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## COMPETITION POLICY IN VERTICAL MERGERS AND INNOVATION MARKETS

Prepared remarks of

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"ANTITRUST IN THE HEALTH CARE FIELD"

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<sup>1</sup> The views expressed are those of the Commissioner and do not necessarily reflect the views of the Federal Trade Commission or any other Commissioner or staff.

Thank you for the opportunity to speak with you today. The health care industry represents a continuing challenge to antitrust enforcement. Dynamic changes are occurring: the rise of managed care programs, innovative cooperative provider arrangements, and the evolving relationship between third-party insurers and providers. The pharmaceutical industry is also evolving. Some believe the largest manufacturers will continue to consolidate and emphasize downstream integration, while research may move more and more to a boutique setting. All of these changes offer the opportunity to provide better health care to more Americans. Evaluating mergers in such dynamic and innovative markets challenges traditional antitrust theory.

Now, as to the two particular areas where the Commission tries to understand the nature of dynamic and innovative markets: "vertical mergers" and "innovation markets."<sup>2</sup> Some have questioned whether these concepts are sufficiently developed as a matter of antitrust theory.<sup>3</sup> I am not here to debate theory. One point I hope to make today is that where the Federal Trade Commission has challenged vertical mergers or transactions in innovation markets, the antitrust analysis was driven by the factual evidence presented. My advice to those who would posit broad theoretical generalizations -- be they pro- or anti-enforcement -- is that they would do best to support their analysis with a healthy dose of marketplace reality. Antitrust analysis must always remain theory driven by facts, particularly in dynamic and innovative markets.

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<sup>2</sup> Innovation market analysis involves analysis of research and development of innovation as separate and apart from a market for currently-existing goods or technology. See generally "U.S. Department of Justice Guidelines for Licensing and Acquisition of Intellectual Property," § 3.2.3 (Issued for public comment Aug. 8, 1994) (hereafter "Draft Intellectual Property Guidelines").

<sup>3</sup> See, e.g., Scott A. Stempel, "Government Shows Increasing Concern with Vertical Mergers," Antitrust 17 (Fall 1994); Robert P. Taylor, "Pilkington, Microsoft, and S.C. Johnson Signal a Policy Shift at DOJ," Antitrust 23, 27 (Fall 1994).

## Vertical Merger Enforcement

Vertical integrations are usually mergers of noncompeting companies where one's product is a necessary component of the other's. Such mergers can achieve procompetitive efficiency benefits. Vertical integration can lower transaction costs, lead to synergistic improvements in design, production and distribution of the final output product and thus enhance competition. Consequently, many vertical arrangements raise few competitive concerns.

However, as reflected in the 1984 Merger Guidelines,<sup>4</sup> some vertical acquisitions can be anticompetitive. The challenge for antitrust enforcement is to identify these anticompetitive transactions.

Vertical mergers or integrations may be anticompetitive in several ways. First, an industry can become so highly vertically integrated that "two level" entry becomes necessary -- that is, an entrant into either the downstream or upstream markets finds it necessary to enter both markets. If such two-level entry is more risky, difficult or time-consuming than entry into one of the

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<sup>4</sup> U.S. Department of Justice, Merger Guidelines, 4 Trade Reg. Rep. (CCH) ¶ 13,103 (1984) (hereinafter 1984 Merger Guidelines). Although the 1992 Horizontal Merger Guidelines [U.S. Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines 1992, reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,104], jointly issued by the Commission and the Department of Justice, supersede the 1984 Merger Guidelines with respect to horizontal mergers, the provisions in the 1984 Merger Guidelines regarding non-horizontal mergers have not been superseded by the 1992 Guidelines.

markets alone, a merger that increases vertical integration could increase barriers to entry and thus be anticompetitive.<sup>5</sup>

Second, the 1984 Merger Guidelines also recognize the possibility that a vertical merger could foreclose a competitor in the downstream market from purchasing needed supplies: that is, that the merged firm could use its position as a supplier to disadvantage unintegrated competitors and thereby cause competitive harm, either by restricting supplies or increasing prices.<sup>6</sup>

Third, a vertical merger can facilitate collusion in either the downstream or upstream market. Acquisition of a supplier by a purchaser may create opportunities to inappropriately monitor the upstream supplier's competition.<sup>7</sup> Or a vertical merger may involve the purchase of a particularly disruptive downstream buyer.<sup>8</sup> By eliminating a buyer who played one upstream firm off of another, such a merger may facilitate collusion in the upstream market.

