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The 2020 Vertical Merger Guidelines: A Suggested Revision (March 26, 2020)

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This *Suggested Revision* of the Agencies' *Draft Vertical Merger Guidelines* (January 10, 2020) reflects and supplements the approach explained in the Comments of Jonathan B. Baker, Nancy L. Rose, Steven C. Salop & Fiona Scott Morton, *Recommendations and Comments on the Draft Vertical Merger Guidelines* (February 24, 2020). It also builds on our other comments and articles, some of which have been written jointly, while others have been written individually or with other co-authors. This also reflects suggestions adapted from other comments on the Agencies' draft. These Guidelines are not final and comments on this draft are welcomed!

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1. Overview

These Guidelines outline the principal analytical techniques, practices and enforcement policy of the Department of Justice and the Federal Trade Commission (the "Agencies") with respect to vertical and complementary product mergers and acquisitions under the federal antitrust laws.[1] These Guidelines are intended to assist the business community and antitrust practitioners by increasing the transparency of the analytical process underlying the Agencies' enforcement decisions. They may also assist the courts in developing an appropriate framework for interpreting and applying the antitrust laws in the vertical merger context.[2]

The relevant statutory provisions include Section 7 of the Clayton Act, 15 U.S.C. § 18, Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1–2, and Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45. Most particularly, Section 7 of the Clayton Act prohibits mergers if "in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly," which encompasses a concept of "reasonable probability" of these effects. This provision applies to all mergers, as Congress made plain in the 1950 amendments to the Clayton Act.

These Guidelines focus on the competitive harms and competitive benefits that may result from these mergers. A vertical or complementary product merger can lead to competitive harms from either unilateral or coordinated conduct. Potential anticompetitive conduct includes foreclosure, reduction or elimination of potential competition, misuse of competitively sensitive information, reduced incentives of the merging firm to disrupt upstream coordination, weakening mavericks or disruptive competitors, and evasion of regulation or long-term private contracts. This conduct can harm consumers by raising prices, reducing quality or variety, raising entry barriers or reducing innovation. A merger also may lead to competitive benefits by increasing production efficiency and by creating more efficient incentives. Potential procompetitive effects include lower prices, improved products, cost reductions, and increased investment and innovation.

Vertical mergers combine firms or assets that operate at different stages of production or distribution. Examples of vertical mergers include: a manufacturer acquiring one of the firms that supplies it with parts; a manufacturer acquiring one of its distributors; or a retail chain buying the manufacturer of one of the consumer products that it sells. These Guidelines address complementary product mergers as well as vertical mergers because both types of mergers raise similar competitive harms and benefits. Complementary products are ones that are used together. Examples are an operating system and applications that run on it, French fries and ketchup, or an individual-serving coffee machine and the pods that are used in the machine. The economic distinction between vertical and complementary product mergers is sometimes difficult to identify. For example, suppose a smartphone operating system provider acquires a license to an application. If the smartphone operating system provider pays per-unit

[1] These Guidelines supersede the extant portions of the Department of Justice's 1984 Merger Guidelines, which are now withdrawn and superseded in their entirety.

[2] These Guidelines are not intended to describe how the Agencies will conduct the litigation of cases they decide to bring. Although relevant in that context, these Guidelines neither dictate nor exhaust the range of evidence the Agencies may introduce in litigation.

royalties to the application, and then resells the application to buyers, the merger would be seen as vertical. But it would be seen as complementary if the application owner sells directly to users and does its own billing.[3] These Guidelines also apply to merger transactions by vertically integrated firms, which can involve both vertical and horizontal elements, and that also may lead to vertical and horizontal harms that reinforce each other.

These Guidelines should be read in conjunction with the Horizontal Merger Guidelines.[4] While a merger may be vertical, its potential anticompetitive effects are horizontal. The principles and analytical frameworks used to assess horizontal mergers also apply to vertical mergers. For example, Section 1 of the Horizontal Merger Guidelines—describing in general terms the purpose and limitations of the Horizontal Merger Guidelines and the goals of merger enforcement—is also relevant for the consideration of vertical mergers. Other topics addressed in the Horizontal Merger Guidelines, but not addressed herein, such as the analytic framework for evaluating entry considerations, the treatment of the acquisition of a failing firm or its assets, and the acquisition of a partial ownership interest, are relevant to the evaluation of the competitive effects of vertical mergers as well.

2. MARKET DEFINITION AND RELATED PRODUCTS

In any merger enforcement action involving a vertical or complementary product merger, the Agencies will normally identify one or more relevant markets in which the merger may substantially lessen competition. Many of the general purposes and limitations of market definition described in Section 4 of the Horizontal Merger Guidelines are also relevant when the Agencies define markets for vertical mergers, and the Agencies use the methodology set forth in Sections 4.1 and 4.2 of the Horizontal Merger Guidelines to define relevant markets for vertical mergers. However, as explained in the Horizontal Merger Guidelines, the "Agencies' analysis need not start with market definition. Some of the analytical tools used by the Agencies to assess competitive effects do not rely on market definition, although evaluation of competitive alternatives available to customers is always necessary at some point in the analysis."

Several issues may arise more commonly in market definition analysis for vertical mergers. First, the merged firm or other competitors already may be vertically integrated. Second, the current price may be supracompetitive and the competitive concern may be that the vertical merger will prevent prices from falling, by reducing the likelihood of increased competition. In this situation, the current, pre-merger price is not the appropriate price benchmark for the hypothetical monopolist test. A lower price resulting from increased competition is the appropriate benchmark, similar to the treatment of horizontal mergers when there is pre-merger coordination. Third, a merger also may raise concerns in multiple relevant markets.

The Agencies may identify one or more related product segments comprised of products or services that are supplied by the merged firm and are vertically related or complementary to the products and services in the relevant market, and for which access by the merged firm's rivals affects competition in the relevant market. In the case of input foreclosure, a related product segment could be an input (including a

[3] Most of the examples refer to "vertical" mergers, but the analysis also applies to complementary product mergers.

