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## Antitrust Considerations in Innovation-Driven Markets

*Joseph Kattan\**

**T**he impact of antitrust on innovative activity has never been a more timely topic than it is today. During the past few years, the federal antitrust enforcement agencies have taken an interest in competition in the sphere of innovation as an area with which the antitrust laws should be concerned. The government has brought several cases over the past few years based on theories that certain proposed transactions, usually mergers and acquisitions, would lead to a reduction in innovation activity if allowed to go forward. And two weeks ago, the government unveiled new antitrust enforcement guidelines for intellectual property licensing that focus extensively on innovation competition.

I will divide this presentation into two parts. In the first part, I will discuss the treatment of innovation in the new intellectual property guidelines and recent government antitrust enforcement cases in the intellectual property area. In the second part, I will focus on the subject of collaborations among competitors, through joint ventures, in the research and development and production of new products and processes.

### I. INNOVATION MARKETS

The new intellectual property guidelines, which were issued on April 6 of this year, announce the Justice Department's and Federal Trade Commission's enforcement policy with respect to intellectual property licensing. Intellectual property, of course, is an important component of a great deal of productive activity today, and is often the key asset of many collaborative ventures. The guidelines by their strict terms discuss only the analysis that the government will use in reviewing intellectual property licenses. But while the guidelines are literally concerned with intellectual property *licensing*, their analytical framework has a much broader reach, as it depicts the form of analysis that the government now uses to analyze competition in markets in which research and development or other innovative activity is a significant component.

By way of preface, there is a natural tendency to think "high technology" when speaking of innovative activity. But it would be a mistake

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The following text was compiled from the transcript of the remarks made by Mr. Kattan at this Conference.

to think that innovation competition is a concern only for high technology markets. While innovation issues have come up most often in cases involving biotechnology companies, the most prominent Justice Department case to address innovation competition involved heavy duty truck transmissions. Innovative activity is not limited to any sphere of the economy, and antitrust scrutiny of innovation competition similarly goes beyond any sector of the economy.

Antitrust analysis is typically concerned with price competition. Price is often described in antitrust cases as the central nervous system of the economy and it has been the key concern of the antitrust laws throughout their existence. That is still true today. When reviewing a merger or acquisition, or analyzing a joint venture, the government's principal concern is that the transaction would diminish price competition and lead to higher prices as a result.

Yet in recent years, the government has also shown an increasing interest in competition in the sphere of research and development. Its main concern has been that the pace of innovative activity may slacken as competition in R&D becomes less intense. For example, suppose that there are only three companies that make air conditioners, and I want to stress that this is a purely hypothetical construct. These companies compete with each other both in the price that they charge for their products and in improvements that they make to their products over time. It is at least plausible that combining two of the companies through a merger may lead to a reduced innovative effort simply because there will be fewer competitors in the race. Just as the companies might compete less vigorously in the price arena, because there are fewer competitors who may undercut them, they might also devote less effort to research and development to improve their products because there are fewer rivals offering their own improvements. Of course, and this is a key point, the government can attack this transaction solely on the basis of its likely effects on price competition.

Anyone who has been in a business that engages in research and development activity can think of several reasons why reducing the number of competitors might *not* reduce competition in R&D. Certainly, in the case of efforts to develop radical innovations, the statement that innovative activity diminishes as the number of competitors diminishes is almost certainly not true. If you are seeking to devise a cure to the common cold, the vast sums of money that await you if you are successful are a powerful motivator to keep up the innovative effort regardless of who else is competing with you. But there may be circumstances in which a key impetus for the effort to innovate is competitors' innovative activities, and that is where the government is most likely to be interested in innovation in its competitive analysis.

The theory behind the government's approach to innovation competition under the new IP guidelines is that among other dimensions of

competition, firms compete in research and development that may result in new or improved products or processes. The guidelines state that where the capacity for research and development activity that likely will produce innovation in a particular area is scarce and can be associated with identifiable specialized assets or characteristics of specific firms, the antitrust agencies will consider the impact of companies' activities on competition in a market for research and development or innovation. In other words, in addition to, or in lieu of, examining the impact of a transaction or particular conduct on prices, the agencies will also look at the effects of the transaction or competitive practice on innovation if there is reason to believe that the capacity to engage in a particular type of R&D activity is confined to a small number of firms. The capability is likely to be dependent either on preexisting experience in a particular field of commerce or technology or on specialized R&D facilities.