Theorists have sought to refine the conditions under which a vertical merger may be anticompetitive. Professors Riordan and Salop have developed theories of "raising rivals' costs,"

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<sup>5</sup> 1984 Merger Guidelines § 4.21. One reason why two-level entry might be costlier is that the minimum efficient scale for two-level entry is different than for one-level entry, which may force the entrant to enter at a much larger scale than it would otherwise. Another is that potential entrants may be less efficient at one stage of production than another.

<sup>6</sup> 1984 Merger Guidelines § 4.212 n.31.

<sup>7</sup> 1984 Merger Guidelines § 4.221.

<sup>8</sup> 1984 Merger Guidelines § 4.222.

where an integrated company may increase the costs of its rivals in either the upstream or downstream market.<sup>9</sup> One concern about the "raising rivals' costs" theory is that harm to competitors does not always result in harm to competition itself, that is, it may not adversely affect consumer welfare. However, the cornerstone of antitrust law is "the protection of competition, not competitors."<sup>10</sup> Thus even in a raising rival's cost theory, a showing of likely consumer injury should be required before a vertical merger is challenged -- that is, a likely increase in quality-adjusted price or likely decrease in output.<sup>11</sup>

With some commentators questioning the validity of raising rivals' costs theories,<sup>12</sup> some antitrust enforcers believe it is premature to proceed with enforcement based on relatively novel theories. However, the statutes that we operate under do not allow us to take a "wait-and-see" approach. The heart of the Clayton Act is the statutory mandate to halt potentially anticompetitive practices and mergers in their incipiency.<sup>13</sup> Once a merger has occurred, it is difficult, if not impossible, to unscramble the eggs and undo the effects of the merger. The statute speaks of probabilities: it asks us to examine whether the acquisition's effect "may be substantially

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<sup>9</sup> Michael H. Riordan and Steven C. Salop, "Evaluating Vertical Mergers: A Post-Chicago Approach," 63 Antitrust L.J. 513 (1995). See also Thomas G. Krattenmaker & Steven C. Salop, "Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price," 96 Yale L.J. 209 (1986).

<sup>10</sup> Brown Shoe Co. v. United States, 370 U.S. 294, 320 (1962).

<sup>11</sup> Riordan & Salop, *supra* n.9, at 548-50.

<sup>12</sup> Timothy Brennan, "Understanding Raising Rivals' Costs," 33 Antitrust Bull. 95 (1988).

<sup>13</sup> Coca-Cola Co., D-9207, slip op. at 6, n.11, & 7-8 (June 13, 1994), petition for review filed (D.C. Cir. Aug. 26, 1994).

to lessen competition or to tend to create a monopoly."<sup>14</sup> Consequently, when considering mergers, it is the Commission's statutory responsibility to consider the possibility, or likelihood, of future anticompetitive effects.<sup>15</sup> It is my belief that careful and thorough case-by-case analysis, involving examination of the evidence presented in support of plausible theories of anticompetitive harm, is the best way to approach vertical merger enforcement. Only through examination of pertinent facts can we separate situations of mere harm to competitors from anticompetitive situations and, ultimately, fulfill our statutory mandate.

Factual evidence makes all the difference in vertical merger analysis. For example, when an upstream company buys a disruptive downstream buyer, evidence that the acquired company had obtained special discounts may suggest that the acquired company was uniquely positioned to disrupt any effort by upstream companies to engage in coordinated behavior. Perhaps the acquired company was the first to demand and get assurances of the lowest possible price. There may also be evidence in the acquiring company's internal documents of continuing frustration with the ability of this buyer to play one upstream company off of another.

In the foreclosure or raising rivals' costs scenario, it may make a difference if almost all downstream competitors are concerned that the integrated entity will increase their costs or discriminate against them, as opposed to a situation where only one downstream competitor is

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<sup>14</sup> 15 U.S.C. § 18.

<sup>15</sup> FTC v. Elders Grain, Inc., 868 F.2d 901, 906 (7th Cir. 1989) (noting that the statute "requires a prediction" about future competitive effects).

concerned. Absence of complaints, however, does not in and of itself mean there are no potential problems -- there may be situations where downstream companies are loathe to complain for fear of retaliation. Or, the merging companies own documents that may suggest that the transaction would permit the merged entity to increase the costs of its competitors.

