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# All Your Base Are Belong to Us: Towards an Appropriate Usage and Definition of the "Entire Market Value" Rule in Reasonable Royalties Calculations

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# ALL YOUR BASE ARE BELONG TO US: TOWARDS AN APPROPRIATE USAGE AND DEFINITION OF THE "ENTIRE MARKET VALUE" RULE IN REASONABLE ROYALTIES CALCULATIONS

**Abstract:** Heated scholarly debate has accompanied the importation of the "entire market value" rule into reasonable royalties awards. The rule's natural ambit lies within lost profits calculations; indeed, the very definition of the entire market value rule is unclear within the reasonable royalties context. Yet the Federal Circuit has applied, or claimed to have applied, the rule in the reasonable royalties context. But when that court has invoked the rule, it was, in actuality, merely calculating a reasonable royalty as a percentage of a *100% royalty base*. This Note proposes a new name for such use: the "entire market *base*" rule. The traditional "entire market value" rule appellation, accordingly, should be used exclusively in lost profits calculations. Further, the purpose of the entire market base rule is to avoid juror prejudice, as is clear from the Federal Circuit's 2011 decision in *Uniloc USA, Inc. v. Microsoft Corp.* and the Federal Trade Commission's March 7, 2011 report. Thus, this Note proposes that the entire market base rule be recast by the Federal Circuit as a specific application of Federal Rule of Evidence 403 on avoiding unfairly prejudicing the jury. Properly defining and distinguishing the entire market base rule will enable courts to tailor the rule to incentivize innovation and further the proper purposes of patent law.

## Introduction

Patentees in recent years have wielded the entire profits of infringing products at trial to receive gargantuan reasonable royalty patent damage awards from juries, out of proportion to the patented technologies' contributions to those products.[1] The U.S. Court of Appeals

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[1] *See, e.g.*, Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1296, 1311 (Fed. Cir. 2011) (describing a jury award of $388 million in reasonable royalties damages); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1309 (Fed. Cir. 2009) (describing a jury award of $357 million in reasonable royalties damages). The phrase "All your base are belong to us" (sometimes abbreviated AYBABTU) originally appeared in the Japanese video game *Zero Wing* and quickly became an underground humor sensation, appearing across the internet as well as on T-shirts and posters. Chris Taylor, *All Your Base Are Belong to Us*, Time.com (Feb. 25, 2001), http://www.time.com/time/magazine/article/0,9171,100525,00.html. The phrase here

for the Federal Circuit has invoked the "entire market value" rule to curb these disproportionate awards.[2] Yet, considerable confusion surrounds the rule's application to reasonable royalties.[3] First, the rule as originally conceived ought to have no place in reasonable royalty awards.[4] Scholars and the U.S. Federal Trade Commission (FTC) have accordingly condemned the use of the rule in the reasonable royalties context and urged its abolition.[5] Second, although the Federal Circuit says in its opinions that it has applied the rule to reasonable royalties calculations, it has not actually done so.[6] It has rather applied some other rule, a 100% royalty base rule, masquerading as the "entire market value" rule.[7] Without language to describe what courts are doing, it is difficult for judges, attorneys, scholars, and commentators to dispel the confusion.[8] The lack of differentiation furthermore inhibits a nuanced discussion of the policy underlying this 100% royalty base rule.[9]

This Note attempts to clear the air by proposing a new name, the "entire market *base*" rule, to label the 100% royalty base rule that has actually been used by the Federal Circuit in reasonable royalties determinations.[10] The Note then explores the policy basis for this rule and examines the appropriateness of the test the Federal Circuit has announced, namely whether the patented component constitutes the ba-

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alludes to (1) the erroneous use of the term "entire market value" rule when actually referring to a *100% royalty base* in reasonable royalties calculations, (2) assertions that the rule has been wrongly imported to inflate reasonable royalty calculations, and (3) the rule's conspicuity in recent gargantuan patent damage awards that the Federal Circuit slashed on appeal. *See Lucent*, 580 F.3d at 1339; Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 Wm. & Mary L. Rev. 655, 662 n.34, 664 (2009).

[2] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1309.

[3] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1309.

[4] *See infra* notes 103–104 and accompanying text.

[5] *See infra* notes 103–104 and accompanying text. Whether the entire market value rule's application to reasonable royalties calculations is justified is beyond the scope of this Note. For an analysis and justification of the rule's use in reasonable royalty calculations according to the prospect theory of patents, see Michael A. Greene, A Prospect Theory Justification for the "Entire Market Value" Rule in Reasonable Royalties Calculations (Jan. 9, 2012) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1981835.

[6] *See* Lemley, *supra* note 1, at 662–64 & n.34, 668–69 & n.63; *infra* notes 174–177 and accompanying text.

[7] *See* Lemley, *supra* note 1, at 662–64 & n.34, 668–69 & n.63; *infra* notes 174–177 and accompanying text.

[8] *See* Lemley, *supra* note 1, at 662–64 & n.34, 668–69 & n.63; *infra* notes 174–177 and accompanying text.

[9] *See* Lemley, *supra* note 1, at 662–64 & n.34, 668–69 & n.63; *infra* notes 174–177 and accompanying text.

[10] *See* Lemley, *supra* note 1, at 662–64 & n.34, 668–69 & n.63; *infra* notes 174–177 and accompanying text.

sis for consumer demand.[11] Finally, as the real purpose of the "entire market *base*" rule as used by the Federal Circuit is to avoid juror prejudice, this Note proposes recasting the rule as a specific application of Federal Rule of Evidence 403 and entrusting the determination to the sound discretion of the trial court.[12]

Part I of this Note explores the underpinnings of patent damages law, including its constitutional, statutory, common law, and policy bases, and introduces the "entire market value" rule.[13] Part II discusses the two disparate uses of the phrase "entire market value" rule, and urges a new designation—the "entire market *base*" rule—for use in reasonable royalties calculations.[14] Finally, Part III argues that the entire market base rule is best understood as a means to avoid unfairly prejudicing the jury, and urges that the rule be recast as an application of Federal Rule of Evidence 403.[15]

## I. Underpinnings of Patent Damages Law

The primary purpose of damages in patent infringements is to compensate and to make the patentee whole after infringement.[16] The requisite compensation to make the patentee whole, however, depends upon the nature of the patented invention and the marketing intent and capabilities of the patentee.[17]

### *A. Nature and Purpose of Patent Protection*

The goal of patent law is to incentivize innovation by granting an inventor, for a limited time, an exclusive monopoly over all use of a patent.[18] The U.S. Constitution granted Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[19] Likewise, 35 U.S.C. § 271 provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefore,

[11] *See infra* notes 181–188 and accompanying text.
[12] *See infra* notes 189–238 and accompanying text.
[13] *See infra* notes 16–130 and accompanying text.
[14] *See infra* notes 131–188 and accompanying text.
[15] *See infra* notes 189–238 and accompanying text.
[16] *See* Lemley, *supra* note 1, at 657–61.
[17] *See id.*
[18] *See* U.S. Const. art. 1, § 8, cl. 8.
[19] *See id.*

infringes the patent."[20] A patent is thus a constitutionally mandated and statutorily imposed short-term monopoly for the patentee.[21]

The reason a monopoly grant is thought necessary to incentivize innovation is to solve the free-riding problem.[22] Without patent protection, an inventor of a new technology of great benefit to society might not reap the rewards of his or her investment in innovation because others could freely appropriate the novel techniques and ideas invented.[23] Inadequate incentive would then exist for investment in the research and development necessary to create new inventions, and our society's technological progress would be retarded.[24]

It is in the nature of a monopoly that it grants its owner more revenues than if its market were broken into segments with competing entities selling the same product.[25] A monopolist's market power enables it to charge higher prices from consumers of its product, who have no alternative but to purchase from the single available source.[26] When

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[20] 35 U.S.C. § 271(a) (2006).

[21] *See* U.S. Const. art. 1, § 8, cl. 8; 35 U.S.C § 271; 1 Donald S. Chisum, Chisum on Patents at OV-1 (2011).

[22] *See* William M. Landes & Richard A. Posner, The Economic Structure of Intellectual Property Law 18–20 (2003) (explaining that, absent patent protection, intellectual property is freely appropriable by free riders, harming incentives to invent); Robert P. Merges et al., Intellectual Property in the New Technological Age 133 (5th ed. 2010) ("[A]bsent patent protection inventors will not have sufficient incentive to invest in creating, developing, and marketing new products. Patent law provides a market-driven incentive to invest in innovation, by allowing the inventor to appropriate the full economic rewards of her invention."); *see also* Mark A. Lemley, *Ex Ante Versus Ex Post Justifications for Intellectual Property*, 71 U. Chi. L. Rev. 129, 129 (2004) ("The traditional economic justification for intellectual property is well known. Ideas are public goods: they can be copied freely and used by anyone who is aware of them without depriving others of their use.").

[23] *See* Landes & Posner, *supra* note 22, at 18–20; Merges et al., *supra* note 22, at 133. But note that some types of innovation may reach efficient levels even absent patent protection because of other mechanisms for overcoming market failure, such as lead-time advantages, reputational effects, trade secrecy, and public grants and awards. *See generally, e.g.*, Subcomm. on Patents, Trademarks, and Copyrights of the S. Comm. on the Judiciary, 85th Cong., An Economic Review of the Patent System 15–17, 44 (Comm. Print 1958) (prepared by Fritz Machlup) (discussing lead-time advantages together with grants and prizes as alternatives to the patent regime, detailing the history of proposals in the eighteenth, nineteenth, and twentieth centuries for such systems of prizes and grants, and presenting arguments by some economists that many of the inventions for which patents are granted would have also been made without any patent system).