The areas in which antitrust concerns are likely to arise is in research and development either for improving existing products or for products that are near the commercialization stage. It is only when research and development is at or near the stage of yielding commercial products that it is possible to think of a predictable impact of a transaction on the pace of innovative activity. As we move back from advanced product-oriented research to more basic research, there are usually more participants in research activity and less of a predictable impact of R&D on some output, or end product.

One general difficulty in this area is that the analysis of innovation competition often focuses on markets that do not yet exist and therefore can take the antitrust analyst into the area of conjecture. Antitrust in general has some conjectural qualities — when the government or a court analyzes a merger, it must *predict* whether the merger will lead to higher prices — and the tools that agencies and courts have at their disposal are not precise scientific instruments. But we have some experience with observing markets under different circumstances of competition and therefore, at least a passable ability to make educated predictions of the effects of particular types of transactions or competitive practices on competition.

In the area of innovation or R&D competition, our tools are more crude. There is not yet a universally accepted consensus as to the kind of market structure that best facilitates innovation, although many believe that a moderately concentrated structure — with the top four firms holding perhaps a fifty percent aggregate market share — is likely to be the most fertile ground for innovation. It is also recognized that there are often benefits to a reduction in R&D competition in the form of the elimination of costly duplication of parallel research paths. We do not have a good handle on just how many independent research paths we need to promote research and development competition, and

the answer is likely to vary significantly from market to market anyway.

All of these factors suggest that the government should tread very carefully in the area of innovation competition. In 1984, Congress enacted the National Cooperative Research Act, or NCRA, to offer a modest level of antitrust protection to collaborative activity in the area of research and development by protecting R&D joint ventures that register with the government from exposure to treble damages in antitrust law suits with respect to certain aspects of their activities. The Act has been expanded since then to offer protection for production joint ventures as well, and I will discuss it in a little more detail later on. In the legislative history to the original NCRA, Congress suggested that there should be no antitrust concerns where there are five or more comparable research and development efforts underway, and this rule of thumb has been widely accepted since then. The government's new intellectual property guidelines adopt this view and indicate that no significant antitrust issues would arise when there are five or more comparable research and development efforts.

In reality, there has never been a case in which the government has alleged effects on innovation competition when there were as many as five competitors and it is hard to imagine when such a case would be brought. Virtually all of the cases that the government has brought in the area of innovation competition have been mergers in areas in which only two or three firms were engaged in a particular type of research and the transaction therefore would have reduced the number of independent research efforts from three to two or two to one.

An example of this is the FTC's 1990 *Roche Holdings* case, which concerned Roche's acquisition of Genentech. There the FTC charged that an acquisition would put in the acquiring company's hands the two leading technologies in three areas of genetic therapies that were then under development. In two of the areas at issue, the FTC was concerned with the loss of competition between an existing product and a product under development. In these two markets, vitamin C and therapeutics for human growth hormone deficiency, one party had a dominant market share and the other was in advanced stages of development of a competing technology. The consent order required the parties to divest the technologies under development. In a third market, CD4-based therapeutics, the FTC was concerned even more directly with innovation competition. Genentech was allegedly the most advanced of a limited number of companies developing CD4 while Roche had engaged in CD4 research and development and had patent applications pending on its CD4 products. The order required Roche to license its CD4 patents to third parties.

In fact there are two types of concerns that underlay this case, as well as the other cases that have been brought under the banner of

innovation competition. The first concern is with innovation competition and the second is with pure price competition. If one company is about to bring a product to market and the other may be a year behind it, it is likely that price competition a year from now will be less vigorous if the parties merge than it would be if they do not merge. And, at the end of the day, virtually all of the cases that have been brought under the banner of innovation competition have had this attribute: they involved either a combination of one company that was already selling a product and another that was close behind it in an advanced stage of R&D or two companies in advanced stages, near commercialization, of R&D.

So while some have expressed concern that the government is expanding the antitrust laws by looking at innovation markets, I think that there may be less here than meets the eye. The cases in which innovation concerns had formed an independent basis for challenging a transaction have been few and far between. In virtually every case in which the government attacked a transaction based on its effects on innovation competition, the parties were also head-on competitors in the sale of existing products, and concerns about price competition with respect to such products had been the key aspect of the challenge.