In addition to close case-by-case analysis, antitrust enforcers must take great care when considering the nature and extent of the curative remedy in vertical merger cases. Since many vertical mergers result in procompetitive efficiencies, we must craft relief narrowly to permit procompetitive efficiencies to come to fruition whenever possible.

A recent proposed settlement with Eli Lilly highlights the precarious balance in curing potential anticompetitive problems while allowing efficiency benefits of new arrangements. Eli Lilly, wished to acquire PCS Health Systems, the pharmacy benefits management subsidiary of McKesson Corp. The concern with this vertical merger was that Lilly, a major pharmaceutical company, was buying the largest remaining national full-service independent pharmacy benefit management (PBM) company, thereby eliminating an independent part of the industry.

The PBM industry grew out of third-party payers' desire to have some control over prescription benefit costs. PBMs attempt to control costs by negotiating discounts, usually in the form of rebates, from manufacturers in return for placing the manufacturer's drug on the PBM's formulary. A formulary is a PBM produced list of FDA-approved drug products by therapeutic category, along with the reimbursement rate for the drug. These formularies, are made available

to pharmacies, physicians, third-party payers, or other persons involved in the health care industry, to guide in the prescribing and dispensing of pharmaceuticals. An "open" formulary allows for the reimbursement of any drug a physician prescribes, whether or not it is actually listed on the formulary, whereas, a "closed" formulary limits reimbursement to the specific drugs listed. Thus, closed formularies, by providing a mechanism for restricting reimbursement to certain drugs, can influence the prescribing patterns of physicians.

The Commission issued a complaint against Eli Lilly charging that the PCS acquisition would harm competition in several markets, including the provision of PBM services in the national full-service PBM market. The complaint alleged that products of drug manufacturers other than Lilly could be foreclosed from the PCS formulary and that PCS would be eliminated as an independent negotiator of pharmaceutical prices with Lilly and other drug manufacturers. The complaint also alleged potential collusion through reciprocal dealing, coordinated interaction, and interdependent conduct among Lilly and other vertically integrated pharmaceutical companies. In addition, entry into the relevant markets could be more difficult because it could require entry at more than one level. The complaint further alleged that the impact of the acquisition in the affected pharmaceutical markets likely will be to increase prices, diminish quality, and reduce the incentives of other manufacturers to develop innovative pharmaceuticals.

The proposed settlement order has two principal provisions which address potential foreclosure and collusion. The first provision requires Lilly to maintain an open formulary, which would not give unwarranted preference to Lilly products, but also allows Lilly to offer a closed

formulary. The second provision creates a "firewall," between Lilly and PCS on communication concerning bids, proposals, prices or other information related to other drug manufacturers' products.

We hope the proposed open formulary requirement will prevent anticompetitive foreclosure of competing drug manufacturers. As used in the Order, an "Open Formulary" is not one on which every FDA-approved drug must be listed, nor would the Order require that any manufacturer that offered a rebate be listed. Rather, under the Order an independent Pharmacy and Therapeutics Committee ("P&T Committee"), utilizing objective criteria, would decide which drug products should be included on the formulary. To ensure that Lilly cannot thwart the intent of the order by refusing to accept discounts or rebates on other products (thereby giving Lilly products preference on the formulary or making the formulary so expensive that no one will use it), the order would prevent Lilly from refusing to accept discounts and from inaccurately reflecting such discounts on the formulary.

Since the proposed order requires an open formulary, new entrants to pharmaceutical markets would face lower entry barriers because they would not need to enter at both levels of the industry. The open formulary would provide access for new products that offer an objective advantage over existing products.

The proposed order also permits Lilly to offer closed formularies to contain costs. As the Commission recognized in related contexts, selective contracting, i.e., limiting the panel of

providers in order to secure contracts in which lower prices are offered in exchange for assurance of higher volume, can be procompetitive.<sup>16</sup> Because pharmaceutical manufacturers may offer greater rebates for placement on a closed, rather than open, formulary, the proposed order does not prohibit Lilly from offering closed formularies to its customers. Thus, potential customers of the PBM can choose either the closed formulary and its greater price restrictions or the open formulary providing greater choice of drugs. .

