Quarles & Brady's **David Cross** examines the critical role of economics in patent damages

Patent litigators and in-house counsel must carefully consider whether their damage experts in patent cases have adequate experience in economics. Accountants have long been prominent as testifying experts on patent damages. But as courts have demanded more stringent proof of damages in patent cases, accounting expertise alone does not suffice. An understanding of economics and the ability to apply economic principles has become essential.

Damage assessments

US District Judge Amy J St Eve's decision in *Sloan Valve Co v Zurn Industries, Inc,* 2014 WL 1245101 (ND Ill 2014) illustrates this reality – in dramatic fashion. Judge St Eve excluded entirely the testimony of the plaintiff Sloan's damage expert, Richard Bero. He had opined that Sloan's damages were about $12m. Zurn's expert said Sloan's damages were only $1m.

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Bero is an experienced patent damage expert with a degree in accounting and finance and over 100 cases under his belt. Nonetheless, he was excluded because he failed to provide "sound economic proof" to support his opinion. His exclusion had dramatic implications for Sloan, which faced the prospect of a trial with no damage expert to counter Zurn's. As a result, Sloan settled the case soon after Bero was excluded. The increasingly important role of economics in proving and defending against patent damage claims is examined in this article through the lens of *Sloan v Zurn*.

Sloan v Zurn involved Sloan's patent on a water saving valve. As patentees often do in suits against direct competitors, Sloan claimed that every Zurn sale of its accused valve took a sale away from Sloan. Thus, the compensatory damages Sloan sought were based on its view of what it would have earned "but for" Zurn's alleged infringement.

However, a "but for" damage claim involves more than merely totalling the defendant's sales, which would be a simple accounting exercise well within an accountant's expertise. In fact, an award based on an "accounting" of a defendant's profits earned from its infringing sales was eliminated as a form of patent damages by Congress in 1946. Rather, a "but for" methodology – to be valid – must analyse and account for marketplace factors. This requires the expert to undertake tasks that are in the tool kit of economists, but not necessarily accountants:

- Determining the degree of competition between the plaintiff's and defendant's products and other potential substitute products;
- Evaluating the manufacturing, marketing and distribution capabilities of the patentee; and
- Assessing the price sensitivity of customers for the products at issue.

Bero's failure to address price sensitivity proved fatal in *Sloan v Zurn*. Over one-half of Bero's damage calculation was based on his opinion that "but for" the infringement, Sloan would have made all of Zurn's – and all of Sloan's sales - at 30% higher prices than customers had actually paid. The assertion such as this, that an accused infringer's competition has suppressed prices, is referred to as "price erosion".

Law of demand

Though there were other problems with Bero's proposed opinion testimony, the mistake he made analysing price erosion drew particularly strong criticism from Judge St Eve and is the focus here. Specifically, Bero made a mistake that an economist, or an expert with a sound background in economics, would not have made. Bero's assumption that customers would have been willing to purchase the same quantity of the patented and accused products even at a 30% higher price violated a fundamental rule of economics: the law of demand. The law of demand states that there is an inverse relationship between price charged and quantity purchased; that is, as price increases, the quantity customers are willing to purchase decreases.

Economics does also teach that any competition will indeed have a downward influence on prices for the patented product, as Bero correctly assumed. So there was a principled basis for Bero to opine that "but for" Zurn's infringement, Sloan's prices would have been higher. Bero's mistake, though, was to ignore that his higher "but for" prices would have decreased the total quantity of the products that customers would have been willing to buy. Bero's assumption that there would be no downward effect at all on quantity, violated the fundamental law of demand.

The law of demand has been expressly incorporated into the law of patent damages by the head US patent court, the Court of Appeals for the Federal Circuit, in its seminal *Crystal Semi-Conductor* decision[1] on the issue of price erosion damages. As explained by the Federal Circuit in a passage that Bero had quoted in one of his own articles, the law of demand dictates that consumers (except in the rare case of a product that is a necessity with no substitute) will always purchase fewer units of a product at a higher price. So, when claiming price erosion damages, a patent owner must produce credible economic evidence that shows how its sales would have been impacted by the higher "but for" price. To support a claim, such as Sloan's and Bero's, that consumers are completely insensitive to the product, the patentee must have particularly strong proof.

Price sensitivity is expressed by economists as "price elasticity", which measures the percent reduction in quantity sold for a 1% increase in price. An elasticity of -4, for example, means that a 1% increase in price causes a 4% reduction in quantity. A price elasticity of 0 means that demand for the product does not change at all – no matter how much the price increases.

It is possible for the price of a product to have no effect on the quantity sold, but such products are exceedingly rare. As the Federal Circuit explained in *Crystal Semi-Conductor*, proving that a product has a price elasticity of 0 requires that it has no substitutes and that it is a necessity.

Bero assumed that the water saving valves had a price elasticity of 0. This assumption fell apart when he admitted that the valves were not necessities. Since they were not a necessity (such as a lifesaving drug), more and more consumers would simply decide not to purchase one as the price of the valves increased. Bero admitted there was a price at which consumers would stop buying the valves: his error was in failing to determine what that price was.

Patentees have succeeded in addressing the law of demand through various means, and in doing so, have been able to prove sizeable price erosion damages. In *Sloan v Zurn*, however, Bero overreached and instead of being able to present some claim for price erosion damages, he was excluded from presenting any opinion at all about Sloan's damages.

Summary

In excluding Bero, Judge St Eve made a point of noting that he was qualified to testify about patent damages in the case, as he had in dozens of other patent cases. Indeed, having an advanced or even an undergraduate degree in economics is not required to testify as a patent damage expert. Rather, the lesson of *Sloan v Zurn* is that patent damage experts, regardless of their education, must follow Federal Circuit jurisprudence and be able through their own expertise (or through separately retained consultants) to provide evidence that honours the demands of patent law, which recognises the economic law of demand.

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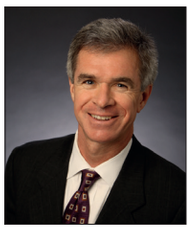
It is also important to be mindful that although a large damage figure may be attractive to a patent plaintiff (or a low figure to an accused infringer), clients and litigators must be careful not to be seduced by the superficial appeal of an expert's opinion. Overreaching to the point of making your expert vulnerable may leave you with no good alternative if the expert is excluded. Judges generally, and in patent cases in particular, are also becoming resistant to allowing an excluded expert a chance to fix a flawed opinion. The Northern District Court of Illinois, for example, has adopted Local Patent Rule 5.3, which puts a heavy burden on a party seeking to supplement or amend expert reports, and it makes clear that courts view sceptically attempts to do so, especially late in a case.

It is therefore important that a patent damage expert gets it right the first time. Retaining experts that are sensitive to basic economic principles such as the law of demand will help to assure that they do.

Footnote

1. *Crystal Semi-Conductor Corp v TriTech Micro Electronics International, Inc*, 246 F 3d 1336 (Fed Cir 2001).

Author



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