[24] *See* Landes & Posner, *supra* note 22, at 18–20; Merges et al., *supra* note 22, at 133.

[25] *See* Seymour v. McCormick, 57 U.S. (16 How.) 480, 489 (1853) ("If he should grant licenses to all who might desire to manufacture his composition, mutual competition might destroy the value of each license."); Lemley, *supra* note 1, at 661 & n.32 (detailing the economic logic for why monopoly profits exceed combined competitive profits).

[26] *See Seymour*, 57 U.S. at 489; Lemley, *supra* note 1, at 661 & n.32.

multiple sellers offer competing products in that same market space, the ability of consumers to choose the source of their goods based on pricing causes the sum total of sellers' revenues, all other things being equal, to be smaller than what a single monopoly could draw from the market.[27]

### B. *Damages*

Section 284 of Title 35 of the U.S. Code entitles a prevailing patent holder in an infringement action to "damages adequate to *compensate for the infringement*, but in no event less than a *reasonable royalty* for the use made of the invention by the infringer . . . ."[28] Courts have interpreted this statutory language to mean that two possible damage awards may be granted: lost profits and reasonable royalty.[29]

#### 1. Lost Profits

The award of lost profits is intended to approximate, in realistic fashion, what the patentee would have profited had the infringer not interfered with his or her patent rights.[30] The Supreme Court framed the inquiry in this fashion: "[H]ad the Infringer not infringed, what would Patent Holder-Licensee have made?"[31] This inquiry is intensely fact-based, dependent on the peculiar circumstances of each case.[32]

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[27] *See Seymour*, 57 U.S. at 489; Lemley, *supra* note 1, at 661 & n.32. Due to the differences between monopolistic and competitive markets, when an infringing invention is marketed in competition with the patentee, the total combined revenues received by both parties, all other things being equal, will be smaller than the revenues that the patentee could have generated had its monopoly rights been observed. *See Seymour*, 57 U.S. at 489; Lemley, *supra* note 1, at 661 & n.32. One surprising result of this natural situation is that, to compensate a patentee for patent infringement, the infringer often must pay more in damages than it gained in profits due to its infringement. *See Seymour*, 57 U.S. at 489; Lemley, *supra* note 1, at 661 & n.32. This is due to the surplusage that a competitive marketplace affords consumers; the infringer must restore that surplusage to the patentee to compensate for the loss of monopolistic market advantage. *See Seymour*, 57 U.S. at 489; Lemley, *supra* note 1, at 661 & n.32.

[28] 35 U.S.C. § 284 (2006) (emphasis added).

[29] *See* Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1157 (6th Cir. 1978).

[30] *See Seymour*, 57 U.S. at 490.

[31] *See* Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 507 (1964); Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1545 (Fed. Cir. 1995); Lemley, *supra* note 1, at 655–61; *see also Seymour*, 57 U.S. at 490.

[32] *See Aro*, 377 U.S. at 507; *Seymour*, 57 U.S. at 490 ("The question is not what speculatively he may have lost, but what actually he did lose."); *Rite-Hite*, 56 F.3d at 1546.

Because of the intentionally monopolistic nature of the patent right, courts consider a sweeping variety of losses when determining lost profits.[33] Lost profits are intended to capture the entire government-granted monopoly value that a patent holder would have had.[34] Similar in conception to expectation damages in contract law, lost profits are intended to put the patentee in the same position, as if the infringement had not occurred.[35]

Obviously, lost profits therefore encompass profits from lost sales.[36] They also encompass a sweeping degree of other losses.[37] Indirect damages, such as the lost ability to grow and thereby sell other unpatented products, are awarded.[38] Damages based on the forced lowering of prices due to competition in the market are available.[39] Patentees can recover the profits on unpatented goods that are ordinarily marketed with the patented product, and which the patentee would have been able to sell as a package deal if not for the infringing product.[40] Thus, awards based on lost profits can be sweeping and strikingly large.[41] They encompass everything the inventor would have gained but for the infringement, often amounting to more than the infringer drew in revenues based on infringing sales.[42]

The infringed party must not only prove each one of these factors, but must also prove the absence of any mitigating factors.[43] These miti-

[33] *See Rite-Hite*, 56 F.3d at 1546; King Instrument Corp. v. Otari Corp., 767 F.2d 853, 863 (Fed. Cir. 1985); *Panduit*, 575 F.2d at 1156; Lemley, *supra* note 1, at 655–61.

[34] *See Rite-Hite*, 56 F.3d at 1546; *King Instrument*, 767 F.2d at 863; *Panduit*, 575 F.2d at 1156; Lemley, *supra* note 1, at 655–61.

[35] *See Rite-Hite*, 56 F.3d at 1546; *King Instrument*, 767 F.2d at 863; *Panduit*, 575 F.2d at 1156; Lemley, *supra* note 1, at 655–61.

[36] *See Rite-Hite*, 56 F.3d at 1546; *King Instrument*, 767 F.2d at 863; *Panduit*, 575 F.2d at 1156; Lemley, *supra* note 1, at 660.

[37] *See Rite-Hite*, 56 F.3d at 1546; *King Instrument*, 767 F.2d at 863; Paper Converting Mach. Co. v. Magna-Graphics Corp., 745 F.2d 11, 22 (Fed. Cir. 1984); *Panduit*, 575 F.2d at 1156; Lemley, *supra* note 1, at 660.

[38] *See* Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1065 (Fed. Cir. 1983); Lemley, *supra* note 1, at 657, 660.

[39] *See Paper Converting*, 745 F.2d at 22; Lemley, *supra* note 1, at 660.

[40] *See* Juicy Whip, Inc. v. Orange Bang, Inc., 382 F.3d 1367, 1372–73 (Fed. Cir. 2004) (reversing the district court and holding that the patentee could recover lost profits not only on its patented syrup dispenser but on unpatented syrups ordinarily sold with the dispenser); Leesona Corp. v. United States, 599 F.2d 958, 974–75 (Ct. Cl. 1979).

[41] *See Rite-Hite*, 56 F.3d at 1546; *King Instrument*, 767 F.2d at 863; *Paper Converting*, 745 F.2d at 22; *Panduit*, 575 F.2d at 1156; *Leesona*, 599 F.2d at 974–75; Lemley, *supra* note 1, at 660.

[42] *See Rite-Hite*, 56 F.3d at 1546; Lemley, *supra* note 1, at 661 & n.32.

[43] *See* State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1577–78, 1580 (Fed. Cir. 1989); Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549, 552–55 (Fed. Cir. 1984) (adopting in the Federal Circuit the four-factor *Panduit* test as an acceptable, though not

gating factors, which could be numerous, are market-based and fact-specific.[44] For example, the inability to manufacture sufficient quantity to satisfy the market demand mitigates lost profits damages.[45] Courts also look to the existence of acceptable noninfringing substitutes for the patented invention, as well as the patentee's likelihood of legally dividing profits between itself and other producers.[46] It is thus routine that even manufacturing patentees who appear entitled to lost profits damages are unable to carry their evidentiary burden and must settle for a lesser award.[47]

### 2. Reasonable Royalty

When patentees are unable to prove lost profits, the lesser award available to them by statute is the reasonable royalty.[48] The reasonable royalty, at least in theory, is an entirely different calculation designed to reach an entirely different damages result.[49] A reasonable royalty, as provided by the statute, is designed to capture what the patentee would have earned had it licensed the rights to market the infringed invention.[50]

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the only, method for proving entitlement to lost profits damages); *Panduit*, 575 F.2d at 1156 (announcing a fact-intensive, four-factor test for proving lost profit damages, later known as the *Panduit* test and adopted by the Federal Circuit in *Gyromat*); Lemley, *supra* note 1, at 658–62 (detailing the multifarious evidentiary burden on the patentee in proving entitlement to lost profits).

[44] *See State Indus.*, 883 F.2d at 1577–78, 1580; *Gyromat*, 735 F.2d at 552–55; *Panduit*, 575 F.2d at 1156 (disallowing recovery of lost profits because of failure of evidence to adequately separate profits from costs); Lemley, *supra* note 1, at 658–62.

[45] *See Gyromat*, 735 F.2d at 552–55; *Panduit*, 575 F.2d at 1156 (listing manufacturing and marketing capability to exploit market demand as a necessary element in proving entitlement to lost profits); Lemley, *supra* note 1, at 658–62.

[46] *See State Indus.*, 883 F.2d at 1578, 1580 (endorsing a calculation of lost profits damages in which the patentee recovers according to its market share with respect to licensee or otherwise noninfringing competitors); *Gyromat*, 735 F.2d at 552–55; *Panduit*, 575 F.2d at 1156 (listing the absence of noninfringing alternatives as a necessary element in proving entitlement to lost profits); Lemley, *supra* note 1, at 658 & n.14 (detailing how courts apportion market share under a lost profits calculation).

[47] *See State Indus.*, 883 F.2d at 1577–78, 1580; *Gyromat*, 735 F.2d at 552–55; *Panduit*, 575 F.2d at 1156 (disallowing recovery of lost profits due to inadequate evidence of fixed costs, despite ample evidence of other types of costs); Lemley, *supra* note 1, at 658–62, 666–68 (arguing that many patentees who should be entitled to lost profits are unreasonably denied them due to the overly burdensome *Panduit* evidentiary requirements).

