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## Special Intellectual Property Issue

Three Articles from our California  
Office on Intellectual Property

### Price Increases Attributable to Patent Infringement or Entry

Tessie Su and Jonathan L. Walker point out that in certain circumstances the entry of a new competitor, including one who is infringing a patent, may cause prices to rise. Such an increase in prices may take place if three conditions are present: captive buyers, product differentiation, and an inability to price discriminate against the captive buyers before infringement. The possibility that prices will increase after entry has significant implications for determining damages in infringement cases or antitrust class actions.

### The Economic View of Patents and the FTC's Recent Patent Report

Robert D. Stoner describes how an economic view of patents influenced the recommendations in the FTC's recent report on patent law and policy. An economic view of patents indicates that they should only be issued if the innovation would not have arisen "but for" the exclusionary rights provided by the patent. The FTC acknowledged the practical difficulty of administering a but-for test before awarding each patent. Nonetheless, a number of the recommendations in the FTC IP Report are guided by the conceptual application of the but-for principle.

### EU Guidelines on Competition and Technology Transfer Agreements

Stuart D. Gurrea discusses the new European Union (EU) "Guidelines on The Application of Article 81 of the EC Treaty to Technology Transfer Agreements." He describes the general framework developed in the EU Guidelines and highlights some areas that represent a departure from the 1995 US DOJ and FTC Antitrust Guidelines for the Licensing of Intellectual Property.

## Price Increases Attributable to Patent Infringement or Entry

By Tessie Su and Jonathan Walker

**P**atent infringement affects price in complex ways. It is well recognized that infringement may cause price erosion, a decline in price for a patented good. In patent infringement litigation, patentees frequently seek compensation for price erosion as a component of lost profits damages. It is also widely recognized that infringement may not affect price at all. What is less widely recognized is that infringement might actually cause the patented product's price to rise. Instead of price erosion, there would be price accretion. Price accretion may occur if three conditions are present: captive buyers, product differentiation, and an inability to price discriminate against the captive buyers before infringement.

Captive buyers are an identifiable group of less price-sensitive customers who prefer the patentee's product to the infringing product. If the captive buyers are sufficiently numerous, and if their willingness and ability to pay more for the patented product is sufficiently large, then the patentee may respond to infringement by leaving the more price-sensitive customers to the infringing firm and pricing the patented product based solely on demand by the captives. Under such circumstances, captive buyers of patented products pay more during periods of infringement than they would have paid otherwise. Moreover, the higher profits on sales to the captive buyers offset the loss of profits from fewer sales to the others. In this case, infringement leads to market segmentation with the captive buyers purchasing from the patentee at a higher price than the patentee charged before infringement and the non-captive customers purchasing from other suppliers.

Price accretion due to this type of market segmentation can only occur if the incumbent's products are differentiable from the entrant's products. Product differentiation may be described as vertical or horizontal. Vertically differentiated products are those that most consumers would perceive to be better, although some consumers may be unwilling to pay appreciably more for the additional quality. Horizontally differentiated products are different in ways that not all customers prefer. To illustrate the difference between vertical and horizontal differentiation, consider automobile fuel economy and automobile color. Although all customers would prefer a car that had higher gas mileage, not all consumers would prefer a red car to a blue one. Cars that differ in gas mileage are vertically differentiated while cars that differ in color are horizontally differentiated.

Price accretion is possible when the patentee's product is either vertically or horizontally differentiable from the entrant's. If the patented product is horizontally differentiated, the patentee may respond to infringement by raising price to the buyers that particularly value the patented product's special characteristics. If the patented product is vertically differentiated and higher quality, then the patentee may raise price and sell only to the consumers with a high willingness to pay for quality.