The proposed order also deals directly with access to competitively sensitive information and the possibility of collusion. The order requires Lilly to maintain a firewall between the two businesses with respect to other drug manufacturers' bids, proposals contracts, prices, rebates, discounts, or other terms and conditions of sale. This is firewall should prevent the flow of competitively sensitive information between Lilly and PCS that could result in collusion at either level of the industry. We will be watching the effectiveness of the firewall -- and I am certain we will hear if others in the industry believe it is not working.

There remains, however, the question of the overall competitive effect of pharmaceutical companies owning PBMs. As Chairman Steiger and I said in our public statement, "[w]e are concerned about the overall competitive impact of vertical integration by drug companies into the pharmacy benefits management market." Our hope is that through monitoring this proposed

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<sup>16</sup>See, e.g., Letter to The Honorable William F. Cass, Massachusetts House of Representatives, June 15, 1993 (regarding proposed "any willing provider" legislation on prescription drug benefits).

order and through analysis of these evolving markets, the Commission can better assess all the ramifications of vertical integration in these markets.

I want to emphasize one further point regarding this proposed consent agreement. The consent agreement is not final yet. It has been placed on the public record and the Commission has received numerous comments from many different interested parties. Staff will be forwarding a recommendation to the Commissioners on whether to accept the consent as final in the near future.

The Commission's action with respect to Eli Lilly demonstrates the care with which the Commission proceeds when considering vertical mergers. They also demonstrate that the best way to develop a sensible vertical merger enforcement policy is to rely on the factual evidence presented and to act on a case-by-case basis.

### Innovation Markets

The importance of innovation in advancing consumer welfare is evident. Indeed, innovation becomes all the more important in the transition to a more globalized economy. Today we see markets expanding beyond our borders, with more competition from firms located outside the United States. The evidence suggests that the firms that will succeed globally are those that

have flourished in the face of domestic competition.<sup>17</sup> I believe that competition spurs innovation which, in turn, makes for greater competitive success in this increasingly global market. Hence, antitrust enforcers have a role to play in ensuring that competition among innovators is not reduced or retarded, and this role is especially important in the area of merger policy. However, analyzing and measuring competitive effect in an innovation market is no easy task. Guidance in analyzing competition in innovation can be borrowed from the price competition paradigm.

Just as a merger can often have procompetitive benefits, a merger of two innovating corporations can, under certain circumstances, have procompetitive benefits, for example, combining complementary research and development assets may allow, the merged entity to better compete. A merger, however, may retard or restrict innovation in a way that can have adverse consequences for consumers. Innovation can be suppressed or slowed or promising alternative technological approaches can be abandoned. Indeed, having more than one company undertaking research and development has the potential of producing an innovation that might not otherwise be discovered.<sup>18</sup>

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<sup>17</sup> Michael Porter, The Competitive Advantage of Nations (1990). See also David Halberstam, The Reckoning 244-45 (1986) (noting a possible connection between competition and innovation in describing problems that plagued the U.S. automobile industry). Others have suggested that some level of cooperation, albeit at a level that does not usually raise anticompetitive concerns, may also play some role in firms' ability to succeed on a global basis. See David J. Teece, "Information Sharing and Innovation," 62 Antitrust L.J. 465, 471-73 (1994) (noting importance of businesses joining trade associations that offer limited assistance on foreign market research, common fiscal and legal concerns, and government and union relations as well as the importance of buyers joining together to encourage upstream input manufacturers to innovate).

<sup>18</sup> See Robert Pitofsky, "Proposals for Revised United States Merger Enforcement in a  
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While the possible effect of retarding or restricting innovation on consumers may seem clear, analyzing the competitive effect of a merger on innovation is not so easy. Antitrust principles usually come into play in markets where goods are currently in production, the product market is ascertainable, market shares and concentration ratios can be assessed from sales figures, and competitive effects can be quantitatively measured.

How can we assess competitive effects where goods are not being produced, but rather where R&D is the "product"? My view is that innovation market analysis does not require any radical departure from the traditional tools used in antitrust analysis. We need, rather, a theoretical refinement to understand this important facet of competition. First, I believe that, contrary to what some may think, the idea of innovation competition is by no means a new one: antitrust has been grappling with competition involving research and development for some time now. These past experiences give us some guideposts for analysis. Second, my view on investigating innovation markets is the same as my view on merger enforcement: the best way for the Commission to proceed is through case-by-case analysis, after an investigation of relevant facts that demonstrate the competitive effects of the proposed transaction.<sup>19</sup> In this way, analysis of such markets will be further refined.