[4] U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines (2010).

means of distribution) sold to some or all of the downstream rival firms. In the case of customer foreclosure, a related product segment could be the sale of the downstream product. A related product segment for one competitive concern may be the relevant product market (or part of that market) for another concern.

> *Example 1: A retail supermarket chain buys a candy manufacturer. If the competitive concern is input foreclosure resulting from the merging manufacturer refusing to sell its candy products to competing retail chains, or coordination among the retailers, the relevant market is the downstream sale of candy to retail buyers in a given geographic area, and the related product segment is the wholesale supply of the candy to some or all of the rival supermarkets in the geographic area. If the competitive concern is customer foreclosure or coordination by the candy manufacturers, the relevant market is the wholesale supply of candy to supermarkets, and the related product segment is the retail sale of candy.*

The related product segment used to analyze the competitive effects of a vertical merger may or may not be a relevant market that would be used to analyze competitive issues involving the related product. For example, if the related product segment is used for determining harm only to the competitors potentially targeted for foreclosure, it need not be identical to the typical relevant market defined for a horizontal merger between two upstream firms and, in particular, could be narrower.[5]

> *Example 2: Company A is one of five producers of catalysts used to produce a specialty chemical product. Manufacturer X is one of five competing specialty chemical manufacturers which use a catalyst in producing differentiated substitutes. There are two distinct catalyst formulations, F1 and F2. The production process of Manufacturers X and Y requires the use of F1, which is produced only by Companies A and B under separate patents. The other three manufacturers require the use of F2, produced only by the other three catalyst companies under separate patents. Analysis of a horizontal merger between Companies A and B may define a narrow "targeted customer" market limited to Catalyst F1 because Manufacturers X and Y are locked-in to catalyst F1, even if the downstream market is comprised of the products of all five manufacturers. In analyzing input foreclosure concerns from a vertical merger between Company A and Manufacturer X, the related product segment similarly could be the sale of catalyst F1 of Manufacturers X and Y. Moreover, even if a small price increase by a hypothetical monopolist that owned Companies A and B were unprofitable, or if the Agencies defined an all-catalyst market for a horizontal merger analysis for another reason, input foreclosure by Company A directed at Manufacturer Y nonetheless might still be profitable for the merged firm because it would gain downstream profits as a result, which could lead to a related product segment limited only to catalyst F1 sold to Company B.*

3. MARKET PARTICIPANTS, SHARES AND CONCENTRATION

The Agencies may consider measures of share and market concentration in the relevant market and

[5] In the case of customer foreclosure, a related product segment could be the customers for whom potentially foreclosed suppliers compete to sell.

related product segment as part of their evaluation of competitive effects. The Agencies evaluate market (and product segment) shares and concentration in conjunction with other reasonably available and reliable evidence for the ultimate purpose of determining whether a merger has a reasonable probability of substantially lessening competition. The Agencies use the methodology set out in Sections 5.1, 5.2 and 5.3 of the Horizontal Merger Guidelines to measure shares and concentration in the relevant markets and related product segments.

Competitive concerns from vertical mergers tend to be greater when one or both of the levels are concentrated and are particularly heightened when one of the merging firms is dominant in one or both levels. Competitive concerns tend to be significantly lessened when both levels are unconcentrated. While these tendencies may affect the agencies' allocation of investigative resources, these Guidelines do not adopt quasi-safe harbors or rebuttable anticompetitive presumptions based on shares or concentration levels.[6] As illustrated in the examples, significant competitive concerns can arise even when the market share of one or both merging parties is low or one or both of the levels are treated as unconcentrated; and the merger may not raise significant competitive concerns even if both levels are concentrated or one of the merging firms has substantial market power. After gaining experience with merger enforcement under these Guidelines, the Agencies may consider adopting safe harbors and rebuttable anticompetitive presumptions.

For expositional convenience, these Guidelines describe the analytical framework and enforcement policy under the assumption that a lessening of competition from a vertical merger would harm buyers. In addition to that possibility, vertical mergers can lead to the exercise of buyer-side market (monopsony) power. That could occur, for example, if the upstream merging firm is a disruptive competitor on the buy-side, preventing the upstream firms from coordinating to depress input prices (or wages) paid to their suppliers further upstream. It could also occur if the downstream affiliate is a disruptive buy-side competitor, preventing the downstream firms from coordinating to depress input prices from the upstream firms. If the merged firm has a different incentive than the standalone firms, the acquisition could harm competition on the buy-side. The Agencies will analyze and evaluate harm to sellers from a vertical merger analogously to the way they analyze and evaluate harm to buyers.

4. HARMS FROM UNILATERAL EFFECTS

A vertical merger may diminish competition and harm buyers from unilateral conduct by changing the unilateral incentives of the merging firms. A merger raising foreclosure concerns also may be accompanied by cognizable efficiencies, including elimination of double marginalization, as analyzed in Section 7.

4.1. FORECLOSURE

A vertical merger may diminish competition by giving the merged firm the ability and incentive to weaken or remove the competitive constraint of one or more of its actual or potential rivals in the relevant market by changing the terms of those rivals' access to one or more related products. Foreclosure may involve access to inputs ("input foreclosure") or customers ("customer foreclosure"). In discussing foreclosure, it is common to refer to the input market as upstream and the output market as downstream.[7] Input

[6] *See* Section 6.1 of the Horizontal Merger Guidelines ("The Agencies rely much more on the value of diverted sales than on the level of the HHI for diagnosing unilateral price effects in markets with differentiated products.")

