

Zinc Antitrust Claims Dismissed

Erica E. Greulich

A federal district court judge recently dismissed all claims that a group of warehouse operators and financial institutions conspired to increase the price of zinc. The court found that plaintiffs failed to demonstrate that there was an antitrust violation. The zinc litigation is one of several cases alleging that banks and commodities firms have manipulated metals markets. The court found the zinc litigation claims to be weaker than claims remaining in similar antitrust litigation involving aluminum.



Erica E. Greulich is an empirical microeconomist who specializes in assessing liability and damages in antitrust, employment, and class action matters.

Zinc is purchased on the London Metal Exchange (LME) through warrants, which are documents of title to specific lots and weights of metal stored in LME-licensed warehouses. Customers designate zinc for retrieval from warehouses, making it unavailable to the market, by cancelling warrants. Plaintiffs, who sought class status, were five companies who purchased zinc from defendants and paid allegedly manipulated prices. They claimed that defendants entered into anticompetitive agreements that increased the waiting time to retrieve zinc from LME-licensed warehouses. Defendants' control and manipulation of warrant cancellations allegedly restrained the market supply of zinc and artificially increased the regional premium components of zinc prices, thus harming plaintiffs. Plaintiffs also claimed that two defendants monopolized or attempted to monopolize the market for services for zinc stored in LME warehouses.

The court found insufficient evidence to support plaintiffs' allegations of anticompetitive agreements. Certain defendant conduct, such as shipping zinc to non-licensed locations, could be consistent with independent and rational economic decision-making and not necessarily indicate anticompetitive behavior. Plaintiffs did not plausibly explain why the two defendants they claimed dominated the market for physical zinc needed the other defendants to participate in the alleged anticompetitive scheme, nor why those firms would want to participate. Moreover, several trends that plaintiffs alleged resulted from anticompetitive conduct actually started prior to the class period and prior to much of the alleged anticompetitive behavior.

The court further ruled that plaintiffs lacked standing to bring Section 2 monopolization claims as pleaded. Plaintiffs purchased physical zinc, but their monopolization claims related to the market for services for zinc stored in LME-licensed warehouses. Plaintiffs did not purchase warehouse services. The court noted that unlike Section 1 claims, Section 2 claims may not arise from monopoly power in one market causing competitive harm in an "inextricably intertwined" second market unless the plaintiff shows that there is actual or a dangerous probability of successful monopolization in the second market. The Court gave plaintiffs leave to re-plead their Section 2 claims but warned that future pleadings will need to show that defendants came dangerously close to obtaining monopoly power in the market for physical zinc.

Also In This Issue

FRAND Commitments and Injunction Standards

Robert D. Stoner examines the standards for granting injunctions in infringement cases involving standard essential patents (SEPs). Such cases often involve allegations that the patent holder has breached a commitment to license on a fair, reasonable, and non-discriminatory (FRAND) basis. The European Court of Justice (ECJ) recently established a standard for granting an injunction that is close to the standard used by the U.S. courts. According to the ECJ, the holder of a FRAND-encumbered SEP can seek an injunction only if it has notified the implementer of the possible infringement and offered it licensing terms and if the implementer has not responded to that offer in good faith. The difficulty with implementing many injunction standards is that there are no clear economic criteria for determining whether a potential licensee is unwilling to negotiate or simply unwilling to accept the patent holder's offer. The clearest way to make the distinction likely would be to estimate the FRAND rate.

Advances in Measuring Productivity

Kevin W. Caves describes recent advances in the measurement of productivity. Measurements of productivity are important in assessing the effects of business investments and in analyzing a wide variety of antitrust and other policy issues. For example, such measurements help in determining the effects of mergers and in evaluating efficiency defenses that are raised to counter allegations of anticompetitive conduct. Measuring productivity can be difficult because it is hard to determine whether a rise in output is due to an increase in inputs or due to technical progress. Economists have developed a variety of creative approaches to work around this problem. The two best known approaches, however, produce accurate productivity estimates only if certain assumptions are true, and those assumptions may be unrealistic in many industries. An alternative estimation procedure was recently introduced that yields reliable estimates under much more general conditions. As productivity analysis has become substantially more accurate and precise, it likely will play an increasingly prominent role in regulation, antitrust, and public policy.

FRAND Commitments and Injunction Standards

Robert D. Stoner

Both U.S. and European courts have addressed the question of when to grant an injunction against an implementer's use of a standard essential patent (SEP). A recent ruling by the European Court of Justice (ECJ) establishes a standard for granting an injunction that is close to the standard used by the U.S. courts. The U.S. International Trade Commission (ITC) apparently continues to use a more permissive standard, despite objections from other U.S. agencies. Courts and agencies will continue to wrestle with the questions of what injunction standard is appropriate and how it should be implemented.