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Global Economy," 81 Geo. L.J. 195, 243 (1992). For an extensive discussions of innovation markets and merger analysis, see Richard J. Gilbert & Steven C. Sunshine, "Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets," 63 Antitrust L. J. 569 (1995).

<sup>19</sup> Jonathan Baker has similarly suggested that case-by-case analysis is probably the best way to judge competitive effects in innovation markets. Jonathan B. Baker, "Fringe Firms and Incentives to Innovate," 63 Antitrust L. J. 621, 641 (1995).

The concept of an innovation market, separate and apart from currently-existing goods and technology is not new. In the seminal Alcoa antitrust case, Judge Learned Hand recognized the benefits of competition in fostering innovation. He explained that:

possession of unchallenged economic power deadens initiative, discourages thrift and depresses energy; that immunity from competition is a narcotic, and rivalry a stimulant, to industrial progress; that the spur of constant stress is necessary to counteract an inevitable disposition to let well enough alone.<sup>20</sup>

I also believe that it is important to evaluate innovation markets to understand all of the dimensions of competition among firms. It is often the case that a merger that may retard innovation will also involve a highly concentrated market. For example, where only current goods market participants are likely to have the specialized assets or technical expertise to innovate, the cast of innovators is likely to be the same as the current goods market participants. Hence, the loss of innovation may be largely captured by the market concentration in the goods market alone.<sup>21</sup> On the other hand, when the innovation underlies a radically new technology or good, the innovation market may be only tangentially connected to the existing goods market.

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<sup>20</sup> United States v. Aluminum Co. of Am., 148 F.2d 416, 427 (2d Cir. 1945).

<sup>21</sup> Note, however, that analysis of research and development, in addition to analysis of the goods market, may be still be necessary to gain a full appreciation of all of the competitive ramifications of a merger. For example, analysis of innovation market competition may impact on the extent and nature of the remedy that is necessary to restore competition in all the markets.

Product market definition, of course, is different in the innovation context. Unlike the currently-existing goods market, there is no price data, or price or output projections. So, how can the parameters of a relevant product market be determined when the product does not exist? Although this may seem like a difficult enterprise, it is not unique to the innovation markets. Often in an existing goods market, the data may be limited to qualitative information. In the innovation context, the product market consists of R&D directed to particular new or improved goods or processes, and the close substitutes for that R&D. The critical question is, what specialized R&D assets or technical expertise are necessary to innovate successfully? Are there close R&D substitutes that could constrain the exercise of market power by a potential monopolist? Of course, because some aspects of successful innovation are based on factors such as marketing ability and reputation, ownership of research assets like laboratories and scientists will not alone answer the product market question.

Commentators have raised concerns that identifying the actual innovators and market shares may be difficult because innovation cannot be easily observed or measured. Although identifying participants and assigning market shares is sometimes tricky, we have found that information on innovation markets can be obtained.

First, innovation is often be driven by demand and the "customers" of the innovation may have useful information on the participants in the market. There may be organized efforts by downstream buyers, including the government, to press upstream manufacturers to engage in research and development of new products. For example, medical professionals, including those

in the government, may be engaged in monitoring research developments for new medical devices or medical procedures and thus may have information and opinions about the companies engaged in a particular innovation. Also, downstream buyers' associations may be actively engaged in pressing upstream companies to innovate by, for example, conducting competitions among innovators. These associations can provide information about the number and quality of the innovators in a particular market.

Second, intellectual property assets, particularly patents, are often publicly available and competitors are usually aware of them. Patents not only disclose who is in the innovation market but can also tell a great deal about the research path that the particular innovator is taking.

Third, firms sometimes choose to make their research and development public in order to generate market interest in and build consumer demand for a particular innovation. Indeed, firms often promote research successes and their subsequent new products.

Although determining market share is theoretically possible, it may not be practical. Such determinations are often qualitative, rather than quantitative. I think, however, that the inability to quantify market shares with absolute precision is not a bar to the inquiry. In innovation markets, the best we may be able to do is identify participants and obtain a qualitative sense of their relative competitive strengths in research and development.<sup>22</sup> Moreover, much of the

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<sup>22</sup> In enacting the National Cooperative Research Act, Congress indicated that the existence of four or more comparable R&D ventures would generally be sufficient to insulate

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qualitative information will have a quantitative basis. For example, by comparing the amount of research and development money spent each year by different innovators or the number of engineers working on a particular project, there is a quantitative basis to compare the relative competitive strengths of the innovators.

