



Case & Project Experience

Evaluating Post-Verdict Royalty Rates: NERA Economist's Role in *Boston Scientific Corp. et al. v. Johnson & Johnson et al.*

Overview

In 2002, Boston Scientific Corporation, Boston Scientific Scimed, Inc., Scimed Life Systems, Inc., and Schneider (Europe) GmbH (collectively "BSC") sued Johnson & Johnson and its Cordis subsidiary for infringement of several balloon catheter technology patents known as the Kastenhofer patents. Cordis counterclaimed that BSC was infringing three of Cordis's balloon catheter technology patents known collectively as the Fontirroche patents. In October 2007, a jury trial was held on the matter, after which the jury found that BSC had infringed Claim 7 of Cordis's Fontirroche patent. The jury also found for Cordis on its contention that BSC's Kastenhofer patents were invalid, among other things.

After the trial, Cordis sought a judgment on the issue of damages resulting from BSC's infringement of the Fontirroche patent. The Court found that it would be appropriate to award Cordis equitable relief in the form of either an injunction or an ongoing royalty. To determine the reasonable ongoing royalty to be awarded to Cordis, an evidentiary hearing was held on 2 February 2009. On 9 April 2009, US District Judge Susan Illston ruled that a reasonable rate for the ongoing royalty to be awarded to Cordis is 5.1 percent of sales of infringing BSC catheters sold alone or as part of a stent delivery system. On 29 September 2009, BSC announced that it would make a payment of \$716 million to Johnson & Johnson to settle the litigation and 13 other intellectual property lawsuits involving technologies in the interventional cardiology area.

Background

A balloon catheter is a flexible or soft hollow tube with an inflatable balloon at its tip and a guide wire that runs through the hollow cavity of the tube. The use of balloon catheters to treat atherosclerosis in the coronary arteries began in the late 1970s.

During the procedure, which is called an angioplasty, the guide wire is inserted into the artery first. The balloon catheter is then pushed along the wire until the balloon reaches the point at which the artery is clogged or blocked. The balloon is then inflated to clear the blockage.

Over time, cardiologists recognized that they could use balloon catheters to place metal stents in the artery at the point of blockage to further improve clinical outcomes. In the late 1990s, balloon catheters were used to place bare metal stents. In 2003, cardiologists began using drug-eluting stents, which are bare metal stents coated with a drug designed to reduce the likelihood that an artery would re-narrow following an angioplasty procedure. Stents that are used in conjunction with a balloon catheter are known as balloon expandable stents; together they comprise a stent delivery system. Determining the reasonable royalty that BSC should pay Cordis for infringing the Fontirroche patent requires an economic analysis that focuses on the rate that would have been negotiated in an arm's length negotiation between a willing licensee and a willing licensor. This is the hypothetical negotiation that is among the considerations known as the *Georgia-Pacific* factors. This analysis involves the application of economic principles to determine reasonable royalties, which is framed by the most that a licensee will pay and the least that a licensor will accept. The economic analysis and testimony of NERA Senior Vice President Dr. Lawrence Wu were based on his research about the dynamics of the stent and balloon catheter marketplace and the factors that would have mattered to both BSC and Cordis had they entered into license negotiations on the date of the jury verdict.

NERA's Role

At the February 2009 hearing, Dr. Wu provided expert testimony on the reasonable royalty that BSC would have paid for a license

to the Fontirroche patent at the time of the jury's verdict in October 2007. To determine the most that BSC would have been willing to pay for the Fontirroche patent in October 2007, Dr. Wu calculated the profits that BSC would lose if it did not take a license. BSC would lose profits without a license because it assumedly would not be able to sell any of its infringing catheters and stent delivery systems. To determine the least that Cordis would have been willing to accept, Dr. Wu understood that Cordis would have realized that BSC would need to get FDA approval for a non-infringing catheter, during which time Cordis's catheter and stent sales would likely rise. The least that Cordis would have accepted from BSC is therefore the additional profit that Cordis would have earned if it did not license BSC.

As Dr. Wu explained in his testimony, he considered the time it would likely take for BSC to obtain FDA approval of a non-infringing catheter, the nature of competition between Cordis, BSC, and other manufacturers of drug-eluting stents, and Cordis's capacity to ramp up its manufacturing and sell its products if, hypothetically, BSC were unable to sell its infringing products.

Based on his analysis, Dr. Wu concluded that a reasonable royalty for ongoing, post-verdict sales would fall between 5.1 percent and 14.8 percent, and that 6 percent would be a reasonable outcome to the hypothetical negotiation. In contrast, BSC's expert testified that the reasonable royalty would fall between 0.07 percent and 14.8 percent, and that a reasonable outcome would be 0.5 percent.

The Decision

On 9 April 2009, US District Judge Susan Illston found that a reasonable royalty to be awarded to Cordis is 5.1 percent of sales of infringing BSC catheters sold alone or as part of a stent delivery system. Importantly, the Court concluded that the jury finding of infringement by BSC would have strengthened Cordis's bargaining position had the parties entered into a negotiation at the time of the jury verdict. As Judge Illston states in her opinion, Cordis would have had greater bargaining power because both parties would have known that Cordis could have forced BSC's infringing product off the market for at least a limited period of time. Judge Illston's ruling is an important one as there are only a handful of court decisions that touch upon post-verdict remedies after a finding of patent infringement and validity. On 29 September 2009, BSC announced that it would make a payment of \$716 million to Johnson & Johnson to settle the litigation and 13 other intellectual property lawsuits involving technologies in the interventional cardiology area.

Expert Involved

Dr. Lawrence Wu is a Senior Vice President in NERA's San Francisco office. He is an expert in the economics of antitrust, competition policy, and intellectual property. He has testified in numerous US and international courts. His antitrust practice focuses on the analysis of mergers, price fixing, and other competitive issues, particularly in a wide range of health care markets. In intellectual property matters, he has testified on reasonable royalties, and he has written and consulted on issues involving patent pools. He also has given a number of presentations on standard setting and on the use of benchmarks in a reasonable royalty analysis.

NERA's Intellectual Property Practice

NERA is widely recognized as a leading provider of expertise in the economics of intellectual property (IP). We apply rigorous economic analysis in IP litigation to determine damages in connection with infringement and breach-of-contract claims involving patents, trademarks, copyrights and trade secrets, and to address such issues as the commercial success of a patent. We value IP in connection with preparing required transfer pricing documentation, obtaining advance approval from a tax authority for the price of a particular trade flow or resolving a tax controversy. We help our clients identify portions of their IP portfolios that have value, develop strategies to manage risk and use their IP for strategic advantage in the marketplace. We also have broad experience with a range of survey techniques that can help determine, for example, the value of trade secrets, brand names and product claims in company advertising. Our understanding of the operation of markets across industries where IP plays a role allows us to prepare and present accurate and defensible analyses in these matters. Learn more about us at www.nera.com.

About NERA

NERA Economic Consulting (www.nera.com) is a global firm of experts dedicated to applying economic, finance, and quantitative principles to complex business and legal challenges. For over half a century, NERA's economists have been creating strategies, studies, reports, expert testimony, and policy recommendations for government authorities and the world's leading law firms and corporations. With its main office in New York City, NERA serves clients from more than 25 offices across North America, Europe, and Asia Pacific.

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