[48] *See* 35 U.S.C. § 284 (2006); *Panduit*, 575 F.2d at 1156–57; MERGES ET AL., *supra* note 22, at 390; Lemley, *supra* note 1, at 659–60, 661.

[49] *See* Lemley, *supra* note 1, at 661.

[50] *See* 35 U.S.C. § 284; Riles v. Shell Exploration & Prod. Co., 298 F.3d 1302, 1311 (Fed. Cir. 2002) ("A 'reasonable royalty' contemplates a hypothetical negotiation between the patentee and the infringer at a time before the infringement began."); Georgia-Pacific

The methodology for calculating reasonable royalties is distinct from that used in calculating lost profits.[51] For example, in any licensing negotiation, the licensee will itself profit from marketing the invention, which lessens profits for the inventor.[52] Thus, although the market may retain a monopolistic nature, the profits that can be drawn from the market are divided between the two companies.[53] This is one reason that reasonable royalties damages are usually less than lost profits.[54]

Furthermore, reasonable royalties calculations take into consideration the likelihood that the patentee would have licensed the product to multiple parties.[55] In such a case, the monopoly market power is destroyed and each license becomes strikingly less valuable.[56] In fact, over two hundred years ago Congress contemplated just such a lessening of revenues effect in its revision to the Patent Act of 1793.[57] The Patent Act of 1793 provided damages based on the "price for which the patentee has usually sold or licensed" the patented invention.[58] Thus, the award was based on the measure of what a grant of a license would have cost to the licensee.[59] Congress, in enacting the Patent Act of 1800, recognized that such a measure fails to capture the value of a monopoly power over an invention and changed the remedy to the "actual damage sustained

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Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120–22 (S.D.N.Y. 1970) (setting out the famous list of factors, adopted by the Federal Circuit and known as the *Georgia-Pacific* factors, to consider in simulating a hypothetical licensing negotiation); MERGES ET AL., *supra* note 22, at 390.

[51] *See* Lemley, *supra* note 1, at 661–69.

[52] *See id.*

[53] *See id.*

[54] *See id.*

[55] *See Seymour*, 57 U.S. at 489; Lemley, *supra* note 1, at 661.

[56] *See Seymour*, 57 U.S. at 489 ("If he should grant licenses to all who might desire to manufacture his composition, mutual competition might destroy the value of each license.").

[57] *See* Patent Act of 1793, ch. 11, § 5, 1 Stat. 318, 22 ("[An infringer] . . . shall forfeit and pay to the patentee, a sum, that shall be at least equal to three times the price, for which the patentee has usually sold or licenses to other persons, the use of the . . . invention."); *Seymour*, 57 U.S. at 488.

[58] *See* Patent Act of 1793 § 5; *Seymour*, 57 U.S. at 488.

[59] *See* Patent Act of 1793 § 5; *Seymour*, 57 U.S. at 488.

by such patentee."[60] This is another reason that reasonable royalty damages awards tend to be smaller than lost profits awards.[61]

### C. *The "Entire Market Value" Rule*

One particular example germane to this Note of damages intended to restore the patentee to the position the patentee would have occupied absent infringement is the "entire market value" rule.[62] As it intends to fully restore the patentee's expectation value, the rule's natural ambit is within lost profits calculations.[63] This Section discusses the origins of the rule and the expansionist trends that see it entering reasonable royalties calculations in recent case law.[64]

#### 1. Natural Territory

The "entire market value" rule states that, when the patented invention is but one component of the infringer's compound product, the patentee is nonetheless entitled to damages representing sales of the *entire* compound product if the patented component caused customer demand for the whole.[65] In such circumstances, the patentee would have itself made the sale of a comparable compound product.[66] The entire market value rule thus naturally applies to lost profits awards, which are designed to capture the profits the patentee would have earned absent infringement.[67]

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[60] *See* Patent Act of 1800, ch. 25, § 3, 2 Stat. 37, 38 ("[A]ny person [who] . . . shall make, devise, use, or sell the thing whereof the exclusive right is secured to the said patentee . . . shall forfeit and pay . . . a sum equal to three times the actual damage sustained by such patentee."); *Seymour*, 57 U.S. at 488 ("[A]s experience began to show that some inventions or discoveries had their chief value in a monopoly of use by the inventor, and not in a sale of licenses, the value of a license could not be made a universal rule, as a measure of damages.").

[61] *See* Lemley, *supra* note 1, at 661–69.

[62] *See, e.g.*, TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 901 (Fed. Cir. 1986); *King Instrument*, 767 F.2d at 865; Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc., 761 F.2d 649, 656 (Fed. Cir. 1985); *Paper Converting*, 745 F.2d at 22.

[63] *See, e.g.*, *TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22.

[64] *See infra* notes 65–130 and accompanying text.

[65] *See Rite-Hite*, 56 F.3d at 1549–51; *TWM*, 789 F.2d at 900–01; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22–23; *Leesona*, 599 F.2d at 974.

[66] *See TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22.

[67] *See Rite-Hite*, 56 F.3d at 1549–51; *TWM*, 789 F.2d at 900–01; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22–23; *Leesona*, 599 F.2d at 974; Lemley, *supra* note 1, at 660.

In its 1853 decision in *Seymour v. McCormick*, the U.S. Supreme Court delineated some of the earliest guidelines to the entire market value rule, though the rule was not mentioned by name.[68] That case concerned the infringement of a certain patented improvement, related to the addition of a seat to a machine for reaping small grain.[69] The reaping machine's general design was the subject of an expired patent and therefore within the public domain.[70] At trial, the judge had instructed the jury that the amount awarded in damages should reflect the value of the entire machine—despite the fact that the patented invention comprised but one component of the otherwise public machine—and damages were awarded on that enlarged basis.[71]

On review, the Supreme Court announced the basic principle that damages are limited to the patented component's contribution to the whole product.[72] The Supreme Court reversed the decision of the trial court, calling it "very grave error" to instruct the jury as it had.[73] The Court cited evidence that the plaintiff had sold licenses to use his patented improvement for a fixed sum, stating that "[w]hen he has himself established the market value of his improvement, as separate and distinct from the other machinery with which it is connected, he can have no claim in justice or equity to make the profits of the whole machine the measure of his demand."[74] The Court held that "actual" damages[75] must be factually based, sharply criticizing the trial court's damages award as "better entitled to the epithet of 'speculative,' 'imaginary,' or 'fanciful,' than that of 'actual.'"[76] The Court furthermore presciently warned of the dangers of "royalty stacking," whereby an infringing party could be forced (through multiple suits brought by patentees of small components) to pay many times the entire machine's value if damages are not limited to each patented component's actual contribution.[77]

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[68] *See* 57 U.S. at 489–91.

[69] *See id.*

[70] *See id.*

[71] *See id.* at 486–87.

[72] *See id.* at 491.

[73] *See id.*

[74] *Seymour*, 57 U.S. at 490–91.

[75] Patent Act of 1836, ch. 357, § 14, 5 Stat. 117, 123 ("That whenever . . . a verdict shall be rendered for the plaintiff in [an infringement] action . . . it shall be in the power of the court to render judgment for any sum above the amount found by such verdict as the actual damages sustained by the plaintiff.").

[76] *Seymour*, 57 U.S. at 490–91.

[77] *See id.* at 490 ("[T]he unfortunate mechanic may be compelled to pay treble his whole profits to each of a dozen or more several inventors of some small improvement in

Despite the Court's strongly worded disapprobation of damages based on the entire value of a machine in which the patented invention is but one component, the Court did allude to—if it failed to delineate—a scenario in which such an award would be appropriate.[78] The Court stated that "there may be cases where, from some peculiar circumstance, the patentee may show actual damage to a larger amount" than the value of the patented component alone.[79] Nevertheless, it cautioned that such a claim must be substantiated by "clear and distinct evidence," and that the trier of fact may only find such damages "as have actually been proved to have been sustained."[80] Thus the Court alluded to an appropriate application of the entire market value rule and laid out general principles for determining its scope and purpose, though it did not set down precise guidelines.[81]

The precise contours of the entire market value rule were then developed in the twentieth century by the lower courts.[82] The U.S. Court of Claims, one of the predecessor courts to the U.S. Court of Appeals for the Federal Circuit,[83] applied the rule in its 1942 decision in *Marconi Wireless Telegraph Co. of America v. United States.*[84] That case dealt with a patent for tuning the oscillating circuits of a radio transmitter and receiver by inserting a "lumped inductance" into the antenna.[85] The court stated that the invention, though relating only to one component, was of "such paramount importance that it substantially created the value" of the entire radio transmitter and receiver and therefore falls within the entire market value rule.[86]

The appellate courts then honed the entire market value rule into its present form, that a component patentee receives the profits of the

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the engine he has built."); *see also* Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 Tex. L. Rev. 1991, 1992, 2010–20 (2007).

[78] *See Seymour*, 57 U.S. at 490.

[79] *Id.*

[80] *Id.*

[81] *See id.*

[82] *See, e.g.*, *TWM*, 789 F.2d at 900–01 ("The entire market value rule allows for the recovery of damages based on the value of an entire apparatus containing several features, when the feature patented constitutes the basis for customer demand."); *King Instrument*, 767 F.2d at 865 ("The 'entire market value' rule allows for the recovery of damages based on the value of an entire apparatus including non-patented parts, even though only one of the features in the apparatus is patented."); *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22; Marconi Wireless Tel. Co. of Am. v. United States, 99 Ct. Cl. 1, 20–21 (1942), *rev'd in part on other grounds*, 320 U.S. 1 (1943).