Having said that, there is a sense in which the Federal Trade Commission has made innovation competition its theory *du jour*, so that it is predictable now that virtually every FTC case involving a corporate consolidation will allege effects on innovation competition. Since November alone, the FTC has challenged transactions in part on innovation concerns in the areas of a Rotavirus vaccine, joint implants, anti-shoplifting devices, polypropylene technology, and intravascular ultrasound catheters. In each of the FTC's cases, the FTC permitted the parties to proceed with the transaction, but conditioned the go-ahead on the parties' licensing of intellectual property to their parties.

Unfortunately, there are signs that the FTC may be overreaching in its quest to establish the theory of innovation markets. For example, the FTC recently defined a market as consisting of the United States and Canada for innovation in disposable antitheft tags. As a result, European companies that were engaged in R&D in the relevant technology were excluded from the FTC's analysis, so that the transaction under review appeared to have a more substantial impact on R&D competition than it really did.

## II. JOINT VENTURES

The government's cases involving innovation markets have tended to involve mergers or acquisitions, but the context in which the innovation market analysis is often likely to affect research and development competition is collaboration among competitors through joint ventures. Particularly in the area of transnational collaboration, the joint venture

vehicle has proved useful in bringing to bear complementary skills and innovative assets of international rivals to speed up the development of new products. The joint venture format is useful because it may allow companies that hold a different part of the answer to the technological puzzle they are trying to solve, to join forces and advance toward a solution to that puzzle. Firms could also join forces because they excel in different aspects of the business — one company may have R&D advantages while its partner may be particularly adept at production technology. As the costs associated in investments in some new technologies have increased to levels that make it prudent to spread the risks, joint ventures have become a common way to facilitate innovative activity.

What is a joint venture? The term does not have a single, all-encompassing definition. It can be and very often is applied to any type of collaborative endeavor among independent companies to develop, produce, or market products through a separate business entity. The term can be applied to a loose collaboration among competing companies, which are more commonly referred to as strategic alliances or cooperation agreements, as well as to free-standing business entities through which the owners — which are separate companies — produce and market a particular product.

I want to focus on the second, more formal type of activity — the business entity through which separate firms, which very often will be competitors with one another outside the framework of the collaboration, join forces to develop or produce a product.

A joint venture can face antitrust review both before and after its formation. At the formation stage, a joint venture may be subject to review under Section 7 of the Clayton Act — the principal antitrust statute governing mergers and acquisitions. Section 7 prohibits acquisitions of assets or securities that may substantially lessen competition. The federal government has an elaborate pre-merger notification process under the Hart-Scott-Rodino Antitrust Improvements Act, which requires certain mergers and acquisitions to be reported to the government before their consummation, to give the government an opportunity to review and challenge transactions before they take place and the assets of the companies are commingled. This is the process that allowed the FTC to challenge the transactions that I mentioned earlier.

Joint ventures that are established in corporate form may be subject to this prenotification procedure, depending on the size of the venture's parents and their financial contributions to the enterprise. But joint ventures established in other forms, such as partnerships, are *not* reportable to the government.

In addition to the possibility of this pre-merger review, joint ventures face potential antitrust scrutiny throughout their existence. Joint ventures, or agreements that govern their operations, may be chal-

lenged at any time as agreements in restraint of trade under Section 1 of the Sherman Act.

Let us begin with the formation of joint ventures. Some joint ventures are indistinguishable in their operation and effect from mergers of their participants. Take for example two heavy vehicle manufacturers that produce a wide range of products, including buses. Suppose that the two companies form a joint venture to develop a new type of bus and agree to develop, manufacture, and sell buses only through the joint venture. In operation and effect, this is no different than a merger of two bus manufacturers or an acquisition of one company's bus business by the other. Before the transaction, both companies made buses; after the transaction, only one company will make them. This transaction will be seen as a merger.

Even when the collaboration is looser, such as where the companies agree to engage in joint research and development but will produce the resulting products separately, any restriction on the independent decisionmaking of the participants is subject to antitrust review. For example, an R&D joint venture might prohibit participants from engaging in similar collaborations with other companies. This type of restriction and other types of restrictions on the ability of joint venture participants to engage in certain activities outside the joint venture will be scrutinized for their competitive impact.