The ECJ ruling deals with patent infringement disputes involving a standard-essential patent (SEP) that the holder has committed to license on a fair, reasonable, and non-discriminatory (FRAND) basis. The ruling sets forth two conditions for the patent holder to seek an injunction in such a dispute. First, the SEP holder must have alerted the patent implementer to potential infringement and sent the implementer a written offer of licensing terms. Second, the implementer must have failed to respond in good faith to the offer but rather adopted delaying tactics and appeared unwilling to negotiate. Otherwise, seeking an injunction can be viewed as abusing a dominant position.

The ruling attempts to strike a balance between allowing patent holders to pursue injunctions to preserve patent rights and avoiding possible anticompetitive ramifications of patent "hold-up." Commentators disagree on the extent to which the ruling limits injunction rights. How limiting the standard is will depend largely on who has the burden of proof. For example, the standard will be more limiting if patent holders have the burden of proving unwillingness and could not successfully do so if the implementer made a counter offer. The standard would be much less limiting if implementers have the burden of proving that their counter offer was a FRAND offer and the patent holder was breaching his FRAND obligation.

This ECJ ruling appears to be generally consistent with recent U.S. precedent. The ability of FRAND-encumbered patent holders to receive injunctions in U.S. Federal Courts is limited under the Supreme Court's eBay standard to situations in which monetary damages are unlikely to sufficiently remedy plaintiff's injury. Subsequent decisions im-



EI Principal Robert D. Stoner has provided expert assistance in a number of matters involving intellectual property and FRAND commitments.

plied that when there were FRAND licensing commitments, injunctions would be awarded only if the potential licensee was unwilling to pay a FRAND royalty. Underlying these decisions, particularly the appeals court decision that affirmed *Microsoft v. Motorola*, was the concern that SEP holders should not be able to use injunctions as part of the bargaining process to hold up willing potential licensees and undermine the implementation of the standard.

The eBay limitation on injunctions does not extend to the ITC in Section 337 (unfair import trade) investigations. The

ITC is required to issue exclusion orders against infringing imports, even if they involve FRAND-encumbered SEPs, unless there is an overriding public interest in not doing so. The Department of Justice (DOJ) and U.S. Patent & Trademark Office (PTO) in 2013 released a joint policy statement that cautioned the ITC that an exclusion order could be inconsistent with the ITC's public interest obligation if

it allowed a patent holder to hold up an implementer on FRAND-encumbered patents, thus undermining the standard-setting process. The policy statement, however, also said that an exclusion order may be an appropriate remedy in some circumstances, such as where the potential licensee is unwilling to negotiate or refuses a FRAND license. Such hold-out conduct may be used as a bargaining tool to get a lower license rate (reverse hold-up). According to the DOJ/PTO statement, the ITC should base its final determination on a case-specific inquiry that fully considers the public interest factors. Later in 2013, the United States Trade Representative (USTR), following the DOJ/PTO admonitions, overturned an ITC exclusion order in the *Samsung-Apple* case.

In response to a recent ITC decision in *InterDigital v. Nokia*, several Federal Trade Commission (FTC) commissioners expressed highly divergent views on FRAND injunction is-

“...the difficulty with implementing many injunction standards is that the analysis required to establish willingness and unwillingness is highly subjective and fact-specific.”

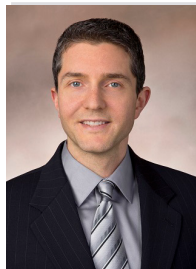
Advances in Measuring Productivity

Kevin W. Caves

Economists have recognized the importance of productivity since the 1950s, when Nobel laureate Robert Solow showed that increases in productivity appeared to cause the lion's share of macroeconomic growth. While studies sometimes focus on labor productivity, economists generally prefer to measure total factor productivity (TFP), the relationship of output to all the inputs used by a firm. The concept of TFP has been used to analyze performance and competitiveness in a wide range of firms and industries. Recent improvements in the tools economists use to measure productivity will allow them to address many different issues with greater rigor.

Studies of productivity have been used in considering a wide variety of questions, such as the effects of trade liberalization, the extent of scale economies in electric power generation, the effects of deregulation on the telecommunications equipment industry, and the benefits of investing in information technology. Firm-level TFP analysis also has potentially wide-ranging applications in antitrust. Economists have begun to use these tools to analyze the productivity effects of horizontal mergers. For example, one recent study by Robert Kulick examined horizontal mergers in the ready-mix concrete industry, particularly acquisitions occurring after the promulgation of the 1982 Merger Guidelines, and found the mergers were associated with large productivity gains. Another study, by Orley Ashenfelter, Daniel Hosken, and Matthew Weinberg, found substantial gains in efficiency through reductions in shipping costs in the wake of consolidation in the U.S. brewing industry. That consolidation ultimately led to no appreciable net price increase. TFP analysis also could provide an objective basis for evaluating efficiency defenses that are raised to counter allegations of anticompetitive conduct.