# The Economic View of Patents and the FTC's Recent Patent Report

By Robert D. Stoner

An economic view of patents played an important role in the recommendations issued by the FTC in its recent report, "To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy" ("FTC IP Report"). An economic view of patents asks whether the innovation (or innovation process) would have arisen "but for" the exclusionary rights provided by the patent. Such a test aligns patent law more closely with competition law, which generally condones departures from competition only to the extent that some element of monopoly is necessary to promote innovation. Patents may confer market power on their holders, deter entry of would-be rivals who might fear infringement, and preclude access to technology necessary to develop the next generation of products. Society should be willing to accept these costs as necessary to maximize long-run consumer welfare only to the extent that a patent is required to stimulate invention.

The FTC IP Report acknowledges the practical difficulty of administering a "but for" test on an individual patent basis. Courts and agencies would find it difficult or impossible to distinguish technological advances that would be likely to occur without patent protection from advances that would not occur without the protection from imitation provided by patents. Nonetheless, a number of the recommendations in the FTC IP Report are guided by the conceptual application of the "but for" principle.

The most important application of the "but for" principle in the FTC IP Report is with regard to the nonobviousness standard for issuance of a patent. Many consider this standard to be at the very heart of the patenting process. The nonobviousness standard requires that a patentable invention must represent a nonobvious development beyond the prior art to a person having ordinary skill in the art. Traditionally, there have been several tests to determine nonobviousness, the most important of which are (a) the suggestion test and (b) the commercial success test. The suggestion test considers an invention nonobvious if the prior art would not have suggested the invention to a person of ordinary skill. The commercial success test deems an invention nonobvious if the product embodying the invention proves to be commercially successful. The FTC IP Report examines both these tests in the light of the "but for" principle.

The FTC IP Report finds that the suggestion test as currently employed does not correspond well to any "but for" test, because the difference between an invention and the prior art is likely to be at best a poor indicator of whether the invention would have occurred without a patent grant. Thus, this test has great potential for conferring exclusionary rights without offsetting social benefits. The Commission urges that in assessing whether the prior art would have suggested an invention to a person of ordinary skill, the analysis should ascribe to the person the creativity and problem-solving skills expected of those having ordinary skill. Furthermore, more weight should be given to the notion that in certain areas, suggestion is often

implicit from the prior art as a whole, or from the nature of the problem to be solved. If these factors are better taken into account, it will be harder to pass the nonobviousness test, and grants of patents that are unnecessary to the innovative process (and likely detrimental to the competitive process) will be less likely. Although these changes may limit the problem, they do not really replicate a "but for" test, because they do not focus on whether the technological advance would have been made without the prospect of a patent.

The FTC IP Report criticizes the commercial success test because it often goes in the opposite direction from that suggested by the "but for" framework. Commercially successful innovations are more likely than others to emerge without the prospect of patent protection. Also, commercial success of a product embodying a patented innovation does not prove that the innovation caused the success. Finally commercially successful patents are arguably the ones most likely to confer market power. Thus, the commercial success test could lead to the grant of patents that are not necessary to encourage innovation and that confer market power.

The "but for" framework also helps to indicate the ideal breadth of a patent. Patent breadth refers to the degree to which an initial patent is deemed to cover a path of potential follow-on activity. When patents are defined very broadly, the initial innovator is allowed to appropriate more of the gains that follow-on innovators may bring about. Conversely, when patents are defined more narrowly, follow-on innovators can appropriate more of the gains from their innovative activity. Thus, broader patents may encourage initial innovation but discourage follow-on innovation by firms other than the patent holder. The FTC IP Report recommends an approach to patent breadth that tries to maximize the degree of initial as well as follow-on innovation. If the initial innovation is costly while follow-on innovation is predictable, quick, and inexpensive, then innovators should receive broader patents. By contrast, if the initial innovation is less costly while follow-on innovation is risky and expensive, then initial innovators should receive narrower patents. Such a policy follows the "but for" principle in that it affords the most patent protection to the stage where protection from imitation can make the greatest contribution to innovation.