[7] Depending the particular competitive concerns and structure being analyzed, distributors may be treated either as

foreclosure involves the merged firm raising its rivals' costs, totally foreclosing, or otherwise disadvantaging them by worsening their access to the inputs produced by the upstream merging firm. Customer foreclosure involves the merged firm reducing its rivals' revenues or raising their costs by worsening their ability to sell inputs to the merged firm. Customer and input foreclosure both may occur and reinforce one another. Where the concern is unilateral foreclosure conduct, the Agencies will focus on the competitive harms suffered in the relevant market by buyers, not simply harm to the foreclosed competitors). Foreclosure conduct also may be coordinated, as discussed in Section 5.4.

4.1.1. INPUT FORECLOSURE

A vertical merger may diminish competition in the downstream relevant market by giving the merged firm the ability and incentive to foreclose one or more rivals in that market. Foreclosure includes materially raising their costs or otherwise disadvantaging them, either by raising the input prices or reducing the quality of the input provided ("raising rivals' costs), or totally denying them access to the input ("total foreclosure"). These Guidelines use the term *foreclosure* to include all these types of conduct. The fear of input foreclosure also may raise entry barriers. Foreclosure may harm the buyers purchasing output from the merging firm and its rivals in the downstream relevant market by raising prices, reducing quality, or reducing or slowing innovation.

In identifying whether a vertical merger is likely to harm competition through input foreclosure, the Agencies will consider whether and to what degree (1) The foreclosure would cause foreclosed rivals to lose sales (e.g., if they are forced out of the market; or if they are deterred from innovating, entering or expanding, or being unable to finance these activities; or if they have incentives to pass on higher costs through higher prices or otherwise to compete less aggressively for customers' business); (2) The merged firm's business in the downstream relevant market would benefit as a result (e.g., if some portion of those lost sales would be diverted to the merged firm or if the merged firm would gain the power to raise or maintain supra-competitive prices.

However, the downstream affiliate does not need to gain a high market share since it can earn higher profits as a result of the higher downstream prices resulting from rivals' having higher costs and raising their prices. The profitability of the strategy will depend in part on how easily and inexpensively the foreclosed rivals can substitute inputs, considering the possible accommodating price increases by other upstream firms, how much sales the downstream affiliate would gain, and the incremental profits the downstream firm would earn on those sales diverted from downstream rivals or would earn by raising its price. Profitability also could be mitigated by entry or repositioning.

> *Example 3: Company A is a manufacturer and wholesale supplier of orange juice to retailers. It seeks to acquire Company B, an owner of orange orchards. The Agencies may consider whether the merger would lessen competition in the manufacture and wholesale supply of orange juice in region X, which is the relevant (output) market). The merged firm may find it profitable to raise the price or cease supplying oranges to one or more rival orange juice suppliers. The supply of oranges to the downstream rivals is the related (input) product segment. This input foreclosure may lessen competition in the wholesale orange juice market, for example, by raising the price or reducing the quality*

(i) downstream customers of manufacturers or (ii) suppliers of an upstream distribution services input to manufacturers.

of some or all types of orange juice.

The incentives for anticompetitive input foreclosure are lessened if the input is less critical to the potentially foreclosed firms and if those firms have available numerous cost-effective substitutes whose prices will not increase materially if foreclosure occurs. Accordingly, the incentives for anticompetitive input foreclosure are limited if the numerous substitute inputs are not significantly differentiated and upstream entry is easy. For these conditions, the rivals' costs are less likely to be materially increased by foreclosure.

The competitive concern is strengthened if the non-merging input suppliers which provide the closest substitutes are more likely to accommodate the price increase of the merging firm by raising their own prices in response, for example, when the non-merging input suppliers sell differentiated products or have rising marginal costs, or where there are fewer or more concentrated input suppliers. If other upstream firms also raise their prices in response, this response will lead to a larger increase in costs borne by the foreclosed downstream firms. The competitive concern also is greater if the foreclosure can profitably target multiple competitors of the downstream merging firm because that would lead to greater diversion to the merging firm. For these reasons, competitive concerns about input foreclosure are particularly heightened if the upstream merging firm is a substantial supplier of a critical or significant input to multiple competitors of the other merging firm, where upstream supply is concentrated and where a decision to stop dealing with those downstream competitors would lead to substantial diversion of business to the downstream affiliate of the merged firm.

Input foreclosure may be profitable and harm buyers even if the merging firms have only modest market shares and the downstream relevant market is unconcentrated. This may occur when supply by the upstream merging firm is critical or the upstream product segment is concentrated or there is substantial differentiation.

Example 4: Company A is one of the two manufacturers of patented mechanisms to control convertible tops in automobiles. Company A has a market share of just under 20% and Company B has a market share of just over 80%. The two competing mechanisms are very close substitutes and their pre-merger prices are very close to marginal cost.[8] *The companies sell their equipment to eight automobile manufacturers, each of which has a market share in the 10-20% range. After acquiring Manufacturer X, the merged firm substantially raises the price of its mechanisms to the other automobile manufacturers, and the competing mechanism firm raises its prices in response. As a result, there is substantial diversion to Manufacturer X and convertible automobile prices rise. Although Company A may lose substantial mechanism sales, the increase in the sales and price of Manufacturer X may increase the profits of the merged firm.*

Input foreclosure also may be profitable if the upstream supply level (i.e., the related product level) is unconcentrated.

Example 5: Company A is one of ten equal-sized producers of catalysts used to

[8] This result may occur because Company A is a maverick or Manufacturer X is a disruptive buyer in the pre-merger market.

produce a specialty chemical product. Manufacturer X is one of ten competing equal-sized specialty chemical manufacturers which use a catalyst in producing differentiated substitutes. There are two distinct catalyst formulations, F1 and F2. The production process of Manufacturers X and Y requires the use of F1, which is produced only by Companies A and B under separate patents. The F1 catalysts produced by Companies A and B are very close substitutes and earn very low margins as a result. The other eight manufacturers require the use of F2 catalysts which are produced only by the other eight catalyst companies under separate patents. After a vertical merger between Company A and Manufacturer X, Company A substantially raises its price or stops selling to Manufacturer Y, which leads Company B to raise its price in response. Total foreclosure of Manufacturer Y is profitable for the merged firm, because Manufacturer Y's costs are raised and Manufacturer X gains substantial sales from Manufacturer Y that are sufficient to offset the reduced profits of Company A.