At this stage, before the consummation of the transaction, antitrust analysis looks at whether the proposed joint venture is likely to diminish either actual or potential competition among the venture's participants and thereby enable the participants to charge prices above the level that would be charged in a competitive market. Where there is a significant intellectual property component to the joint venture, the transaction will also be scrutinized for its effects on innovation.

The most common concern at the pre-formation stage is that a joint venture would reduce existing competition in a market by bringing together into one enterprise two companies that would otherwise compete with one another. The analysis begins by defining the "relevant market" in which the parties compete. This has two components — a product market and a geographic market. The product market describes the range of products that compete with the product produced by the joint venturers. The geographic market describes the geographic locations to which purchasers would turn for alternatives to the products of the joint venturers.

The product market at issue in most cases is a goods market, that is a market for some real life product, be it a drug, a memory chip, or a diesel engine. But in some cases, the product market may be an innovation market. Where the participants in the joint venture are competitors in some sphere of research and development and there are specialized assets that are associated with the R&D effort, the government's

innovation market approach may be a relevant concern.

Having described the market, the analysis then seeks to evaluate the transaction's likely effect within that market. It starts with concentration levels — the more concentrated a market, the easier it is to raise prices above the competitive level — but it also considers additional factors that bear on the ability of sellers to charge prices above the competitive level. For example, the analysis will look at whether products are homogeneous or differentiated because it is easier to engage in tacit collusion when products are homogeneous. The analysis will also consider how hard it is to enter the market in which the venture will compete. If it is easy to enter a market, even a seller with a 100% market share would not raise prices above the competitive level because doing so would draw new entrants into the market and defeat its price increase.

In cases with a significant research and development component, the initial question will be whether the parties would have competed with one another in the research and development sphere but for the transaction. If they would not have competed in R&D, because one or more would not have undertaken the activity without a collaborator, that should be the end of the story — there can be no competitive concerns when no competition would have existed in the absence of the transaction.

If the parties would have engaged in separate R&D efforts but for the transaction, the government will attempt to assess what technologies compete with those that the parties are developing, how many firms compete in the development of the same or competing technologies, how many firms are capable of engaging in the relevant R&D, even if they are not doing so already, and whether the creation of the joint venture will reduce the number of independent technological paths and the pace of innovative activity. Just listing these elements underscores the point that I made earlier that this exercise is far from an exact science. Based on prior experience, it is unlikely that a joint venture would be challenged based on effects on R&D competition if there are three or more additional independent and comparable R&D efforts under way. Note that the intellectual property guidelines only give assurances of no antitrust challenge where there are four additional independent R&D efforts in addition to that of the joint venture, but it is hard to see how the government could convince a court that there is a problem when a transaction reduces the number of independent R&D efforts from five to four.

There can be real problems in determining what other research and development efforts may exist in a particular field or which ones are comparable to those that the parties would have undertaken in the absence of the transaction. Research and development is carried out in secrecy, in the privacy of research labs, so that information about who

is doing what is often sketchy. Compare this to goods markets, where one can ascertain by examining a market who is selling what, and very often to whom, and for how much.

One other issue that is considered at this stage is unique to joint ventures. Where members of the joint venture continue to compete with one another outside the venture, antitrust analysis may be concerned with “spillover effects,” which refers to the possibility that cooperation within the venture may spill over to other markets in which the parties are competitors and must continue to compete. For example, a joint venture may facilitate the exchange of competitively sensitive information. Suppose that two drug manufacturers set up a joint venture to make a vaccine and the collaboration does not raise any concerns in terms of its impact on price competition or R&D competition with respect to the particular vaccine. The government may want to ensure that joint venture will not be used as a mechanism to reduce competition in the sale of pharmaceuticals, in which the manufacturers continue to compete.

Where venture participants also compete in other markets in which a joint venture between them would raise competitive concerns, the antitrust agencies may require the venture to adopt procedures to prevent the flow of competitively sensitive information between the parties. It may require them to erect a “fire wall” between the vaccine people and the pharmaceutical people or between the research groups and the marketing groups to ensure that the joint venture will not be a funnel through which the parties coordinate activities outside the joint venture.