*Senior Vice President Robert D. Stoner of EI's Bay Area office has worked and testified on a number of cases in the IP area and was an invited speaker in the 2002 FTC/DOJ Roundtables on "Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy."*



# EU Guidelines on Competition and Technology Transfer Agreements

By Stuart D. Gurrea

Technology transfer and the sharing of technology are becoming central to competition policy. Thus, it is more important than ever to have a set of economics-based guidelines clarifying the application of competition policy to technology transfer agreements. For that reason, in the United States, DOJ and the FTC created the Antitrust Guidelines for the Licensing of Intellectual Property ("US Guidelines") in 1995. Recently the European Union created the "Guidelines on The Application of Article 81 of the EC Treaty to Technology Transfer Agreements" ("EU Guidelines"), which share many of the same principles and goals as the US Guidelines.

The EU Guidelines reflect several generally accepted principles derived from the economics of innovation. First, innovation often requires large investments with uncertain returns, and firms will not innovate unless they can earn profits from their innovations. Because technology transfer agreements may make it easier for innovators to profit from investments in innovation, their role in encouraging innovation should be protected. This role will be particularly important in markets where costly initial innovations are likely to generate follow-on innovations, so the prospect of royalties from follow-on discoveries becomes a major incentive to innovation. Second, licensing provides greater rewards for diffusion and can facilitate greater use of a technology. Third, technology transfer agreements do not necessarily create anticompetitive effects; if they do, those effects should be balanced against any procompetitive effects.

The EU Guidelines impose a general prohibition on agreements that directly or indirectly restrict competition on the use of a technology or of competing technologies. However, they balance the goals of competition policy with the protection of property rights by defining two ways in which a restrictive technology agreement can gain exemption from this general prohibition. First, in an effort to provide greater certainty the EU Guidelines define criteria for a safe harbor (or "block exemption") for certain broad classes of restrictive agreement that, if satisfied, make the agreement valid and enforceable. The block exemption applies if the market shares of the parties do not exceed certain thresholds, or, analogously to

the US Guidelines, if the parties compete with four or more independent substitutable technologies that are available at comparable costs. Second, agreements that are not covered by the block exemption safe harbor can gain an "individual exemption", but only if they can be shown to increase efficiency, benefit consumers, and if their restrictions can be shown to be indispensable to achieving these efficiencies.

Unlike the US Guidelines, the EU Guidelines identify a set of practices that are prohibited under virtually any circumstances: the so-called "Hardcore Prohibitions." According to the EU Guidelines, these agreements only rarely meet any of the criteria required for an exemption to apply. Hardcore prohibitions apply to agreements between competitors that include restrictions on resale prices (including those implemented indirectly through royalty provisions), limitations on output or sales, market or customer allocation, field-of-use limitations in reciprocal licenses, and restrictions on a licensee's ability to exploit its own technology or carry out R&D. The risk inherent in the Commission's definition of these Hardcore Prohibitions is that they may prevent many efficiency-enhancing agreements. For example, while reciprocal running royalties and territorial limitations often have procompetitive effects, the EU Guidelines presume the contrary.

Outside of the safe harbor conditions and in the absence of hardcore prohibitions, agreements are not presumed illegal and a case-by-case market analysis is prescribed. In performing that analysis, the EU Guidelines list a number of factors that should be accounted for, including the nature of the agreement and how it shapes the competitive relationship between the parties, the market share of the parties and their possible market power, the presence of buyers with buying power for the licensed products, entry barriers and the significance of potential entry, and the maturity of the market, which is considered inversely related to how dynamic the market is.

Performing the case-by-case analysis involves evaluating the negative effects of restrictive license agreements, such as reducing inter-technology competition and facilitating collusion. In addition, the EU Guidelines recognize the need to balance any

## In Memoriam: James N. Rosse 1931-2004 Bruce M. Owen

The recent death of Jim Rosse is a great loss to his many friends at EI. Jim served on EI's Board of Directors from 1983 to 2004, with one interruption. As a director, he provided much thoughtful counsel. In addition, EI provided staff support on several of Jim's consulting projects in the newspaper industry.

Born in Sidney, Nebraska, Jim never lost his down-home lack of pretension, despite a brilliant academic and business career. He graduated from Princeton University and later earned a Ph.D. in economics and mathematics from the University of Minnesota. Jim spent the academic portion of his career as Professor of Economics at Stanford University. His last administrative position at Stanford was Provost, the chief academic officer of the University.