[83] *See Kori*, 761 F.2d at 656 n.3.

[84] 99 Ct. Cl. at 20–21.

[85] *Id.*

[86] *Id.* at 21.

total compound product only when its patented component constitutes the basis for customer demand for the compound product.[87] For example, in its 1979 decision in *Leesona Corp. v. United States,* the Court of Claims applied the rule to an infringed patent for mechanically rechargeable metal-air batteries consisting of a battery box, a cover, and attendant hardware.[88] The court ruled that non-infringing anodes, cathodes, and blower covers, ordinarily purchased as part of one government procurement, were to be included in the damages award because of their "financial and marketing dependence" on the market created by the patent.[89] Thus, the test for applying the entire market value rule became where the non-infringing features of a machine exhibit a financial and marketing dependence on the infringed invention.[90] This holding was subsequently affirmed and followed by the Federal Circuit.[91]

In its 1986 decision in *TWM Manufacturing Co. v. Dura Corp.*, the Federal Circuit ruled that the entire market value rule applies "[w]here a hypothetical licensee would have anticipated an increase in sales of collateral unpatented items because of the patented device," and that the rule applies when the patented feature "constitutes the basis for customer demand."[92] In that case, a truck manufacturer infringed the plaintiff's patented invention of a suspension system enabling trucks to use an additional axle and wheels for heavy loads.[93] The trial court awarded damages based on both the value of the patented suspension and of unpatented wheels and axles because, despite being provided to truck manufacturers by the suspension manufacturer as a mere "convenience," those wheels and axles were ordinarily purchased from the suspension manufacturer and were within its anticipated profits from its patented invention.[94]

The entire market value rule's natural ambit is clearly within lost profits awards, where the patented feature is what caused customer demand for the compound product or was otherwise responsible for

[87] *See, e.g., TWM,* 789 F.2d at 901; *Leesona,* 599 F.2d at 974; Tektronix, Inc. v. United States, 552 F.2d 343, 351–52 (Ct. Cl. 1977).

[88] *See* 599 F.2d at 974–75.

[89] *See id.*

[90] *See id.*

[91] *See Kori,* 761 F.2d at 656 & n.3 ("This court has adopted the body of law established by its predecessor courts, The United States Court of Claims and the United States Court of Customs and Patent Appeals.").

[92] 789 F.2d at 901.

[93] *Id.* at 897.

[94] *See id.* at 901.

nearly all of the value of that product.[95] The justification for the rule is that the patentee would have itself sold a comparable compound product were it not for the infringement.[96] Because lost profit damages are intended to provide what the patentee "would have made, if the infringer had not interfered with his rights," the patentee is entitled to profits for the entire compound product.[97]

2. Expansion to New Territory

Perhaps due to perceived inequities in the smaller reasonable royalty award, the use of the entire market value rule has expanded to cases in which its policy justifications do not seem to apply.[98]

The entire market value rule fits comfortably into lost profits calculations, to provide the patentee with the profits the patentee had itself attempted to reap by marketing a compound product containing the patented component.[99] The rule should not apply to the patentee that never intended to market its own product and instead planned to derive revenue through licensing its patented component to other marketers.[100] In that case, no sales of unpatented components in conjunction with the sale of the patented invention would have been anticipated by the patentee.[101]

Yet due perhaps to the difficult evidentiary burden that a patentee must carry in recovering lost profits and the appearance of inequity when that burden proves too heavy, courts have applied the entire market value rule to the reasonable royalties calculation.[102] This appli-

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[95] *See id.*; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22.

[96] *See TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22.

[97] *See Seymour*, 57 U.S. at 490; *TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22.

[98] *See* Bose Corp. v. JBL, Inc., 274 F.3d 1354, 1361 (Fed. Cir. 2001); Tec Air, Inc. v. Denso Mfg. Mich., Inc., 192 F.3d 1353, 1362 (Fed. Cir. 1999); Fonar Corp. v. Gen. Elec. Co., 107 F.3d 1543, 1552 (Fed. Cir. 1997); Lemley, *supra* note 1, at 662–64 (characterizing the application of entire market value rule to reasonable royalties calculations as an illogical "doctrinal creep").

[99] *See Rite-Hite*, 56 F.3d at 1549–51; *TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22.

[100] *See Rite-Hite*, 56 F.3d at 1549–51; *TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22; Lemley, *supra* note 1, at 662.

[101] *See Rite-Hite*, 56 F.3d at 1549–51; *TWM*, 789 F.2d at 901; *King Instrument*, 767 F.2d at 865; *Kori*, 761 F.2d at 656; *Paper Converting*, 745 F.2d at 22; Lemley, *supra* note 1, at 662.

[102] *See Bose*, 274 F.3d at 1361 (affirming reasonable royalties damages based on the entire market value rule); *Tec Air*, 192 F.3d at 1357, 1362 (affirming the jury award of reasonable royalties damages based on entire infringing sales of compound product); *Fonar*, 107

cation of the entire market value rule increases the royalty base and thus increases compensation, but its application in this context has drawn severe scholarly criticism.[103]

On March 7, 2011, the FTC registered its disapproval of applying the entire market value rule to reasonable royalties awards.[104] It issued a 300-page report containing its detailed recommendations for adjusting patent remedies to best incentivize innovation.[105] The report is the culmination of a series of FTC hearings and workshops held from December 2008 through May 2010, in conjunction with the Department of Justice, the Patent and Trademark Office, and the academic and business communities, on the subject of patent damages law and its effect on competition and innovation.[106] The report finds that the entire market value rule has no appropriate application whatsoever to reasonable royalties calculations.[107] It unequivocally urges courts to eliminate the rule in that context, describing the rule as "irrelevant" and stating that it "risks injecting significant confusion that threatens to produce inaccurate awards."[108] This Note intends to dispel such confusion surrounding the entire market value rule.[109]

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F.3d at 1552 (affirming the jury award of reasonable royalties damages based on entire market value of infringing sales); *Panduit*, 575 F.2d at 1156–57 (denying the lost profits award because of plaintiff's inability to demonstrate arguably hyper-technical details of lost sales); Robert P. Merges & John F. Duffy, Patent Law and Policy 980 (4th ed. 2007) (noting the beneficial effect of artificially inflating reasonable royalty awards where manufacturing patentee is unable to carry the lost profits evidentiary burden); Lemley, *supra* note 1, at 660, 662 (arguing that courts have artificially inflated reasonable royalties awards to compensate plaintiffs seemingly deserving of lost profits awards but unable to carry the evidentiary burden).

[103] *See Lucent*, 580 F.3d at 1339; Amy Landers, *Let the Games Begin: Incentives to Innovation to the New Economy of Intellectual Property Law*, 46 Santa Clara L. Rev. 307, 361–62 (2006) (arguing that applying the entire market value rule in reasonable royalties cases cuts against the section 284 statutory requirement of a reasonable royalty for the use made "of the invention," referring to the patented component only); Lemley, *supra* note 1, at 661–64 (criticizing the application of entire market value rule to reasonable royalties as unreasonable).

[104] *See* FTC, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition (2011) [hereinafter FTC Report], *available at* http://www.ftc.gov/os/2011/03/110307patentreport.pdf.

[105] *See id.*

[106] *See id.* at 2.

[107] *See id.* at 24–25, 205, 207–09, 211.

[108] *See id.*

[109] *See id.*; *infra* notes 131–238 and accompanying text.

### 3. Recent Trends in Case Law

The entire market value rule continues to baffle trial courts as to what appropriate remedies should be, contributing to the problem of patent damages ballooning out of control.[110] The Federal Circuit, however, is beginning to impose order on this misunderstood area.[111]

In its 2009 decision of *Lucent Technologies, Inc. v. Gateway, Inc.*, the Federal Circuit grappled with the entire market value rule in the context of computer software.[112] Lucent was the assignee of a patent granted to an early innovator of graphical user interfaces who was employed by AT&T in the 1980s.[113] Lucent alleged infringement of its patented invention by defendant Microsoft's ubiquitous Outlook software application.[114] The patent taught a method of entering information into bit-mapped graphics fields on a computer screen using a pointing device instead of a keyboard, which was novel in its time.[115] In 2002, Lucent filed suit alleging infringement of its patent by Microsoft Office's, Microsoft Money's, and Windows Mobile's use of date-picker calendar selecting widgets in their graphical user interfaces.[116] The jury found Microsoft liable for patent infringement as to all three software products and, *based on all of the profits of Microsoft Outlook*, awarded royalty damages of $357 million.[117]

The Federal Circuit struck down the jury's verdict.[118] It cited the Supreme Court's reprimand in *Seymour v. McCormick* that it is "very grave error" to instruct a jury that the value of damages is the same whether the infringement relates to the entire device sold or merely to one of its components.[119] The Federal Circuit held that there was no basis for the trial court's application of the entire market value rule to this case.[120] No evidence suggested that the patented invention, the date-picker calendar widget, provided any basis for the customer de-

[110] *See* Christina Bohannan & Herbert Hovenkamp, *IP and Antitrust: Reformation and Harm*, 51 B.C. L. Rev. 905, 906–08 (2010); *infra* notes 112–130 and accompanying text.

[111] *See id.*

[112] *See* 580 F.3d at 1308.

[113] *Id.*

[114] *Id.*

[115] *Id.*

[116] *Id.*

[117] *Id.* at 1309.

[118] *See Lucent*, 580 F.3d at 1337.