Let us move now to the antitrust considerations that affect the operation of joint ventures. Here we will be talking about ancillary restraints, which are agreements that regulate the relationship between co-venturers and the joint venture and among each other. Even a lawfully formed joint venture, which otherwise survives the pre-formation review described earlier, can violate the antitrust laws if it *unreasonably* restricts competition among its participants. There are two principal areas of concern that could arise: agreements on price and agreements that restrict competition with the joint venture. In the context of joint ventures to engage in innovative activity, it is the latter type of agreement, to restrict competition with the joint venture, that is the relevant one and I will focus on that type of agreement in the time that remains.

Ancillary restraints of joint ventures are evaluated under what antitrust lawyers call the rule of reason. Typically, analysis begins by assessing the venture’s market power, which involves asking the same questions described in the discussion of the pre-formation review. This requires defining a “relevant market” within which the venture competes, determining the joint venture’s market share, and assessing entry

conditions in the market and other competitive factors that bear on the venture's ability to charge prices above the level that would prevail in a competitive market. Very often it is said that if the joint venture does not possess market power, it is safe from antitrust attack, except with respect to agreements on price. This view recently received strong congressional support in the House Report to the National Cooperative Production Amendments of 1993, which affirmed that "the absence of market power among collaborating firms generally places their collaboration beyond the pale of antitrust concern."

Let me illustrate this with an example. Let us say that two computer manufacturers form a joint venture to supply on-board computers for automobile engines. The two companies agree not to enter into any other business to supply on-board computers for automobiles. This is a common restriction found in joint venture agreements. Companies want partners to devote their full support to the joint undertaking, to make sure that the venture succeeds, and they also want to make sure that they do not wind up giving their technology away to someone who is going to compete against them. Let us assume that there are at least a couple of dozen companies that either make on-board computers for cars or have the capability and resources to do so. Because the venture has no market power, this restraint is safe from antitrust challenge.

Suppose, on the other hand, that there were only a handful of companies that have the capability of supplying on-board computers for cars. In those circumstances, the court would examine whether the restriction could harm competition by reducing the number of independent sources of automobile computers. In theory, at least, if the restraint has the capacity to harm competition, that anticompetitive capacity is weighed against any efficiencies that the restraint might enhance. For example, the restraint may be necessary to enable the venture to compete, because it increases the incentive for the members to promote the objectives of the joint venture and prevents them from using the resources of the venture to compete against the venture.

In theory, again, the anticompetitive and beneficial effects are weighed against one another. But this kind of weighing tends to be more theoretical than real. In reality, courts seldom engage in this kind of weighing, because they tend to find benefits (or efficiencies) where they see no harmful potential and to reject claimed benefits or efficiencies where they find anticompetitive potential.

### III. NATIONAL COOPERATIVE RESEARCH AND PRODUCTION ACT

I want to close by speaking briefly about the National Cooperative Research and Production Act, or NCRPA. The NCRPA was enacted to encourage collaborations among competitors in research and development and production efforts. Under the NCRPA, joint ventures that file an advance notification with the Federal Trade Commission and

Justice Department must be evaluated under the antitrust “rule of reason” and are liable only for actual, rather than treble, damages for violations of the antitrust law within the range of activities protected by the statute. In reality, the rule of reason provision offers joint ventures little or no additional protection beyond what they would have if they did not file the required notification. The damages limitations is the more significant benefit of filing a notification under the NCRPA.

To qualify for protection, activities of joint ventures must be protectable under the Act. Research and development, testing, and production activities are protectable activities under the NCRPA. Unfortunately, many common provisions in joint venture agreements cannot be protected under the Act. For example, restrictions against co-venturers competing with the venture by marketing products in competition with the joint venture are not protectable. The exchange of information other than as reasonably necessary to carry out the purpose of the venture is also not protectable, and what is reasonably necessary in this context can often be a murky issue.

Production joint ventures are denied protection if they use “existing facilities” to produce a product “unless such use involves the production of a new product or technology.” Just what this means has never been tested, but the imagination can run wild conjuring up litigation in which the issue in contention is whether a product or technology was “new” enough to allow the use of an old factory.

Finally, production joint ventures are also denied NCRPA protection unless their principal production facilities are in the United States and each person who controls a party to the venture is a U.S. person (such as a U.S. corporation) or a foreign person whose country offers parity of antitrust treatment to U.S. and domestic persons with respect to participation in production joint ventures.

