, the merged entity

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foreclosure and consumer welfare effects”, Shihua Lu, Serge Moresi, and Steven C. Salop, *working paper*, June 2007.

earns additional profits to the tune of its downstream margin. On the other hand, for each customer that ceases to purchase the product, the merged entity loses the upstream margin on the related product. The proportion of customers who leave a rival depends on the elasticity of demand facing the rival while the proportion of such departing customers who switch to the merged entity is the diversion ratio (from the rival to the merged entity). All else equal, the higher is the diversion ratio from a rival to the merged entity, the larger is the extent of profit maximizing RRC, and larger is the gain in the share of the merged entity. Importantly, and unlike in the case of EDM, growth in the merged entity's output from RRC is associated with a reduction in aggregate output in the relevant market.

This suggests that – aside from pre- and post-merger price comparisons – one way in which the net effect of RRC and EDM can be evaluated is by determining whether the predicted post-merger aggregate output in the relevant market is greater or less than the pre-merger aggregate output. If the predicted post-merger aggregate output is greater than that pre-merger, that would indicate that the potential benefits of EDM likely outweigh the potential harm from RRC. On the other hand, if the predicted post-merger aggregate output is less than that pre-merger, that would indicate that the merger likely is on balance anti-competitive.

#### **4) EDM and RRC are Inextricably Linked Through Changes in the Merged Entity's Share of the Relevant Market**

Recent research has shown that when EDM and RRC are considered simultaneously (rather than each in isolation), the size of EDM can significantly influence the extent of RRC. The interdependence between the extent of EDM and that of RRC is intuitive once the shift in output shares due to a vertical merger is taken into account. As explained above, even if the merged entity were to leave prices of the related product to its rivals unchanged, EDM – and any resulting decrease in the downstream price of the merged entity – serves to shift demand from rivals to the merged entity. The shift leaves rivals with a reduced demand relative to pre-merger. In other words, depending on the extent of pass through of EDM by the merged entity, the demand facing each rival resets to a lower level relative to pre-merger. When contemplating the size of RRC, the merged entity takes into account the elasticity of demand and diversion ratio of those reduced (residual) demands facing rivals, not the original pre-merger demand for rivals'

products. Thus, the extent of EDM – which determines the extent of demand shift from rivals to the merged firm – is a determinant of the merged entity’s RRC incentive.<sup>7</sup>

The effect of demand reduction on the elasticity and diversion ratio (from a rival to the merged firm) can be sensitive to the functional form of demand. For example, when demand for the relevant product is linear, a reduction in rivals’ demand for the related product increases its elasticity at the pre-merger price of the related product but the diversion ratio remains unchanged. This tends to mitigate the RRC incentive of the merged entity.

On the other hand, for a logit demand, even though demand reduction increases the elasticity of rival demand at the pre-merger price of the related product, the diversion ratio from the rival to the merged firm can increase sufficiently (due to the demand shift) and thus exacerbate the RRC incentive of merged entity. (For a logit demand, diversion ratio is proportional to shares; the EDM driven increase in the share of the merged entity at the expense of rivals causes the diversion ratio to increase.).<sup>8</sup>

## **5) Results of Equilibrium Simulations May Not Be Robust to Alternative Model Specifications in All Cases**

Not surprisingly, the Draft states that merger simulations are neither conclusive by themselves, nor would the Agencies consider them to be reliable unless alternative plausible simulation models generate consistent predictions of likely price increases for the related product.

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<sup>7</sup> To think about the effect of EDM in the merged entity’s decision of how much to raise rivals’ cost, imagine a hypothetical situation in which prices of the related product to downstream rivals are contractually fixed for, say, three years. One year into this three year contract period, the upstream firm and one of the downstream firms merge. The merging firms can start to realize the efficiency benefit of EDM immediately after the merger without waiting for their three year contract to expire. (A pre-merger contract between the upstream and downstream divisions of an integrated firm, which are both seeking to maximize their joint profit, is irrelevant). As a result, pass-through of efficiency from EDM in the form of lower retail prices by the merged firm can be realized by customers well before the merged firm’s contract with rivals come up for renewal. At the same time, rivals will not have any incentive to renegotiate their existing supply contracts if the upstream firm would demand a higher price. When contracts with rivals do come up for renewal (at the end of the three year contract period), any demand shift from rivals to the merged firm would likely have already taken place. The new price of the related product negotiated by the merged firm would then reflect the elasticity and diversion ratio (from rival to the merged entity) of the reduced demand faced by rivals at the time of contract renewal, not the original demand that rivals faced prior to the merger.

<sup>8</sup> The dependence of the extent of price increase on the assumed shape of demand is not unique to vertical merger simulations. The price increase from a horizontal merger also depends on the assumed shape of demand. See, e.g., Philip Crooke, Luke Froeb, Steven Tschantz, and Gregory Werden, “The Effects of Assumed Demand Form on Simulated Post-Merger Equilibria”, *Review of Industrial Organization*, 15(3), (November, 1999) pp. 205-217.