Product market definition, of course, does not end merger analysis in an innovation market. We also examine the possibility of an anticompetitive effect as a result of the merger. We look at two types of anticompetitive effects in analyzing mergers: unilateral effects and effects from collusion or coordinated interaction. Unilateral effects would provide the newly merged entity with sufficient "market power" to unilaterally reduce innovation or abandon promising alternative technologies. For example, a unilateral anticompetitive effect is possible in a merger of the only two companies involved in research and development on a particular innovation or in a merger leading to the formation of a dominant researcher. The past behavior of firms may also help in determining whether a unilateral anticompetitive effect is probable. If a firm has a history

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<sup>22</sup>(...continued)

an R&D joint venture from antitrust condemnation. H.R. Conf. Rep. No. 1044, 98th Cong., 2d Sess. 10, reprinted in 1984 U.S. Code Cong. & Admin. News 3105, 3134-35. The Department of Justice's 1988 Antitrust Enforcement Guidelines for International Operations relied on this legislative history in discussing the likelihood of anticompetitive effects from research and development joint ventures. U.S. Department of Justice, Antitrust Enforcement Guidelines for International Operations, 52-53 & n.236 (1988). It should be noted, however, that the legislative history also registered concern with always relying exclusively on numerical indicators. When Congress added certain cooperative production ventures to the Act's coverage in 1993 and renamed it the National Cooperative Production and Research Act, a House Report noted that "basing ... market power determinations exclusively on numerical measures would ignore the reality of the indeterminacy of defining many new and uncharted markets for future technologies." H.R. Rep. No. 94, 103d Cong., 1st Sess. 15, reprinted in 1993 U.S. Code Cong. & Admin. News 176, 188.

of acquiring competitors with innovative and seemingly successful research projects and then terminating those projects it may be likely to do so again.

Collusion or coordinated interaction -- as opposed to unilateral action by a company with market power -- is another possible anticompetitive scenario. On the one hand, some factors may reduce the likelihood of collusion in innovation markets. In circumstances where much research is conducted in secret and a major innovation could completely disrupt existing competitive relationships, detection and punishment of cheaters from a collusive scheme to reduce levels of research and development would be difficult.

On the other hand, incentives to reduce research and development may be great and collusion may be a likely possibility.<sup>23</sup> For example, collusion may be possible not so much in reducing the amount of research, but in agreeing on a particular research track to pursue.<sup>24</sup>

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<sup>23</sup> Collusion over innovations has been the subject of enforcement efforts in the past. For example, in 1969, four automobile manufacturers and their trade association entered into a consent decree with the Justice Department under which they were prohibited from conspiring to prevent or limit the development, manufacture, installation, distribution, or sale of air pollution emission control equipment. United States v. Automobile Mfr's Assn., 1969 Trade Cas. (CCH) ¶ 72,907 (C.D. Cal. 1969). Yao and DeSanti provide a fuller description of allegations that, in the 1960's, the automobile companies may have found ways to reduce competition in developing pollution control device technologies as part of a larger effort to forestall government regulations mandating usage of such devices. Dennis A. Yao & Susan S. DeSanti, "Innovation Issues Under the 1992 Merger Guidelines," 61 Antitrust L. J. 505, 516-17 (1993).

<sup>24</sup> Yao & DeSanti note the possibility of coordination over types of research. Yao & DeSanti, supra n.24, at 516. These theories of collusion should be distinguished from competitors joining together to set a common standard. Such standard-setting activities are generally procompetitive. By contrast, these theories of collusion involve situations where it is  
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Innovators may be developing different technologies in a competitive race toward what may, but not necessarily will, become the predominant research track. This may create an incentive to agree on a common research approach so that no one's research is rendered unusable. This incentive to collude may increase depending on the type of current assets innovators now hold. For example, consider a situation where innovators have an installed base for their currently-existing goods and that base has limited compatibility with other technologies. Buyers are demanding an innovation which, while it may not necessarily require a change in the installed base, could potentially lead to a situation in which only one technological research track would predominate. In such a situation, an innovator may fear that broad adoption of a rival's alternative technology may not only make its innovation research valueless, but also render its current installed base unusable as it will not be compatible with the rival's technology as a result of the innovation. Hence, there may be even greater incentives to agree on one technological research track so that no one competitor's installed base is rendered unusable. The competitors could also agree that the research track be one that is compatible with all existing technologies. This could lead to an anticompetitive result if alternative technologies that could have provided even greater benefit to consumers are shelved as a consequence of the agreement.