Input foreclosure may not occur even if the downstream market is concentrated and the downstream affiliate has a high market share.

Example 6: Company A is one of the two manufacturers of patented mechanisms to control convertible tops in automobiles. Company A has a market share of 50%, as does Company B. There are three automobile manufacturers, each with similar shares. Company A sells only to Manufacture X, whose equipment is incompatible with Company B's technology. Company B supplies only Manufacturers Y and Z, whose equipment is incompatible with Company A's technology. After acquiring Manufacturer X, the merged firm lacks the ability or incentive to raise the price of its mechanisms to the other automobile manufacturers, which have incompatible technologies. While this merger may lead to efficiency benefits, it would not lead to competitive harms from input foreclosure.

It may be useful to treat distribution services as a foreclosed input subject to input foreclosure concerns.

Example 7: Company A is the owner of one of the competing facilities in Louisiana that extracts a valuable acidic liquid from refinery waste water which then is transported by pipeline to various destinations along the Mississippi River for use in specialty manufacturing factories. Pipelines B and C are the only two pipelines that purchase the liquid from the Louisiana producers and then transport it north for sale to end-user customers. The pipelines charge a toll for shipping liquid that continues to be owned by the extractors. An acquisition of Company A by Pipeline B raises a standard input foreclosure concern that Pipeline B might refuse to transport liquid owned by rival extractors, which could raise their cost of distribution because Pipeline C may raise its transportation toll price. If Pipeline A refuses to buy liquids from competing extractors, those extractors would be vulnerable to Pipeline C paying less for the liquid it purchases, which would reduce their margins and have equivalent economic effects.[9] Either way, the merger may lead to competitive harm by raising

[9] The failure to purchase also can be characterized as customer foreclosure, which in this case leads the competing

the price of the liquid sold to the end-user customers.

Input foreclosure also can occur from a complementary product merger.

Example 8: Company A sells the leading computer operating system used by electricity generation customers, and Company B produces complementary applications for that operating system and others. After merging, the merged firm may begin to offer a bundle of the operating system and applications. This may harm competition in operating systems: the merged firm may charge a significantly higher price for the unbundled operating system, or it may refuse to sell the operating system on an unbundled basis, thereby raising the effective price of operating systems to electricity generators that preferred different applications at the pre-merger prices. Company B also might slow its development of applications for other operating systems, which could permit Company A to gain market share and raise its price. Alternatively, or in addition, the merger might harm competition in applications programs. It may lead Company A to withhold improved application interfaces and communication protocols from the rivals of Company B that it previously provided routinely to all the applications developers, thereby allowing Company B's applications to work faster and better than competing applications. As a result, the Company B division may gain sales at the expense of other applications. In this way, the merger of these complementary products may harm competition through input foreclosure in one or both complementary product markets[10].

When dominant platforms are protected from competition by network effects, economies of scale and switching costs, competitive concerns from their vertical acquisitions are particularly heightened because foreclosure may prevent creation of beneficial price, quality and innovation competition and because that foreclosure is likely to be profitable.

Example 9: Company A provides the dominant internet-based dental product sales platform for connecting manufacturers of dental supplies and dentists to exchange information and interact in a dental products marketplace. Company B is an important manufacturer of artificial teeth. After acquiring Company B, the merged firm plans to eliminate Company B's sales to traditional wholesalers and its participation on other dental product platforms. It also plans to provide Company B with information on prices, sales and customers of artificial teeth competitors. As a result, both Company A's platform and Company B's teeth may gain share from competitors and the ability to raise their prices. Innovation by rival tooth manufacturers and rival platforms also may decline.

4.1.2. INPUT FORECLOSURE IN NEGOTIATION MARKETS

Input foreclosure also can occur in negotiation markets by increasing the bargaining leverage of the upstream merging firm to negotiate higher prices with the rivals of the downstream merging firm. After

pipeline to gain monopsony power over the other liquid extractors.

[10] If there is only competitive harm applied to the buyers of one of the complements, then that product is the relevant market and the other is the related product,

the merger, the upstream affiliate and customers that are downstream rivals will recognize that the downstream affiliate will earn more if the upstream affiliate were to foreclose the downstream rivals from access to the input, even temporarily. That makes it less costly (and so less risky) than before the merger for the upstream affiliate to fail to reach an immediate agreement. In consequence, the merger may increase the bargaining leverage of the upstream affiliate, providing it with the ability to negotiate higher prices, and thereby also harm downstream competition by raising rivals' costs.

Permanent supply disruptions (or even short-term disruptions) rarely occur because the parties have mutual incentives to avoid them by reaching a quick agreement. Bargaining theory is premised on foreclosure threats, not necessarily carrying out the threats with actual foreclosure.[11] For the same reason, there is no actual profit sacrifice by upstream division from these threats unless there is a supply disruption before any agreement is reached .