[119] *See id.*

[120] *See id.*

mand for Microsoft Outlook.[121] Citing also the relative unimportance of the date-picker feature among such other critical components of Outlook as email, the court dismissed the verdict as unreasonable.[122]

In *Cornell University v. Hewlett-Packard Co.*, the District Court for the Northern District of New York (with Federal Circuit Judge Randall Rader, now Chief Judge of the Federal Circuit, sitting by designation) drastically reduced the jury's infringement award that had been calculated through an erroneous application of the entire market value rule.[123] In that case, Cornell University held the patent to a certain method of instruction issuance within a computer processor and sued Hewlett-Packard (HP) for infringement.[124] Despite only holding the patent to one small aspect of one small component used in HP's processors, the plaintiff sought damages based on the revenues of HP's entire server and workstation systems.[125] When that proposal was rejected, the plaintiff sought a royalty based on large components called "CPU bricks," which contained the processor coupled with many other components unrelated to the patented invention.[126]

Judge Rader warned Cornell before trial that it had not shown its patented invention to comprise the basis for consumer demand for the CPU bricks, and thus that it should only present a royalty base commensurate with the value of the processors alone.[127] Undaunted, Cornell proceeded to present the jury with a $23 billion royalty base, based on HP's total sales of all CPU bricks, and the jury returned an award of $184 million.[128] The court, citing the entire market value rule, reduced the royalty base to $6.7 billion, and the damages award to a commensurate $53 million.[129] Were it not for Judge Rader of the Federal Circuit sitting by designation, this damages award may not have been reduced, at least not before appeal.[130]

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[121] *Id.* The court cited Lucent's own damages expert, conceding that there was no "evidence that anybody anywhere at any time ever bought Outlook, be it an equipment manufacturer or an individual consumer . . . because it had a date picker." *Id.* at 1337–38.

[122] *Id.*

[123] *See* 609 F. Supp. 2d 279, 282 (N.D.N.Y. 2009).

[124] *Id.* at 283.

[125] *Id.* at 283–84.

[126] *Id.*

[127] *Id.* at 287.

[128] *Id.*

[129] *Cornell*, 609 F. Supp. 2d at 289, 292–93.

[130] *See id.*

## II. Differentiating the Entire Market *Value* Rule from the Entire Market *Base* Rule

The phrase "entire market value" rule has been used by the Federal Circuit and other courts to denote two entirely different rules.[131] This Part proposes differentiating the two usages, which will clarify decisions, improve judicial decision making, and enable a fine-tuned discussion of the policy behind each underlying rule.[132] Section A details the common method used for calculating reasonable royalties.[133] Section B elucidates the origins of the inconsistent use of the entire market value rule and proposes a new name, the "entire market *base*" rule, for use within the reasonable royalties context.[134] The familiar "entire market *value*" rule is retained for lost profits.[135]

### A. *Methodology of Calculating Reasonable Royalties, and the Purpose of Separating a Royalty Base from a Royalty Rate*

#### 1. Statutory Requirement of Reasonable Royalties

There is no standardized method for calculating reasonable royalties.[136] As noted in Section I.B above, the statutory damages requirement for patent infringement specifies "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer."[137] Courts have interpreted this damages requirement to mandate lost profits damages for patentees able to demonstrate actual lost sales and a reasonable royalty as a minimum damages floor for patentees unable to so demonstrate.[138] Other than the directive that damages be "reasonable," however, the

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[131] *See infra* notes 165–188 and accompanying text.

[132] *See infra* notes 165–188 and accompanying text.

[133] *See infra* notes 136–164 and accompanying text.

[134] *See infra* notes 165–188 and accompanying text. Note that, except when quoting a court decision, the new name of entire market base rule will be used.

[135] *See infra* notes 165–188 and accompanying text.

[136] *See infra* note 139.

[137] 35 U.S.C. § 284 (2006).

[138] *See* Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1544 (Fed. Cir. 1995) ("Section 284 further instructs that a damage award shall be 'in no event less than a reasonable royalty'; the purpose of this alternative is not to direct the form of compensation, but to set a floor below which damage awards may not fall." (quoting Del Mar Avionics, Inc. v. Quinton Instrument Co., 836 F.2d 1320, 1326 (Fed. Cir. 1987))).

statute provides little guidance as to the method of arriving at the result, allowing judicial creativity in fashioning an appropriate award.[139]

2. Theory: Six of One, Half a Dozen of the Other

In theory, it should make no difference whether a reasonable royalty is calculated as a percentage of the entire sales of a product or as a percentage of some royalty base, the base itself being a fraction of the entire sales of the product.[140]

For example, let us suppose an infringement damages scenario in which the patented component roughly comprises one-fifth of the compound final product offered for sale.[141] The finished product may contain four other components of roughly equal value to the whole as the patented component.[142] Further suppose that it is determined that the patentee, in a hypothetical licensing negotiation in which the patent is assumed valid and infringed, would have obtained a licensing rate of 50% of the value that its patented component contributes to the whole product's profits.[143] The patentee should then receive a damage award totaling 10% of sales of the compound product.[144] It is inconsequential whether the damages award is reached by awarding a royalty rate of 50% upon a royalty base of 20% of the total profits of the final product, or by awarding a royalty rate of 10% of the total profits of the final product.[145] The only result of consequence is the product ($r \times b$) of the royalty base with the royalty rate: in this case $0.50 \times 0.20 = 0.10$.[146] In other words, 50% of 20% is the same as 10% of the whole.[147] Thus, in theory, there is

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[139] *See* TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 899 (Fed. Cir. 1986) ("Section 284 does not mandate how the district court must compute [the reasonable royalty], only that the figure compensate for the infringement."); Dennis S. Corgill, *Competitive Injury and Non-Exclusive Patent Licensees*, 71 U. Pitt. L. Rev. 641, 648 (2010).

[140] *See* Lucent Tech., Inc. v. Gateway, Inc., 580 F.3d 1301, 1339 (Fed. Cir. 2009) ("There is nothing inherently wrong with using the market value of the entire product, especially when there is no established market value for the infringing component or feature, *so long as the multiplier accounts for the proportion of the base* represented by the infringing component or feature.") (emphasis added).

[141] *See id.*

[142] *See id.*

[143] *See id.*

[144] *See id.* This 10% award is reached by multiplying the licensing rate of 50% by the 20% contribution of the patented component (50% of 20% is 10%). *See id.*

[145] *See id.*

[146] *See Lucent*, 580 F.3d at 1339.

[147] *See id.*

no need to discuss a royalty rate as distinguished from a royalty base, merely an overall royalty.[148]

3. Reality: Night and Day (or Cats and Dogs)

The reality of a jury trial, with the risk of unfair prejudice and juror inexperience in mathematics leading to improper quantification of abstract concepts, paints a picture markedly different from the theoretical damages calculations discussed above.[149]

The Federal Circuit in its 2011 decision in *Uniloc USA, Inc. v. Microsoft Corp.* strikingly depicted the reality of juror prejudice and the ensuing harm of basing damages on total sales.[150] In that case, a new trial on damages was granted due to the jury's awareness of and presumed reliance on the total sales revenues of the defendant's infringing compound product.[151] The plaintiff, Uniloc USA, Inc., owned the patent for a security method for combating software piracy.[152] The patent was found valid and infringed by the Product Activation feature in Microsoft's popular Office and Windows products, and the jury awarded reasonable royalty damages of $388 million.[153]

The reasons for the new trial on damages were that the plaintiff was permitted to use the total sales revenue figures of Microsoft Office and Windows both to belittle Microsoft's expert's damages calculation and to bamboozle the jury mathematically, unfairly making its own large damage estimates appear more reasonable.[154] After Microsoft's damages expert testified that appropriate damages would be $7 mil-

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[148] *See id.*

[149] *See* Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1320–21 (Fed. Cir. 2011) ("The disclosure that a company has made $19 billion dollars in revenue from an infringing product cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue."); FTC Report, *supra* note 104, at 210–11.

> Although the royalty calculation can decrease the rate in response to a large base, [panelists] expressed concern that a trier of fact, particularly a jury, may apply an insufficiently low royalty rate when the base is far larger than the inventive feature *because an appropriate rate might be minuscule*. . . . It isn't realistic to expect the jury to recommend a .00000001 rate.

FTC Report, *supra* note 104, at 210–11 (internal citations omitted) (emphasis added).

[150] *See* 632 F.3d at 1318–21.

[151] *See id.* at 1319–21.

[152] *Id.* at 1296.