A reliable TFP analysis hinges on accurately characterizing the production function, which describes the mathematical relationship between inputs and output. The particular form of the production function will vary depending on the specific technology and production processes used by a given firm or in a given industry. Important properties of production functions include the elasticity of substitution and returns to scale. The former measures how readily the



Kevin W. Caves is a Senior Economist at Economists Incorporated. He is a co-author of "Identification Properties of Recent Production Function Estimators," in the November 2015 Econometrica, which is discussed in this article

“ Firm-level TFP analysis also has potentially wide-ranging applications in antitrust. ”

firm can shift its mix of inputs (e.g., substitute capital for labor) without sacrificing too much output. The latter quantifies the extent to which larger firms are more efficient than smaller firms: With increasing returns to scale, larger firms can produce more output per unit of input; with constant returns to scale, there is no efficiency advantage to being large.

Obtaining a reliable characterization of the production function can be a challenging technical problem. The problem is inherent in the need to distinguish whether a rise in output is due to an increase in inputs or due to technical progress. To the extent that firms choose their inputs based on their own view of their TFP (which is likely more accurate than anybody else's), it can be easy to mistake one for the other. This difficulty is due to the fact that profit-maximizing firms respond to increases in productivity by expanding output, which increases the use of inputs. Moreover, reductions in productivity may lead firms to pare back output, which decreases the use of inputs. In principle, well-known statistical techniques (dubbed “instrumental variables”) could solve this problem in a relatively straightforward manner. Unfortunately, a lack of adequate data often prevents the use of those techniques to estimate production functions.

Economists have developed a variety of creative approaches to work around this problem. Steven Olley and Ariel Pakes used a rich plant-level data set constructed from U.S. Census files to study the dramatic restructuring of the telecommunications equipment industry that unfolded in the wake of extensive deregulation and technical change. They developed an algorithm for measuring TFP based on the observation that, in response to a change in productivity, firms typically have more flexibility in adjusting some inputs (e.g., labor and materials), than others (e.g., capital). Their algorithm produced markedly different and more plausible TFP estimates than other, more traditional approaches. Olley

FRAND Commitments and Injunction Standards

sues. Chairwoman Edith Ramirez stated that because patent hold-up is a primary concern, the patent holder should have the burden of establishing that the implementer is an unwilling licensee to get an exclusion order. By contrast, Commissioner Ohlhausen and then Commissioner Wright stated that the contention that patent hold-up is prevalent has little empirical economic support. Therefore, to avoid an exclusion order, the implementer should have the burden of showing that the patent holder has breached his FRAND obligation. (A similar commissioner split occurred previously when the FTC negotiated the Bosch/SPX consent decree.)

Thus, the appropriateness of injunctions for FRAND-encumbered patents depends on the relative likelihood of patent hold-up vs. reverse hold-up. The theory of hold-up posits that standard-implementing companies with asset-specific investments can be locked-in to the technologies defining the standard, thereby leaving themselves vulnerable to high royalty demands. While this theory has a significant history in the economics literature, some have challenged the notion that patent hold-up occurs frequently in the real world. These commentators point out, for example, that the mobile phone industry, which has been at the center of recent FRAND litigation, has experienced exponential growth in the last 10 years, with rapid innovation and falling prices. Moreover, smartphone makers have been immensely profitable, despite being the target of patent litigation. These commentators argue this ex-

perience indicates that royalty costs are not unreasonably high and can be passed on to consumers with little impact on market shares or profits.

These commentators also state that reverse hold-up is as serious a problem as hold-up. Several recent articles in the economics literature on SEP royalty negotiations argue that reverse hold-up is a significant risk, even when injunctions are possible. For example, using a simple model that captures some of the relevant institutional features surrounding enforcement of SEPs, one group of authors finds that hold-up does not necessarily arise in equilibrium, and that the implementer may often engage in reverse hold-up. In particular, these authors find strong theoretical reasons to expect that reverse hold-up is a significant possibility in licensing negotiations when courts do not grant injunctions simply because the patents are valid and infringed but require other conditions, such as a licensee's unwillingness to negotiate.