> *Example 10: Company A supplies engines to aircraft Manufacturers B and C which compete in the sale of aircraft to airlines (the relevant market). Manufacturer B wishes to acquire Company A. When the merged firm bargains with rival Manufacturer C over the price of engines, Company A may be more willing to hold out for higher prices, as compared to when it was an unintegrated company. This is because losing (or delaying) sales of engines to Manufacturer C may be less costly than it was for standalone Company A. Higher negotiated prices paid by Manufacturer C for engines may lead to higher aircraft prices.*

4.1.3. CUSTOMER FORECLOSURE

A vertical merger may diminish competition in an upstream relevant market by creating an incentive for the merged firm to foreclose one or more rival input suppliers (that participate with it in this relevant market) by reducing or eliminating its purchases from those suppliers. The competitive concern from customer foreclosure is not the loss of sales to the downstream merging firm but rather the subsequent impact that this foreclosure may have on competition for other downstream customers among the foreclosed upstream suppliers. In identifying whether a vertical merger is likely to harm competition through customer foreclosure, the Agencies will consider whether and to what degree: (1) the foreclosure would cause rival upstream suppliers to lose sales and exit the market, or face materially higher costs of production, or have materially reduced incentives to invest or innovate, or otherwise compete less aggressively for customers' business; and (2) the benefits to the upstream merging firm from gaining additional sales from other customers or gaining the power to raise or maintain supra-competitive prices. Competitive concern is particularly heightened when a vertical merger involves a downstream affiliate that is a substantial purchaser of the input produced in a concentrated upstream market, and a downstream merging firm's decision to stop dealing with the competitors of the upstream merging firms would lead to the exit, reduction in investment, or significantly higher marginal costs of one or more of those upstream competitors by diverting a substantial amount of business away from them.

[11] Foreclosure occurs one period at a time, not permanently, and threatening a short-term delay that changes the likely allocation of the gains from trade in a favorable direction is credible. Even if the threat of a permanent or long-term foreclosure lacks credibility because it would be so costly for the merged firm, threats to delay the agreement for one more period could readily be credible because they become less costly after the merger and so can achieve the benefit of causing the buyer to be willing to accept a more favorable offer because of the costs the buyer would suffer from the delay.

Example 11: Airline A is the largest airline that serves a particular hub city and it purchases jet fuel from three local oil refineries. After Airline A acquires Refinery X, it may stop purchasing from the other two refineries. The Agencies may consider whether the merger would lessen competition in the sale of jet fuel in the hub city, which is the relevant market. Air transportation provided by the airlines that serve the hub city is the related product segment. The loss of the fuel sales to Airline A may cause one or both of the two independent refineries to become markedly less efficient, leading one to stop producing any jet fuel. As a result, the acquired Refinery X and the other surviving jet fuel supplier, facing less competition, may find it profitable to raise the price of jet fuel to Airlines B and C that also serve the hub, thereby harming these airline purchasers, even if they do not compete with Airline A. As a result, air fares on routes using the hub also may rise.[12]

Customer foreclosure also may lead to input foreclosure.

Example 12: Given the facts of Example 11, the higher costs of competing Airlines B and C may lead them to raise their prices, reduce the frequency of their flights or withdraw from certain routes where they compete with the merging Airline A. The higher prices of jet fuel would represent input foreclosure as a result of the higher prices of jet fuel and may lead to diversion of passengers to Airline A. This diversion then may give Airline A the incentive to raise or maintain higher prices on its routes, thereby further harming air travelers on those routes. In evaluating this input foreclosure concern, air service on various routes from the hub city would be relevant markets and jet fuel would be the related product segment.

4.2. REDUCTION OR ELIMINATION OF POTENTIAL COMPETITION

A vertical merger can reduce or eliminate potential competition and raise entry barriers in several ways. First, if either or both of the merging firms are potential entrants or potential sponsors of entry by third parties into the other merging firm's market, a vertical or complementary product merger can eliminate the competitive benefits of that actual (or potential) competition in achieving (or maintaining) lower prices or spurring innovation. Second, the acquisition of the producer of a vertically-related or complementary product can force other potential entrants to enter both markets simultaneously, which can raise the cost or risk of entry and thereby reduce the likelihood that the entry will occur or will provide as much competition if it does occur.

Example 13: Company A produces industrial robots. Company B and Company C produce operating systems for industrial robots that they sell to Company A and its competitors (as well as non-competitors) at supra-competitive prices. Company A has been considering the possibility of creating its own operating system, which it also would sell to other robot makers. Company B acquires Company A, which eliminates the threat of that operating system competition and allows Companies B and C to continue to charge high prices for their operating systems.[13] *In this example,*

[12] These higher costs could raise prices both on routes served by Airline A and also on routes that it does not serve.

[13] The merger also may lead to an additional incentive for input foreclosure targeted at Company A's competitors.

operating systems are the relevant (product) market and robots are the related product.

Competitive concern is particularly heightened when either (or both) of the vertically-related merging firms has a substantial probability of entering into the other firm's highly concentrated market, and entry into that market after the merger would not be expected to prevent competitive harm. When dominant platforms are protected from competition by network effects, economies of scale and switching costs, competitive concerns from their vertical acquisitions are particularly heightened because the acquisition may result in the loss of potential competition, not just because it threatens anticompetitive foreclosure. If a dominant platform acquires a potentially significant complement or vertically-related firm that is a potential or nascent competitor into its relevant market, or one that could facilitate the entry and growth of a fringe rival or potential rival into that market, the merger may prevent the disruption of its dominance and the substantial competitive and consumer benefits in terms of lower prices, increased quality and greater innovation that would follow successful entry.

4.3. EXCLUSIONARY MISUSE OF COMPETITIVELY SENSITIVE INFORMATION

In a vertical merger, the combined firm may gain access to sensitive business information about its upstream or downstream rivals that was unavailable to it before the merger. For example, a downstream rival of the merged firm may have been a pre-merger customer of the upstream firm. Post-merger, the downstream division of the merged firm could now gain access to its rivals' sensitive business information. Access to a rival's competitively sensitive information can, in some circumstances, be used by the merged firm to intensify its competitive response to rivals' competitive actions. For example, it may preempt or react quickly to a rival's procompetitive business actions. While this more rapid response initially might benefit buyers, such opportunistic free riding may harm competition over time because rivals may obtain less value in taking procompetitive actions and will be deterred from doing so as a result. Relatedly, rivals may rationally refrain from doing business with the merged firm rather than risk that the merged firm would misuse their competitively sensitive business information in this way. They may do so even if it raises their costs, reduces their efficiency or leads them to pay higher prices because they have fewer competing options.[14]

Example 14: Manufacturer A designs, produces and sells components used by Fabricators B, C, and D. Manufacturer A may obtain advance information about the new products being developed by the fabricators. After merging with Fabricator B, Manufacturer A can use that information so that Fabricator B can quickly imitate the new products of its competitors. If they lose their timing advantages, Fabricators C and D may have less incentive to innovate. Fearing this rapid imitation, Fabricators C and D alternatively may switch to different component producers, even if those components are lower quality or higher costs. Either way, the manufacturing customers of the fabricators may be harmed, from either higher prices or reduced innovation. In this example, fabrication is the relevant product market and manufacturing is the related product.