*“The Agencies do not treat merger simulation evidence as conclusive in itself, and they place more weight on whether their merger simulations consistently predict substantial price increases than on the precise prediction of any single simulation.”<sup>9</sup>*

Our research indicates that alternative specifications of merger simulations may not provide consistent predictions when such simulations are undertaken properly by incorporating the equilibrium dependence of RRC on EDM, especially when the size of EDM is relatively large (say, the entire upstream margin of a monopoly supplier of the related product). In such cases, Agency investigations may have to rely relatively more on other sources of evidence rather than data driven economic models.

Our research further suggests when the size of EDM is relatively small, the direction and magnitude of RRC are less sensitive to the shape of demand. All else equal, the smaller the size of EDM, the larger is the extent of RRC regardless of the shape of demand.<sup>10</sup>

## **6) Price Pressure Analyses Do Not Analyze Merger-Induced Change in Output or Shares in the Relevant Market**

Two things are important when simulating the effect of a vertical merger on the price of the related product. First, it is critically important to determine the size of EDM that is attributable to the merger. Second, any simulation of RRC must incorporate the effect of merger-specific EDM on the shift in demand and associated increase in output of the merged entity.

In the last several years, economists have proposed versions of price pressure analyses for vertical mergers that mimic the concept of Gross Upward Price Pressure Index (“GUPPI”) that is

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<sup>9</sup> *Id.* 2

<sup>10</sup> Pre-merger profit margin of the related product is often taken to be indicative of the extent of EDM unless the Agencies find evidence that there are no transactions costs that preclude the parties from reducing the extent of double marginalization through an appropriate arms-length contract which obviates the need to merge. In such cases, the Agencies may credit only a portion of the pre-merger margin of the related product by way of merger-specific EDM. Regardless, if the pre-merger margin of the related product is relatively small to begin with, it might also indicate that the related product faces competition from substitutes. The presence of independently produced substitutes likely will reduce concerns about RRC because non-merging firms can turn to such substitutes if the merged entity seeks to raise the price of the related product. We expect that whether or not there are substitutes of the related product is something that will become known to the Agencies early on in the investigative process (say, through interviews with non-merging firms), well before appropriate data for simulations are gathered.

by-now a well-established screen for analyzing horizontal mergers.<sup>11, 12</sup> These techniques seek to measure the upward price pressure on the related product created by the merger. As they stand today, the techniques do not offer a way to measure the extent to which a vertical merger changes shares in the downstream relevant market which is necessary to account for the interdependent nature of EDM and RRC.<sup>13</sup> As such, they advocate separate measurement of RRC and EDM before netting out the two effects. While the techniques have the appeal of being less burdensome than equilibrium simulation, and have some useful intuition associated with them, they manage to capture only part of the incentive changes that are engendered by a vertical merger. Failure to account for the tectonic changes in shares in the relevant market that result from EDM and RRC obstructs a complete accounting of the merged entity's incentives. When we compare the predicted RRC effect using a price pressure analysis (that ignores change in output shares due to EDM) with that from an equilibrium simulation (that takes account of change in shares due to EDM), we find that the price pressure technique can significantly mispredict the size of RRC.

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<sup>11</sup> The technique is described in William P. Rogerson, "A Vertical Merger in the Video Programming Industry: The case of Comcast-NBCU", in *The Antitrust Revolution: Economics, Competition, and Policy*, eds. John E. Kwoka, Jr. and Lawrence J. White, 2014, pp. 534-575. New York: Oxford University Press.

<sup>12</sup> A separate price pressure technique has been proposed by Serge Moresi and Steven C. Salop to examine the case of a related product that is sold by a price-setting upstream firm, i.e., when all of the bargaining power in price negotiations is vested with the producer of the related product. See "vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers", Serge Moresi and Steven C. Salop, *Antitrust Law Journal*, Vol. 79, No. 1 (2013), pp. 185-214. A vGUPPI analysis has three price pressure indices in it: predictions of upward price pressures on rivals' wholesale and retail prices, and downward or upward price pressure, as the case may be, on the merged entity's retail price. These are denoted, respectively, by  $vGUPPI_u$ ,  $vGUPPI_r$ , and  $vGUPPI_d$ .  $vGUPPI_u$  is the index that is used to gauge the extent of increase in price of the related product upstream price paid by rivals).  $vGUPPI_r$  – price pressure on rival distributors' prices in the relevant market – is a follow-through effect of  $vGUPPI_u$ . To that extent, any error in predicting the direction or the magnitude of  $vGUPPI_u$  transmits through to an error in the prediction of  $vGUPPI_r$ . Additionally, any prediction about retail prices from  $vGUPPI_r$  omits equilibrium considerations about the countervailing effect of EDM and RRC on rivals' retail prices that are explained later in this comment.