From an economic standpoint, many implementation standards are difficult to implement because the analysis required to establish willingness or unwillingness is highly subjective and fact-specific. Each negotiation is unique, and there are no clear economic criteria for determining whether a potential licensee is unwilling to negotiate or simply unwilling to accept the offers of the patent holder. In many ways, the clearest way to make the distinction likely would be to estimate the FRAND rate. One then could assess the willingness of the licensee to negotiate in good faith given that rate. That rate, however, is unknowable in a litigation setting unless the court tries to determine it, as has occurred in a few cases.

Advances in Measuring Productivity

and Pakes (OP) found that the rate of aggregate productivity growth accelerated substantially after deregulation. Because their methods gave them reliable TFP estimates at the plant level, they were also able to conclude that the observed productivity gains were primarily the result of a reallocation of capital towards more productive establishments.

Jim Levinsohn and Amil Petrin later developed a new method that extended the ideas of OP. Levinsohn and Petrin (LP) pointed to evidence from firm-level datasets suggesting that investment is very lumpy, which implies that firms face substantial adjustment costs. Therefore, it may take a long time before firms change investment levels in response to changes in productivity. These delays are significant because the OP method relies on observed investment decisions as a proxy for the unobserved productivity shock. LP showed that firms' demand for intermediate inputs can be used as a potentially more reliable proxy for changes in productivity. The LP method is readily implemented given data on firms'

raw material usage (which is typically reported along with data on other inputs). This method is now so widely implemented that STATA (a popular statistical software package), offers a pre-programmed LP routine.

An article recently published in *Econometrica*, a leading economics journal, showed serious shortcomings in both the OP and the LP techniques. The OP and LP methods produce reasonably accurate TFP estimates only under certain key assumptions about firm behavior, and those assumptions may be unrealistic in many industries. The article proposed an alternative estimation procedure that uses techniques similar to those used by OP and LP but yields reliable TFP estimates under much more general conditions. A numerical analysis (a "Monte Carlo study") yields results consistent with the article's formal proofs.

Recent advances have made TFP analysis substantially more accurate. The likely result is that such analysis will play an increasingly prominent role in regulation, antitrust, and public policy.

EI News and Notes

Request for Large Fees Rejected

EI Vice President Laura A. Malowane submitted a declaration on behalf of the U.S. Department of Justice concerning the legal fees the U.S. Government should pay Citizens for Responsibility and Ethics in Washington (CREW), who had prevailed in a Freedom of Information suit. Dr. Malowane testified that the National Law Journal's survey of the nation's largest firms, which CREW had relied on, was not useful for estimating attorney billing rates outside the largest firms. She showed that the rates proposed by the Department of Justice were consistent with the prevailing rates charged by attorneys comparable to CREW's counsel. The court accepted Dr. Malowane's testimony that billing rates are not comparable across firms of all sizes and rejected CREW's request for large fees.

Mergers in Electricity Generation

EI Principal John R. Morris led a team at EI that assisted in obtaining clearances from the Federal Energy Regulatory Commission and the U.S. Department of Justice for three separate transactions involving electrical generation. One transaction combined generation assets owned by PPL Corporation with generation assets owned by affiliates of Riverstone Holdings LLC to form Talen Energy. Dr. Morris and the EI team also assisted with two acquisitions by Dynegy Inc. Dynegy acquired EquiPower and Brayton Point from Energy Capital Partners and acquired Duke Energy's commercial generation assets and retail business. EI worked closely with Vinson & Elkins for the Talen transaction and with Skadden, Arps, Meagher & Flom and White & Case for the Dynegy acquisitions.

Jury Rejects Antitrust Counterclaims

EI Chairman Barry C. Harris testified in federal court in Denver on behalf of Inguran, LLC and XY LLC on antitrust liability issues and damages. Inguran and XY were rebutting antitrust counterclaims filed by Trans Ova Genetics, LC. Trans Ova alleged monopolization of markets related to artificial insemination of dairy cattle. Dr. Harris testified concerning market definition and presented evidence of declining prices and increasing sales of the products involved in the case. The jury found for Inguran and XY on all antitrust claims. EI economists Stephanie Mirrow and Michael Baumann worked closely with Dr. Harris. Inguran and XY were represented by Akin, Gump, Strauss, Hauer & Feld.

Economists

INCORPORATED

OFFICES:

2121 K Street, NW
Suite 1100
Washington, DC 20037
phone: (202) 223-4700
fax: (202) 296-7138

101 Mission Street
Suite 1000
San Francisco, CA 94105
phone: (415) 975-5510
fax: (415) 281-9151

1276 Metropolitan Blvd.
Suite 303
Tallahassee, FL 32312
phone: (850) 558-6030

www.ei.com

President
Jonathan L. Walker

Editor
Henry B. McFarland

in association with
The Allen Consulting Group in Australia

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