Jim's business career was primarily in the newspaper industry. While in graduate school, he worked in the press room of the Minneapolis Tribune, and his dissertation was concerned with the structure of the U.S. daily newspaper industry and the reasons for the decline of competition among big-city dailies. He continued to study the newspaper industry all his life. His last position before retiring was as chief executive officer of Freedom Communications, Inc., a privately-held chain of newspapers and TV stations. As a renowned expert on newspaper industry economics, Jim testified in many of the most important newspaper antitrust cases of the last quarter-century, including especially those involving joint operating agreements. His clients included the U.S. Department of Justice as well as private parties.

Jim will be sorely missed.

## Price Increases Attributable to Patent Infringement or Entry .....(Continued from Page 1)

Products may also be differentiated by their compatibility with equipment the customer already owns. Some products require an initial outlay for durable equipment followed by repeated outlays for complementary goods. Examples include copier equipment and its maintenance and video game hardware and software. The two-part nature of the purchase process gives rise to an installed base of customers with switching costs. In the market for such a product, a patentee may respond to infringement by abandoning efforts to sell equipment to new customers and focusing entirely on sales to the installed base. The patentee may find it profitable to exploit the installed base by raising price for the complementary product, even though the higher total system price reduces its equipment sales.

Price accretion due to market segmentation requires that the patentee be unable to price discriminate profitably against the captive buyers before infringement. If the patentee were already able to charge the captives the higher price before infringement, it would have done so. Price discrimination may have been unprofitable because of difficulties in identifying the price insensitive customers or because of arbitrage by customers who would buy at the low price and resell to the captives. After infringement, raising price and effectively price discriminating against the captives may be the patentee's profit-maximizing strategy. Some or all of the price sensitive customers would be lost to the infringer anyway. The captive customers identify themselves by buying the patented product, and arbitrage is irrelevant as the low-priced infringing product and high-priced patented product are differentiated.

While this article has focused on patent infringement, the results generalize to non-patented products. Under the conditions described above, entry may cause prices to certain buyers to go up. This possibility has implications for antitrust class certification. If price accretion would follow entry, then captives are better off financially if a monopolist successfully excludes rivals. Thus, for purposes of class certification, it does not follow that proof of monopolization always implies proof of injury to a class of all customers since different customers may be affected differently.

Price accretion due to market segmentation may not be the typical reaction to entry. Nonetheless, price accretion is a real possibility that does occur. Research has indicated that brand name food prices often increase in the face of entry by private label, and that brand name drug prices often increase upon entry by generics. Thus, in determining damages in infringement cases or antitrust class actions, it is important to consider the possibility of price accretion.

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*Jonathan Walker, EI's President and Chief Executive Officer, has consulted and testified in litigation regarding lost profits from alleged infringement as well as antitrust class damages.*



## EU Guidelines on Competition and Technology Transfer Agreements .....(Continued from Page 3)

negative effects against procompetitive effects such as efficiency gains. Like their US counterpart, the EU Guidelines propose an analysis that does not simply determine if procompetitive effects outweigh any negative effects, but also evaluates the need for the restrictions to achieve the procompetitive effects in the first place. In particular, the EU Guidelines mandate that analysis be done in the context of the four conditions for individual exemption listed above. That analysis must be done with care because a narrow interpretation of the requirements could prohibit procompetitive agreements. For example, a strict interpretation of the indispensability condition could lead to an unrealistic assessment of the availability of true alternatives.

Overall, the EU Guidelines represent an advance towards an economics-based analytical approach to protecting both competition and the exercise of property rights. In some instances, the EU Guidelines may presume practices to be anticompetitive, even though they are often theoretically procompetitive. Still there are no absolute per se prohibitions, and in principle the EU Guidelines leave the way open for parties to present a substantive analysis to show that the restrictions in any technology agreement are benign.

Ultimately, as with the US Guidelines, actual implementation will provide further guidance and certainty regarding what agreements are deemed anticompetitive.

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