Any analysis of an innovation market merger is not complete without a careful look at possible efficiencies of the merger in fostering innovation. First, a merger may eliminate

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not clear that a common standard is either necessary or desirable and competitors are seeking, through merging and colluding, to eliminate promising alternative tracks of research in order to impose, by collusion, a standard research track.

unnecessary and redundant duplication of R&D and can help reduce the costs of innovation. For example, will the innovation be brought to market as a result of the merger? Second, a merger may help exploit scale economies or the merging firms may have complementary R&D assets. Efficiencies arguments must, as always, be supported by evidence that the efficiencies are real and that they are merger-specific. Care must always be taken to ensure that mergers do not lead to the possible loss of a significant alternative research track.

With these principles in mind, I want to turn to some examples of recent FTC cases involving innovation markets. In a proposed consent agreement with American Home Products Corporation (AHP) regarding its acquisition of American Cyanamid Company, the Commission considered an innovation market consisting of research and development of a rotavirus vaccine.<sup>25</sup> Rotavirus is a diarrheal disease that causes thousands of childrens' deaths annually; finding a vaccine is consequently vitally important to stop the spread of this disease. In the complaint, the Commission alleged that a market exists for the research and development of rotavirus drugs in which AHP and Cyanamid are two of only three competitors with research projects either in or near the clinical trial stage required before drugs are approved by the FDA. Moreover, Cyanamid's project was using a different research approach than that of the other two companies' projects, holding out the possibility of a superior vaccine. To assure that both the AHP and Cyanamid rotavirus projects continue independently, the consent agreement requires AHP to license Cyanamid's vaccine research to a Commission-approved licensee and provide the licensee

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<sup>25</sup> American Home Products Corp., FTC File No. 941-0116 (Consent agreement accepted for public comment, Nov. 9, 1994).

with certain technical assistance. In this way, the Commission sought to ensure the continuation of different approaches to developing this important vaccine which will hopefully speed the day when a vaccine is found.

In a recent proposed consent agreement with Wright Medical Technology regarding its acquisition of Orthomet, Inc., the Commission considered an innovation market consisting of next-generation finger implants.<sup>26</sup> The current finger implant market was allegedly highly concentrated, with Wright having a 95% share of the market. Although Orthomet did not have a finger implant product on the market, it had exclusive licensing contracts with the Mayo Clinic for clinical trials of next-generation finger implants. Although the next-generation finger implants could compete with Wright's current products, the more likely scenario here was of a leapfrogging-type of innovation that would render most current products essentially obsolete. The Commission alleged in its complaint that the acquisition would prevent the entry of Orthomet as a competitor to Wright's finger implants and reduce competition in research and development of next-generation implants. The proposed consent agreement requires that Wright transfer to the Mayo Foundation copies of the current Orthomet/Mayo research information and grant Mayo a license to those assets with the right to sublicense them in perpetuity. The proposed consent order is intended to free the Mayo Foundation to find another non-exclusive licensee, in addition to Wright, to develop orthopaedic implants used or intended for use in human hands. In this way,

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<sup>26</sup> Wright Medical Technology, Inc., FTC File No. 951-0015 (Consent agreement accepted for public comment, Dec. 8, 1994).

both Wright and a new Mayo Clinic licensee will be able to continue competing for next-generation finger implants.

The American Home Products and Wright investigations all demonstrate that the concept of an innovation market is vitally important in understanding all the ramifications to competition of a merger. Those consent agreements also, in my view, represent sound antitrust analysis grounded in relevant factual investigation. Again, however, it seems to me that innovation competition can only be judged on a case-by-case basis, after an investigation of the relevant facts in the light of plausible anticompetitive theories.

### Conclusion

Both vertical merger enforcement and analysis of innovation markets show the way in which the Commission has remained sensitive to the dynamism of markets in general, and health care markets in particular. I hope you have seen that antitrust analysis is not merely a matter of theory, but is always driven by close factual analysis. I thank you for your attention today.