[153] *See id.* at 1296, 1311. Although the district court granted judgment as a matter of law (JMOL) or, in the alternative, a new trial on the infringement issue, the Federal Circuit reversed the district court's grant of JMOL due to the substantial evidentiary support for the jury's infringement verdict. *Id.*

[154] *See id.* at 1318–21.

lion, Uniloc's attorney on cross-examination pointed out that $7 million in damages would only be 0.000035% of Microsoft's $19 billion total sales revenues of Office and Windows, despite the inappositeness of the comparison.[155]

The plaintiff's damages expert further used the $19 billion total sales revenue figure to befuddle the jury by using a pie chart to compare his own $2.50 royalty estimate *per copy of Microsoft Office and Windows products sold* to the total sales of $19 billion.[156] He multiplied $2.50 by the approximately 226 million new Microsoft software licenses to reach his estimate of approximately $565 million in damages.[157] He then calculated that total damages estimate as a percentage of the total $19 billion in sales revenues to arrive at a percentage royalty of approximately 2.9%.[158] Finally, he displayed this 2.9% value as a prepared pie chart graphic, in which the 2.9% represented a tiny sliver of the whole, to show the jury visually what a seemingly tiny award his $565 million damages recommendation was.[159]

Citing the above abuses, the Federal Circuit characterized the *Uniloc* trial as exemplary of the "danger of admitting consideration of the entire market value of the accused where the patented component does not create the basis for customer demand."[160] Quoting the district court, it stated that "[t]he $19 billion cat was never put back into the bag."[161]

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[155] *See id.* at 1320–21. Note that, according to my calculations, $7 million is in fact 0.035% of $20 billion, not 0.000035% as the plaintiff's attorney asserted and Microsoft's damages expert reluctantly conceded. *See id.*

[156] *See Uniloc*, 632 F.3d at 1311–12. He arrived at $19 billion in total sales revenue by multiplying the number of new Microsoft software licenses, 226 million, by the $85 average sales price per license. *Id.*

[157] *See id.*

[158] *See id.* Note that this 2.9% result is nothing other than the plaintiff's expert's $2.50 royalty estimate per product divided by the $85 average sale price of each new Microsoft license. *See id.* Multiplying both the numerator and denominator of this ratio by the number of licenses achieves nothing; it is a tactic to mystify the jury with the illusion of rigorous mathematical reasoning. *See id.*

[159] *See id.*

[160] *Id.* at 1320.

[161] *See id.* A word of caution regarding the procedural posture of the *Uniloc* case is appropriate here. *See id.* at 1321. The Federal Circuit in *Uniloc* was reviewing the district court's own award of a new trial, and the Federal Circuit found no *abuse of discretion* in the grant of the new damages trial. *See id.* It is entirely possible that, in the future, the Federal Circuit might find no abuse of discretion if a trial court were to *refuse* to grant a new trial under similar circumstances. *See id.* Nonetheless, the Federal Circuit's language appears to provide clear guidance that a trial court is not to allow damages testimony of the type allowed in the original damages trial in *Uniloc. See id.* at 1320–21 ("This case provides a good example of the danger of admitting consideration of the entire market value of the accused where the pat-

Unfairly prejudicing the jury is clearly a significant concern in allowing discussion of gross sales revenues in reasonable royalties calculations.[162] This problem is especially acute in the software and high technology fields in which patented components often constitute one tiny fraction of the overall value of a final product offered for sale.[163] To the extent that the patented component's contributed value is small, the injustice done by awarding damages commensurate with the scale of the total compound product's value is magnified.[164]

### B. *Proposing the Name: Entire Market Base Rule*

This Section proposes that what the Federal Circuit and other courts currently refer to as the "entire market value" rule, as applied to reasonable royalties determinations, should be renamed the "entire market *base*" rule.[165] The traditional "entire market value" rule appellation should be retained when traditionally applied, namely in lost profits calculations.[166]

#### 1. A Rose by Any Other Name: The "Entire Market Value" Rule or 100% Royalty Base?

As explained in Part I, the entire market value rule was traditionally applied to lost profits cases.[167] It was used when the patent holder actually lost sales of the patented device and was entitled to restitution for *all* of the competitive damages it suffered.[168] In those cases in which the patented component generated the consumer demand for the

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ented component does not create the basis for customer demand. . . . This is in clear derogation of the entire market value rule.").

[162] *See Uniloc*, 632 F.3d at 1318–21; FTC REPORT, *supra* note 104, at 210–11.

[163] *See Uniloc*, 632 F.3d at 1318–21; Lemley & Shapiro, *supra* note 77, at 2009 (explaining that patent holdup is of particular concern in industries such as microprocessors and information technology in which any patent often covers only a small part of a final product).

[164] *See Lucent*, 580 F.3d at 1337–38; Lemley & Shapiro, *supra* note 77, at 2009.

[165] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339; Lemley, *supra* note 1, at 662 n.34 ("[T]he Federal Circuit in *Lucent v. Gateway* said that the entire market value rule applied to reasonable royalty cases, though a review of the opinion suggests that the court actually confused the entire market value rule with the question of the royalty base.").

[166] *See Rite-Hite*, 56 F.3d at 1549; Marconi Wireless Tel. Co. of Am. v. United States, 99 Ct. Cl. 1, 20–21 (1942), *rev'd in part on other grounds*, 320 U.S. 1 (1943); Lemley, *supra* note 1, at 662 & n.34.

[167] *See Rite-Hite*, 56 F.3d at 1549; *Marconi*, 99 Ct. Cl. at 20–21; Lemley, *supra* note 1, at 662 & n.34; *supra* notes 16–130 and accompanying text

[168] *See Rite-Hite*, 56 F.3d at 1549; *Marconi*, 99 Ct. Cl. at 20–21; Lemley, *supra* note 1, at 662 & n.34.

compound product, courts awarded the entire profits from sales of the infringing device, under the logic that the patentee would have made those sales itself but for the patent infringement.[169]

By contrast, the application of the entire market value rule to reasonable royalties damage awards has been sharply criticized by scholars and by the FTC.[170] Such scholars note that the logic of the entire market value rule breaks down in reasonable royalties damages, because the purpose of such damages is to simulate what licensing deal the patentee and infringer would have struck in a hypothetical negotiation taking place before the infringement began.[171] In such a hypothetical negotiation, the licensee would obviously retain some profit for itself.[172] Thus, awarding 100 percent of profits from the compound product to the patentee of the infringed component, under the rubric of simulating the results of such a licensing negotiation, is clearly erroneous.[173]

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[169] *See Rite-Hite*, 56 F.3d at 1549; *Marconi*, 99 Ct. Cl. at 20–21; Lemley, *supra* note 1, at 662 & n.34.

[170] *See Lucent*, 580 F.3d at 1339; FTC Report, *supra* note 104, at 210–11; Landers, *supra* note 103, at 361–62 (arguing that applying the entire market value rule in reasonable royalties cases cuts against the section 284 statutory requirement of a reasonable royalty for the use made "of the invention," referring to the patented component only); Lemley, *supra* note 1, at 662.

[171] *See* Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120–22 (S.D.N.Y. 1970); Lemley, *supra* note 1, at 662; *infra* note 201.

[172] *See* Lemley, *supra* note 1, at 662–63; Brian J. Love, Note, *Patentee Overcompensation and the Entire Market Value Rule*, 60 Stan. L. Rev. 263, 278 (2007) (noting the commonsense result that a patentee of a component is never responsible for all of the value of a compound product containing that component).

[173] *See supra* notes 171–172 and accompanying text. It is unclear, however, that any court ever actually did award reasonable royalty damages of 100% of profits under the entire market value rule, despite Professor Lemley's protestations. *See* Lemley, *supra* note 1, at 662–64 (arguing that a true application of the entire market value rule to reasonable royalties must be incorrect because there is *always at least some value* to the defendant's product not attributable to the patent, and citing cases that purportedly applied the entire market value rule in such erroneous fashion). Professor Lemley cites *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1361(Fed. Cir. 2001); *Tec Air, Inc. v. Denso Manufacturing Michigan, Inc.*, 192 F.3d 1353, 1362 (Fed. Cir. 1999); and *Fonar Corp. v. General Electric Co.*, 107 F.3d 1543, 1552 (Fed. Cir. 1997) in his criticism of the Federal Circuit's importation of the entire market value rule into reasonable royalties cases. *See id.* at 662 n.34. Yet it is unclear that those cases actually apply the entire market value rule, despite naming the entire market value rule in the decisions. *See Bose*, 274 F.3d at 1361 (affirming a damage award of a *7% royalty rate* upon a royalty base of 100% of infringing sales *when the profit margin of infringing product was 20%*—a true application of the entire market value rule would have produced a *20% royalty rate*); *Tec Air*, 192 F.3d at 1357, 1362 (affirming a jury damages award corresponding to a royalty of 6.5% of the entire infringing revenues of infringing product, when evidence showed an actual profit margin of 18.6%); *Fonar*, 107 F.3d at 1553 (affirming a $34.125 million jury damages award as substantially within patentee's expert's $54 million estimate comprising 7.25% of infringing sales—the 7.25% estimate was *less than one-third of entire*

As Professor Mark Lemley notes, however, what the Federal Circuit often labels the entire market value rule is not actually such, but rather is an expansion of the *royalty base* used in a reasonable royalties calculation.[174] The entire market value rule would award 100% of profits from sales of an infringing compound product, i.e., a royalty base and royalty