[14] The fact that it is the competitors that choose to refrain from doing business with the merged firm to avoid these feared harms does not eliminate the competitive concerns raised by the merger. This is a foreseeable outcome primarily caused by the merger.

4.4. EVASION OF REGULATION OR LONG-TERM PRIVATE CONTRACTS

A vertical merger may facilitate evasion of price regulation or the manipulation of long-term private contracts with input price escalators. Competitive concern is particularly heightened where a downstream affiliate is subject to maximum price regulation dependent on its costs, and where the upstream affiliate is able to increase the price of inputs provided to the downstream firm in ways the regulator cannot easily or rapidly detect and punish, and as a result, would induce the regulator to authorize higher downstream prices.[15]

In unregulated markets where the firms employ long-term contracts for input supply that include price escalation (or de-escalation) provisions that utilize market indices, a vertical merger might permit and provide an incentive for the upstream merging firm to take actions to raise the price escalator in order to raise the costs of the competitors of the downstream affiliate and thereby increase its profits at both levels.

> *Example 15: Suppose that the long-term contracts for jet fuel between airlines and refineries contain a provision that sets the contract price on the basis of the spot price of jet fuel, as calculated and published in a respected trade publication. Suppose that after the merger of Airline A and Refinery X, Refinery X begins to make additional spot market purchases that raise the published spot price, and hence raise the contract price paid by Airlines B and C to the refineries that supply them with jet fuel. While this type of market price manipulation may not have been profitable before the merger, the gains to the merging airline might make it profitable after the merger. In this example, both the sale of jet fuel and air travel are relevant markets.*

5. HARMS FROM COORDINATED EFFECTS

In some cases, a vertical merger may diminish competition by enabling or encouraging post-merger coordinated interaction that harms customers in the relevant market. Section 7 of the Horizontal Merger Guidelines describes how the Agencies evaluate coordinated effects. Section 7.1 notes that the Agencies are more likely to challenge a merger on the basis of coordinated effects when the relevant market shows signs of vulnerability to coordinated conduct, and the Agencies have a credible basis on which to conclude that the merger may enhance that vulnerability. Section 7.2 sets forth evidence relevant for evaluating whether a market is vulnerable to coordination. The theories of harm discussed in the Horizontal Merger Guidelines, as well as those discussed below, are not exhaustive, but rather are illustrations of the ways in which a merger may lessen competition from coordinated effects.

Anticompetitive coordinated effects from a vertical merger may involve weakening or elimination of a disruptive or maverick seller or buyer. Sensitive competitive information may be misused to facilitate coordination. Coordinated foreclosure also may occur if there are multiple vertically integrated firms. Coordination to raise prices in the upstream relevant market harms the direct purchasers and normally also would be expected to harm the customers of the downstream firms. But the Agencies will not require a showing of harms to these indirect purchasers when the competitive harm is pricing coordination in the upstream market.

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[15] Equivalent issues arise if the merger combines firms that sell complementary products, the merged firm could evade price regulation by increasing the price of the bundle and attributing the price increase to the unregulated product.

5.1. WEAKENING A NON-MERGING DISRUPTIVE COMPETITOR

A vertical merger may enhance the market's vulnerability to coordination by eliminating or hobbling a disruptive or maverick firm that otherwise plays an important role in preventing or limiting anticompetitive coordination in one of the relevant markets in which the merging firms participate. This may lead to competitive harm even if the recapture of the targeted firm's sales by the combined firm would be limited. For example, after the merger, the merged firm could have the incentive to use its power in the input (upstream) product segment for a significant input to raise the costs of a disruptive or maverick competitor in the downstream relevant market, thereby increasing the likelihood of coordinated interaction in that downstream market, which then could benefit its downstream division and harm consumers.

Similarly, the merged firm may be able to use its power in the upstream relevant market to weaken the ability of a disruptive buyer of inputs to disrupt upstream coordination, thereby increasing the likelihood of coordinated interaction in the upstream relevant market.[16] For example, the upstream affiliate might attempt to lead the elimination of price discounts to the disruptive firm that it had previously offered in the pre-merger market.

5.2. ELIMINATING THE MERGED FIRM'S INCENTIVES TO DISRUPT COORDINATION

A vertical merger can reduce the upstream merging firm's incentives to cheat or otherwise disrupt coordination in a relevant upstream (input) market that otherwise might be vulnerable to coordination. In contrast to pre-merger coordination incentives, the merged firm may recognize that its downstream manufacturing business would benefit if its rivals pay more for the input, by leading those rivals to reduce their output or otherwise compete less aggressively, while the merged firm can self-supply its downstream division. This change in incentives can increase the likelihood of successful coordination in the upstream market.

This incentive may be most pronounced if the upstream affiliate of the merging firm has been acting as a maverick or disruptive seller, or if the downstream merging firm has been acting as a disruptive buyer of those inputs in the pre-merger upstream market. Competitive concerns from a vertical merger are particularly heightened in these cases because of the risk that it would eliminate these procompetitive incentives.

5.3. COLLUSIVE MISUSE OF SENSITIVE COMPETITIVE INFORMATION

Coordinated effects may also arise when the merged firm gains access to rivals' sensitive competitive information, which may facilitate either (a) reaching a tacit agreement among market participants, (b) detecting cheating on such an agreement, or (c) punishing cheating firms.