<sup>13</sup> A version of the Rogerson technique was used as the basis of Professor Shapiro's expert testimony in *US v AT&T*. See *Expert Report of Carl Shapiro, U.S. (Plaintiff) v. AT&T Inc., DIRECTV Group Holdings LLC, and Time Warner Inc., 2 February, 2018, submitted to United States District Court for the District of Columbia, Case No. 1:17-cv-02511 (RJL)* (available at <https://www.justice.gov/atr/case-document/file/1081336/download>). Professor Shapiro's expert report indicates that he first used a price pressure analysis to separately estimate the magnitudes of predicted price increase of Time Warner video and EDM. Those estimates then served as inputs in an equilibrium model of downstream horizontal competition between cable companies. The simulation generated estimates of the effect of the merger on retail cable prices. Although this modified Rogerson approach served to simulate the effect of EDM on post-merger shares in the relevant market (cable), it did not incorporate the upstream equilibrium effect of EDM on RRC.



It is useful to compare a vertical merger with a horizontal one in order to see why price pressure analysis is not readily adaptable for analyzing a vertical merger even though it is routinely used in horizontal mergers. In a horizontal merger, upward price pressure due to elimination of competition between the merging firms, and downward price pressure due to any merger efficiencies, operate on the same units of output (those produced by the merging firms). Thus, the two price pressures can be directly netted out to determine the net price pressure on the merged entity's products. On the other hand, in a vertical merger, downward price pressure due to EDM operates on the units of output produced by the merged entity whereas upward price pressure due to RRC operates on the units of output produced by rivals. As a result, they cannot be directly netted out.

Any analysis that seeks to find the net effect must account for the effect of EDM on the post-merger share changes in the relevant market, which in turn determine the merged entity's incentives for RRC. Further, the net effect of EDM and RRC depends on the volume share of the relevant market which is affected by EDM (the merged entity's post-merger share) and the volume share of the market which is affected by RRC (the combined shares of non-merging firms). Thus, even aside from the interdependency of EDM and RRC, a proper netting out of the effect of RRC and EDM requires an assessment of how post-merger shares in the relevant market might be different from pre-merger shares. An equilibrium simulation incorporates the linkage between EDM and RRC to predict the size of RRC. It also assesses the change in the merged entity's share in order to determine the net effect of EDM and RRC on prices in the relevant market.

## **7) Countervailing Incentives in Responses of Independent Non-Merging Firms That Face an Increase in the Price of Related Products**

Turning from price effects on the related product to price effects in the relevant market, it is important to note that there are two countervailing effects on the pricing incentives of rivals following any vertical merger which results in an increase in the price of the related product. On the one hand, an increase in the price of the related product – which is an input in a rival's finished product – creates upward pressure on the rival's downstream price. At the same time, having to compete against a more cost efficient rival (the merged entity which is more efficient than it was pre-merger due to the realization of EDM) creates downward pressure on the price of

a rival. The net effect of these two countervailing price pressures determines whether a rival that is faced with a higher price of the related product passes through any of that cost increase and, if so, by how much.

Here again, an equilibrium simulation nets out the effect of the two countervailing incentives on rivals' prices but price pressure techniques – which do not model the relevant market – fail to do so. It is common for price pressure techniques to assume that a rival passes through 50% of the increase in the price of the related product to the price of its relevant product.<sup>14</sup> Our research shows, not surprisingly, that this generates inaccurate predictions regarding the price of rivals' products.

Thus, regardless of whether the net effect of a vertical merger is assessed in terms of the average price of the related product (price paid by participants in the relevant market), or the average price of the relevant product (price paid by consumers), equilibrium simulation is a more sound technique relative to the incrementalism upon which price pressure analyses are based. Needless to say, the lack of post-merger output prediction makes price pressure analyses to also be inadequate to determine the net effect of EDM and RRC on the basis of how a vertical merger affects aggregate output.<sup>15</sup>

#### **8) Failure to Analyze Changes in Shares of the Relevant Market May Miss Potential Longer Term Anti-Competitive Effects**

Even if a vertical merger is found to create no or *de minimis* net price effects, it might still need to be scrutinized for potentially detrimental effects on longer term competition. A shift of shares from rivals to the merged entity may leave rivals with insufficient scale to compete effectively. This may be a concern in industries in which rivals need to make investments to remain competitive – investments that are not viable unless they can serve a sufficiently large share of customers. For example, a cable distributor that needs to deploy or maintain video cable lines to households may find such investment to be non-viable unless it can serve sufficiently many customers in a local area. Although the shift in shares to the merged entity which has a more

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<sup>14</sup> E.g. *Id.* 12 at footnote (30)

<sup>15</sup> See output test of the net effect of RRC and EDM described in the last paragraph of §3.

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efficient cost (due to EDM) may seem pro-competitive in the short run, its longer run consequence may be to lessen competition by impairing rivals' incentives to make competitive investments.<sup>16</sup>

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<sup>16</sup> AAG Makan Delrahim noted the possibility that a vertical merger may lead to competitive harm in the longer run even if a static analysis finds it to be pro-competitive in the short run. *"Additionally, the immediate, net effect on price is not the only relevant determination. Longer term harms to competition may support challenging a merger even if the effect of EDM is greater than the price effect from foreclosure or raising rivals' costs in the short term"*, "Harder Better Faster Stronger": Evaluating EDM as a Defense in Vertical Mergers, Remarks delivered at *George Mason Law Review's 22<sup>nd</sup> Annual Antitrust Symposium* on 15<sup>th</sup> February 2019 (available for download at <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-george-mason-law-review-22nd>)