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*profits from infringing sales*); *infra* text and accompanying notes 174–180. To the contrary, these decisions appear to award only a fraction of the entire profits from sales of infringing products by awarding a small royalty rate based on a *100% royalty base*—in other words, applying what this Note describes as the "entire market *base*" rule. *See Bose*, 274 F.3d at 1361; *Tec Air*, 192 F.3d at 1362; *Fonar*, 107 F.3d at 1553. *But see* Lemley, *supra* note 1, at 662 n.34. Ironically, Professor Lemley (in the same footnote) distinguishes this use of a 100% royalty base from the "entire market value" rule, contending that the Federal Circuit in *Lucent* was confused in its usage of the term "entire market value" rule. *See Lucent*, 580 F.3d at 1339; *Bose*, 274 F.3d at 1361; *Tec Air*, 192 F.3d at 1362; *Fonar*, 107 F.3d at 1552; Lemley, *supra* note 1, at 662 n.34, 668 & n.63 ("[T]he Federal Circuit in *Lucent v. Gateway* said that the entire market value rule applied to reasonable royalty cases, though a review of the opinion suggests that the court actually confused the entire market value rule with the question of the royalty base."); *infra* notes 174–180 and accompanying text. A review of the *Bose* decision, and especially the exceptionally lucid opinion of the district court—authored by Judge Patti Saris, renowned in the patent bar—reveals that the damages award affirmed by the Federal Circuit comprised but a small fraction of profits from infringing sales. *See Bose*, 274 F.3d at 1361; Bose Corp. v. JBL, Inc., 112 F. Supp. 2d 138, 164–67 (D. Mass. 2000), *aff'd*, 274 F.3d at 1361 (awarding, in bench trial, a 7% royalty rate of a royalty base comprising 100% of infringing sales and employing the *Georgia-Pacific* factors to arrive at an award *slightly above 25% of profits* from infringing sales—not 100% of profits—when the profit margin for infringing sales comprised approximately 20% of sales revenues). *Fonar* similarly affirmed a jury award of $34.125 million because it was substantially less than the 7.25% of sales recommended by the plaintiff's expert when that 7.25% estimate was between one-quarter to one-third—not 100%—of the defendant's entire profits from infringing sales. *See* 107 F.3d at 1553. In *Tec Air*, the Federal Circuit affirmed a jury damages award of 6.5% of infringing sales revenues when evidence showed the profit margins from the infringing sales to be 18.6%. *See* 192 F.3d at 1362; Brief for Plaintiff-Appellee at 24, *Tec Air*, 192 F.3d 1353 (No. 99-1011) (citing evidence that defendant's profits were at least 18.6%). Thus, none of the cases that Professor Lemley cites actually apply the entire market value rule to reasonable royalties calculations, but rather apply a 100% royalty base. *See Lucent*, 580 F.3d at 1339; *Bose*, 274 F.3d at 1361; *Tec Air*, 192 F.3d at 1362; *Fonar*, 107 F.3d at 1552; Lemley, *supra* note 1, at 662 n.34, 668 & n.63. He appears to have been mired in the same 100%-royalty-base confusion of which he accused the Federal Circuit's *Lucent* opinion. Lemley, *supra* note 1, at 662 n.34, 668 & n.63; *see Lucent*, 580 F.3d at 1339; *Bose*, 274 F.3d at 1361; *Tec Air*, 192 F.3d at 1362; *Fonar*, 107 F.3d at 1552.

[174] *See* Lemley, *supra* note 1, at 662 n.34, 668–69 & n.63 (arguing that the Federal Circuit in *Lucent* became confused and labeled as the "entire market value" rule what was, in actuality, a 100% royalty base). Amusingly, the Federal Circuit in *Lucent* cites to and gently criticizes the very Lemley article which itself criticizes the *Lucent* opinion as confused. *See Lucent*, 580 F.3d at 1339; Lemley, *supra* note 1, at 662 n.34. Despite lacking access to a time machine, Chief Judge Paul Michel had in fact obtained access to a draft of Professor Lemley's forthcoming article that then turned around and criticized Judge Michel's opinion criticizing it. *See Lucent*, 580 F.3d at 1339; Lemley, *supra* note 1, at 662 n.34.

rate both equaling 100%.[175] By contrast, what the Federal Circuit has labeled in the reasonable royalty context as the entire market value rule is allowing the royalty base to equal 100% of total profits *when the royalty rate* is then some percentage thereof.[176] In other words, a reasonable royalty of less than 100% of profits is awarded in what the Federal Circuit has misleadingly labeled as the entire market value rule.[177]

An award of the entire market *value* of the compound invention is thus not contemplated in reasonable royalties calculations; rather, such value is only used as the *base* of a further royalty calculation.[178] The appropriate name for such rule in the context of reasonable royalties calculations is the "entire market *base*" rule, and it should henceforth be labeled as such in court decisions and scholarly writing.[179]

For its traditional application to lost profits calculations, the "entire market value" rule is well named and I do not propose to alter its usage or appellation within that ambit.[180]

### 2. Basis for Consumer Demand: The Correct Standard?

The following discussion is of the Federal Circuit's current standard for applying the entire market base rule.[181] Part III proposes modifying and recasting the entire market base rule.[182]

The standard that the Federal Circuit has applied in determining whether to apply the entire market base rule is whether the patented component constitutes the basis for consumer demand for the product.[183] In evaluating this standard, we must remember that the rule must

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[175] *See* Lemley, *supra* note 1, at 662–64 & n.34, 668–69 & 668 n.63. Professor Lemley argues that a true application of the entire market value rule to reasonable royalties must be incorrect because there is *always at least some value* to the defendant's product not attributable to the patent. *See id.* Implicit in the argument is that the rule contemplates awarding 100% of the value of defendant's product to the patentee. *See id.*

[176] *See id.*

[177] *See id.*

[178] *See id.*

[179] *See Lucent*, 580 F.3d at 1339; Lemley, *supra* note 1, at 662 n.34, 668–69 & n.63. Henceforth in this Note, I will refer to this rule as the entire market base rule.

[180] *See Lucent*, 580 F.3d at 1339; Lemley, *supra* note 1, at 662 n.34, 668–69 & n.63.

[181] *See infra* notes 182–188 and accompanying text.

[182] *See infra* notes 189–238 and accompanying text.

[183] *See Lucent*, 580 F.3d at 1337–39 ("The first flaw with any application of the entire market value rule in the present case is the lack of evidence demonstrating the patented method of the [plaintiff's] patent as the basis—or even a substantial basis—of the consumer demand for [defendant's compound product]."); *Bose*, 274 F.3d at 1361; *Tec Air*, 192 F.3d at 1357, 1362; *Fonar*, 107 F.3d at 1552; *Rite-Hite*, 56 F.3d at 1549 ("We have held that the entire market value rule permits recovery of damages based on the value of a pat-

aid in arriving at a reasonable royalty determination that accurately simulates the result of a hypothetical licensing negotiation undertaken prior to infringement.[184]

When the patented component comprises the basis for consumer demand for the final compound device, it indeed seems reasonable that the patentee would have an especially strong bargaining position for demanding a significant share of the ultimate profits.[185] Presumably, under such circumstances, the hypothetical licensee would not be able to generate any appreciable consumer demand for the product without the inclusion of the patented component.[186]

By contrast, when the patented component is not the basis for consumer demand, such as in *Uniloc* and *Lucent*, the patentee would have been but one licensor among many of small, sometimes even trivial, components and would not have significant bargaining power.[187] Thus, the entire market base rule, as the Federal Circuit currently applies it, is likely a helpful tool for approximating the outcome of such a hypothetical negotiation.[188]

## III. Proposing a New Model of the Entire Market Base Rule

This Part expands on Part II's separating of the entire market base rule from the entire market value rule.[189] It shows that, far from mere pedantry, this distinguishing and defining of the entire market base rule enables examination of the statutory and policy foundations of the entire market base rule and refinement of the rule to better conform

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entee's entire apparatus containing several features when the patent-related feature is the basis for customer demand." (internal citations omitted)).

[184] *See Georgia-Pacific*, 318 F. Supp. at 1120–22 (setting out the famous list of factors, adopted by the Federal Circuit and known as the *Georgia-Pacific* factors, to consider in simulating a hypothetical licensing negotiation); Corgill, *supra* note 139, at 648–49; John M. Golden, *"Patent Trolls" and Patent Remedies*, 85 Tex. L. Rev. 2111, 2141 (2007); Lemley & Shapiro, *supra* note 77, at 1999–2000, 2018.

[185] *See supra* note 184.

[186] *See supra* note 184. Though, in certain circumstances, there may have existed noninfringing alternatives available to the licensee at the time before infringement, which might lessen the patentee's bargaining power—the patented component being the basis for consumer demand notwithstanding—the Federal Circuit has rejected that possibility. *See* Mars, Inc. v. Coin Acceptors, Inc., 527 F.3d 1359, 1373 (Fed. Cir. 2008) (rejecting as "wrong as a matter of law" allowing noninfringing alternatives available to the infringer to lessen reasonable royalties). *But see* Lemley, *supra* note 1, at 667 n.60 (criticizing *Mars* for failing to account for the realities of what a hypothetical negotiation would actually entail).

[187] *See Uniloc*, 632 F.3d at 1320; *Lucent*, 580 F.3d at 1337–39; *Georgia-Pacific*, 318 F. Supp. at 1120–22; *infra* note 201.

[188] *See Georgia-Pacific*, 318 F. Supp. at 1120–22; *infra* note 201.

[189] *See supra* notes 192–238 and accompanying text.

with those foundations.[190] To fulfill the statutory directive, the entire market base rule should be recast as an application of Federal Rule of Evidence 403, which mandates weighing the prejudicial value of evidence against its probative value.[191]

### A. *Unfair Prejudice: Federal Rule of Evidence 403*

The proper framework for the discussion of unfairly prejudicial testimony is Federal Rule of Evidence 403.[192] Couching the problem of unfairly prejudicial testimony in terms of the entire market value rule, as the Federal Circuit currently does, is obfuscatory and likely to hinder the development of this area of law, causing confusion in the rule's application.[193]

As has been shown in Part II, in theory, there is no one proper method of arriving at a reasonable royalty value; yet there is a potentially severe prejudicial effect of one method of calculation.[194] In the abstract, a jury should be capable of evaluating the proper incremental worth of one component of a much larger conglomerate product by evaluating the worth of every other component that contributes value to that product and placing the infringing component in that proper context.[195] Yet the Federal Circuit clearly believes that, at least under current trial practice methods, juries are unable to do so reliably.[196] According to the 2011 Federal Circuit decision of *Uniloc USA, Inc. v. Microsoft Corp.*, a trial court judge must disallow the jury from hearing the total sales revenues of any large compound product in which the patented component is not the basis for consumer demand for that product.[197]

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[190] *See supra* notes 192–238 and accompanying text.