> *Example 16: Manufacturer A designs and produces components used by Fabricators B, C, and D. Manufacturer A may have some competitively sensitive information about how much output Fabricators B and C produce. After merging with Fabricator B, the merged firm may be better able to better detect cheating on a tacit agreement to limit fabrication output. It also may be able to punish a cheating firm by delaying deliveries or reducing cooperation in other ways. If Fabricator B buys some components from*

[16] This coordination also could disadvantage its downstream competitors through input foreclosure and further harm the customers of the downstream firms.

the competitors of Manufacturer A, it may have competitively sensitive information about the prices charged by those competing component manufacturers, which similarly would increase the ability to detect cheating on a tacit agreement to raise component prices. In both cases, the merger may make a tacit agreement at either level more effective.

5.4. COORDINATED FORECLOSURE

If one of the non-merging firms is vertically integrated, the vertical merger may lead to coordinated foreclosure by the vertically integrated firms. Coordinated foreclosure may be more profitable than unilateral foreclosure by either one of them. As a result, foreclosure conduct by one of the integrated firms may be followed by similar conduct by the other integrated firm.[17] The vertical merger also may lead to greater symmetry in costs, as well as the incentives of the firms.

6. EVIDENCE OF ADVERSE COMPETITIVE EFFECTS

The Agencies consider any reasonably available and reliable evidence to address the central question of whether a vertical merger may substantially lessen competition. This evidence includes both economic and documentary evidence. The sources of evidence are the same or similar to the evidence set forth in Section 2.2 of the Horizontal Merger Guidelines and include documents and statements of the merging parties, their customers, and other industry participants and observers. The types of evidence described in Section 2.1 of the Horizontal Merger Guidelines can also be informative about the effects of vertical mergers, including: actual effects observed in consummated mergers, direct comparisons based on experience, and evidence about the disruptive role of a merging party. Pre-existing contractual relationships may affect a range of relevant market characteristics. The Agencies also may consider market shares and concentration in relevant markets and related product segments (see Section 3), though direct evidence is generally preferred to these structural indicia proxies when it is available.

The Agencies may consider evidence regarding prices and premerger competitive interaction in the upstream and downstream markets, the ability of customers in both markets to substitute among the competing firms inside the relevant market, including the role of switching costs and product differentiation, upstream and downstream gross margins, the importance of the input to the downstream competitors, the importance of input sales to the downstream merging firm by the upstream competitors, and demand elasticities. They also may rely on economic evidence about value of diverted sales, head-to-head competition and incentives to accommodate by the upstream and downstream rivals of the merging firm when analyzing unilateral effects, as well as non-price responses, ease of entry and repositioning (see Section 4). The Agencies also may analyze evidence of the vulnerability of the market to coordination when analyzing coordinated effects (see Section 5). They also will analyze evidence regarding claimed competitive benefits (see Section 7).

The Agencies do not require competitive harms or benefits to be quantified in order to evaluate the likely competitive effects of the merger. However, where sufficient data are available, the Agencies may construct economic models designed to quantify the potential effects of the merger. These models would include price responses by non-merging firms and the impact of cognizable efficiency benefits to

[17] Accommodating price increases by unintegrated upstream competitors to unilateral input foreclosure by the merging firm also might be viewed as a type of conscious parallelism that resembles coordinated conduct without any agreement.

estimate a likely net effect on consumers. These merger simulation methods need not rely on market definition. However, the Agencies do not treat merger simulation evidence or other quantification evidence as necessary or conclusive in itself. The Agencies recognize that the results of such models may be sensitive to availability of necessary data, the particular data used, and the assumptions and structure of the model, and that, as a result, the predictions of the model may not be robust to changes in various factors and data used. Most such models focus only on prices and assume that there is no pre-merger coordination, which also may limit the reliability of their predictions.

7. COMPETITIVE BENEFITS

Like horizontal mergers, vertical mergers can create competitive benefits by reducing resource usage and by creating procompetitive incentives. By combining complementary economic functions and eliminating contracting frictions, they have the potential to create cognizable competitive benefits that increase competition and benefit buyers.

Vertical mergers bring together complementary assets, including those used at different levels in the supply chain, to make a final product. A merged firm may be able to coordinate use of these assets to improve the product design and production process in ways that would not be achieved though arm's-length cooperation or contracts. Standalone firms may cooperate in designing new products, sharing information and achieving efficient distribution, but a vertical merger may improve the process by sharing proprietary information and avoiding free riding incentives. A vertical merger may harmonize incentives of the merging firms so that each division of the merged firm takes account of the benefits and costs of its actions on the other division. This includes pricing incentives that are commonly referred to as "elimination of double marginalization." Cost reductions also may create competitive benefits by creating a maverick producer, or the merger may change other characteristics of the merged firm in a way that reduces its incentives to engage in anticompetitive coordination.

Vertical mergers do not always achieve these potential competitive benefits. Many integrated firms do not transfer inputs from their upstream division to their downstream division. Integration can be difficult as a result of different functions and corporate cultures. Companies sometimes choose to maintain arms-length relationships among its divisions.

Where a vertical merger raises a reasonable probability of competitive harm, the Agencies will evaluate the cognizability and magnitude of the competitive benefit claims made by the parties, using the approach set forth in Section 10 of the Horizontal Merger Guidelines. Production efficiencies and procompetitive incentive benefits are cognizable only to the extent that they are merger-specific, have been verified and do not arise from anticompetitive reductions in output or service. Cognizable efficiencies are assessed net of costs produced by the merger or incurred in achieving those efficiencies and risks that the benefits will not occur.

The Agencies do not challenge a merger if the parties can establish that the cognizable benefits have a character and magnitude such that they are sufficient to reverse or deter any likely anticompetitive harms in every relevant market where a reasonable probability of competitive harm has been identified. In carrying out this analysis, the Agencies will consider whether some claimed efficiencies might be accompanied by conduct that raises the cost or reduces the quality or innovation of competitors. For example, a vertical merger that leads the downstream merging firm to gain more rapid access to the innovative new products of the upstream firm may be accompanied by absolute (not simply relative) delays in making those products available to downstream competitors.

7.1. PRODUCTION EFFICIENCIES

A vertical merger may improve design, production, inventory management, distribution, and innovation in ways that would not be achieved though arm's-length cooperation or contracts. By harmonizing the goals of the merging firms, the merger may lead to information sharing that can reduce costs of production, distribution, advertising and so on. Cooperation and information sharing within the firm can lead to new and better product designs that improve product quality. By combining expertise and avoiding duplication, innovation may be faster and less expensive.

7.2. ELIMINATION OF FREE RIDING AND DOUBLE MARGINALIZATION

Vertical mergers can lead each of the merging firms to take account of the costs and benefits of their actions on the other affiliate, whereas each would ignore those effects absent the merger, an incentive effect which is analogous to elimination of free riding. This can lead to higher investment and lower prices.

A pre-merger investment by one of the firms might increase the profits of both firms, but the investing firm would not take the profit benefit to the other firm into account and its own profits might be too small to justify the most efficient investment. Negotiations to share the cost might fail if either or both firms understate their benefits. As a result, the firm might undertake a smaller investment that is profitable for itself but leads to lower combined value for the two firms. In this way, the attempt by the other firm to free ride on the investments of the other can lead to underinvestment.

Elimination of double marginalization can occur when two vertically-related firms that individually charge profit-maximizing pre-merger prices and margins on their products choose to merge.[18] Absent the merger or output-driving contractual provisions, the upstream merging firm would ignore any benefit to the downstream merging firm from setting a lower downstream price and making higher sales. But the merged firm will earn both margins on any additional sales. Capturing the upstream margin may make the downstream price reduction profitable even though it would not have been profitable prior to the merger, which then may benefit both the merged firm and buyers of the downstream product or service. However, there also are offsetting pricing incentives: if the merged firm raises its price in the downstream market, downstream rivals may increase their sales, which could increase their demand for inputs from the upstream affiliate of the merged firm. Capturing this benefit through merger may make downstream price increases more profitable and price decreases less profitable.

The Agencies do not presume that elimination of double marginalization will occur or that it will be sufficient to reverse the incentives to raise price or the competitive harms identified (see Section 5 & 6). The agencies treat elimination of double marginalization in the same way as other potentially cognizable competitive benefit claims made by the parties. The parties are required to show that benefits are merger-specific, verifiable and sufficient to reverse any anticompetitive harms in the relevant market.

Verified benefits may not be sufficient to prevent competitive harm. Substantial pre-merger competition or commitment impediments may lead to a low margin earned by upstream merging firm. The downstream affiliate may be unable to use the inputs from the upstream firm because it uses an

[18] The relevant margin is the difference between price and marginal cost.

incompatible technology, because it faces significant switching costs, or because it is locked-in to other input suppliers by long-term supply contracts. The upstream affiliate may face capacity constraints or rising marginal costs that limit its ability or incentive to expand sales. The merging parties may already have engaged in contracting that aligned their incentives to some extent prior to the merger, for example, by using a quantity-driving contract, volume discounts, or a two-part tariff with a fixed fee and unit prices with a small margin.[19] Double marginalization also may not be eliminated either before or after the merger, if the firms are concerned that their low prices would spread to other downstream and upstream firms or if there is pricing coordination. The incentive to cut prices also may be mitigated if downstream rivals also purchase from the upstream merging firm.

A merger may not be necessary to eliminate double marginalization. It will not be merger-specific if the parties could achieve the outcome as a practical matter absent the merger. The Agencies will not presume merger-specificity simply because it was not achieved in the pre-merger market, but will expect the parties to provide credible evidence of pre-merger impediments and how the merger will eliminate the impediments.[20] Analysis of this issue may include the following types of historical evidence: the parties attempts to achieve agreement, including negotiations just prior to the merger; the efforts and success of other firms in the industry to achieve the benefit; the record of the merging firms in dealing with double marginalization for other inputs produced and used by different divisions; the firms' pricing decisions to account for demand interactions, if they sell multiple substitute or complementary products; the firm culture and compensation structure of divisional executives with respect to the performance of the executives' divisions versus the entire corporation. Impediments to elimination of double marginalization arising from pre-merger coordination or anticompetitive agreements will not be credited by the Agencies.

7.3. OUT-OF-MARKET COMPETITIVE BENEFITS

Out-of-market competitive benefits can occur in vertical mergers as well as in horizontal mergers. For example, there could be competitive harms from coordination in the upstream relevant market, but there simultaneously could be cognizable efficiency benefits in the downstream related product segment such that the customers of the downstream firms may be benefited on balance. There also could be harms in multiple relevant markets but benefits in some other related product segment or relevant market.[21] In these cases, the Agencies will follow the approach to out-of-market efficiencies in the Horizontal Merger Guidelines (see Section 10). If competitive harms occurs in one relevant market, and competitive benefits occur in a separate related product segment or relevant market, these out-of-market benefits normally will not be treated as cognizable. However, if the benefits and harms are "inextricably linked," they may be taken into account in the Agencies' "prosecutorial discretion."

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[19] To the extent that the merging parties have partially eliminated double marginalization pre-merger, the competitive benefits from that portion are not merger-specific.

[20] The existence of some bargaining frictions is not sufficient evidence since all negotiations involve bargaining frictions and they may not prevent a contract. Multi-divisional firms also may instruct their divisions to treat one another at arm's-length in transferring and pricing inputs from the producing division to the consuming division.

[21] For example, there could be harms in both markets if the vertical merger eliminates a downstream disruptive input buyer or an upstream maverick.