[191] *See supra* notes 192–238 and accompanying text.

[192] Federal Rule of Evidence 403 provides:

> Rule 403. Exclusion of Relevant Evidence on Grounds of Prejudice, Confusion, or Waste of Time
> Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury, or by considerations of undue delay, waste of time, or needless presentation of cumulative evidence.

FED. R. EVID. 403.

[193] *See infra* notes 194–229 and accompanying text.

[194] *See supra* notes 140–161 and accompanying text.

[195] *See supra* notes 140–148 and accompanying text.

[196] *See supra* notes 149–161 and accompanying text.

[197] *See* 632 F.3d 1292, 1318–21 (Fed. Cir. 2011). The court elaborated: "The disclosure that a company has made $19 billion dollars in revenue from an infringing product cannot

Yet *Uniloc* raises a question: why should a jury be prevented from hearing the entire value of a product when the patented component is not the basis for consumer demand, yet be allowed to hear such evidence when the component *is* the basis for consumer demand?[198] If hearing the entire market value of a compound product is unfairly prejudicial, as the Federal Circuit contends in *Uniloc*, then why should a jury ever hear such evidence in reasonable royalties determinations?[199] The Federal Circuit's guidance appears to amount to the sanctioning of unfairly prejudicial evidence in cases in which the component does in fact constitute the basis for consumer demand.[200]

It is perhaps possible to reconcile this difficulty by noting the purpose of the entire market base rule: it is simply one means of arriving at the statutory requirement of a reasonable royalty approximating the licensing agreement the parties would have arranged in a hypothetical negotiation.[201] The jury is thus asked to arrive at its sense of how the infringing company would have valued the patented component.[202] When that component is responsible for the consumer demand for the finished compound product, it is indeed reasonable for the jury to consider the entire sales value of the compound product in determining how the infringing company would value the patented component.[203] In such cases there is less unfairness in the jury being swayed by the scale of numbers by considering the entire sales proceeds of the final product.[204] This is because, in this hypothetical negotiation, the patentee has significant control and bargaining power by bringing to the negotiating table the very component that generates the sales of the contemplated final product.[205]

Nevertheless, by couching their discussion of unfairly prejudicial evidence as a discussion of the appropriate guidelines for applying the

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help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue." *Id.* at 1320.

198 *See id.*

199 *See id.* at 1318–21.

200 *See id.*

201 *See id.*; *Lucent*, 580 F.3d at 1339 (defending use of the entire market base rule in reasonable royalties calculations in appropriate circumstances); Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120–22 (S.D.N.Y. 1970) (setting out the famous list of factors, adopted by the Federal Circuit and known as the *Georgia-Pacific* factors, to consider in simulating a hypothetical licensing negotiation); Corgill, *supra* note 139, at 648–49; Golden, *supra* note 184, at 2141; Lemley & Shapiro, *supra* note 77, at 1999–2000, 2018.

202 *See supra* note 201.

203 *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

204 *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

205 *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

entire market base rule (which they term the "entire market value" rule), courts impede the productive development of this area of the law.[206] Where the issue is one of jury prejudice, the proper context for discussion is Federal Rule of Evidence 403.[207]

Furthermore, Rule 403 is a better fit with reasonable royalties due to the open-endedness of the statutory requirement, allowing for a myriad of possible appropriate schemes for determining reasonable royalties damages.[208] It makes little sense for the Federal Circuit to paint in such broad strokes as to prescribe an unnuanced rule impossible to tailor to the multifariousness of reasonable royalties determinations.[209] This open-ended statutory damages scheme, rather, calls for perceptive creativity and fact-specific adaptation, which is the forte of the district court judge and the institutional strength of the trial court.[210] Because the issue here is one of jury prejudice skewing the verdict—not of a patent-specific situation in need of a patent-specific rule laid down by the Federal Circuit—the Federal Circuit should leave the ultimate appraisal of prejudicial evidence under the limitless variations of hypothetical negotiations simulations to the sound discretion of the trial judge.[211]

It is not argued here that the entire market base rule should be abolished.[212] To the contrary, the Federal Circuit should continue to guide the district courts in their application of the entire market base rule, but cast it in its proper framework as a specific application of Rule 403.[213] By thus recasting its teachings in terms of Rule 403, the Federal Circuit

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[206] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

[207] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

[208] *See* 35 U.S.C. § 284; *TWM*, 789 F.2d at 899 ("Section 284 does not mandate how the district court must compute [the reasonable royalty], only that the figure compensate for the infringement."); Corgill, *supra* note 139, at 648.

[209] *See supra* note 208.

[210] *See* 35 U.S.C. § 284; TWM Mfg. Co. v. Dura Corp., 789 F.2d 895, 899 (Fed. Cir. 1986) ("Section 284 does not mandate how the district court must compute [the reasonable royalty], only that the figure compensate for the infringement."); Corgill, *supra* note 139, at 648; *infra* note 215.

[211] *See Uniloc*, 632 F.3d at 1318–21; *supra* note 208. Like other decisions under Federal Rule of Evidence 403, these district court decisions would then be reviewed for abuse of discretion. *See* Fed. R. Evid. 403 advisory committee's notes ("Situations in this area call for balancing the probative value of and need for the evidence against the harm likely to result from its admission."); Finan v. Good Earth Tools, Inc., 565 F.3d 1076, 1080 (8th Cir. 2009) ("This court reviews the evidentiary rulings of a district court for abuse of discretion."); Lewis v. District of Columbia, 793 F.2d 361, 363 (D.C. Cir. 1986); United States v. Martinez, 775 F.2d 31, 37 (2d Cir. 1985); Am. Jur. Evid. § 336 ("On appeal from a ruling admitting or excluding evidence, raising the question whether its probative value outweighed the danger of unfair prejudice, the sole issue is whether the trial court abused its discretion.").

[212] *See supra* note 208.

[213] *See id.*

could bring much needed clarity to this area of law.[214] It would simultaneously provide the guidance district courts require to arrive at consistent results across jurisdictions, while leaving them the discretion requisite to achieving just and reasonable decisions, as explained below.[215]

Note further that the recent Federal Circuit decisions would come out the same way under this proposed standard.[216] The Federal Circuit would evaluate the evidentiary ruling of the district court judge for abuse of discretion.[217] When the patented component did not constitute the basis for consumer demand, and the total sales of a compound product were presented to *and unfairly prejudiced* the jury—as occurred in *Lucent Technologies, Inc. v. Gateway, Inc.* and *Uniloc*—the district court's decision would be overturned for abuse of discretion.[218]

The Supreme Court emphasized the district courts' institutional capacity for grasping the subtle nuances of negotiations in its 1986 decision in *Evans v. Jeff D.*[219] In that case, the parties to a civil rights case reached a negotiated settlement waiving attorney's fees in the face of the Fees Act, a federal statute granting mandatory attorney's fees in such cases.[220] The settlement required approval of the court, and the district court approved it, refusing on later motion to grant attorney's fees.[221] The role of the court in that case was to ensure that the settlement reached was fair and equitable, and that the settlement constituted "an adequate quid pro quo for [plaintiff's] waiver of attorney's fees."[222] On appeal, the Ninth Circuit reversed the district court's approval on the grounds that allowing waiver of attorney's fees would frustrate the intent of Congress and chill civil rights actions by shrinking the pool of attorneys willing to litigate them.[223] The Supreme Court reversed the Ninth Circuit, stating:

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[214] *See id.*

[215] *See* FED. R. EVID. 403 advisory committee's notes; Markman v. Westview Instruments, Inc., 517 U.S. 370, 390–91 (1996) (emphasizing the desirability of consistency in patent law across jurisdictions and charging the Federal Circuit with fostering such uniformity); *supra* note 208; *cf.* Evans v. Jeff D., 475 U.S. 717, 742–43 (1986) (committing the appraisal of the reasonableness of class-action settlements, including the waiver of statutorily granted attorneys' fees, to the sound discretion of district courts on a case-by-case basis in light of all relevant circumstances (citing Moore v. Nat'l Assoc. of Sec. Dealers, Inc., 762 F.2d 1093, 1113 (D.C. Cir. 1985) (Wald, J., concurring))).

[216] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

[217] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

[218] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

[219] *See* 475 U.S. at 741–43.

[220] *See id.*

[221] *See id.* at 723.

[222] *See id.* at 741.

[223] *See id.*

> What the outcome of this settlement illustrates is that the Fees Act has given the victims of civil rights violations a powerful weapon that improves their ability to employ counsel, to obtain access to the courts, and thereafter to vindicate their rights by means of settlement or trial. For aught that appears, it was the "coercive" effect of respondents' statutory right to seek a fee award that motivated petitioners' exceptionally generous offer. . . . [W]e shall rely primarily on the sound discretion of the district courts to appraise the reasonableness of particular class-action settlements on a case-by-case basis, in the light of all the relevant circumstances. In this case, the District Court did not abuse its discretion . . . .[224]

The Supreme Court thus refused to second guess the district court's decision, as the institutional strength of the district court is in evaluating the nuances of all of the relevant circumstances presented by the evidence and the testimony.[225]

The hypothetical negotiation that the reasonable royalty award is intended to simulate bears certain striking similarities to judicial evaluation of a settlement negotiation.[226] Like the Supreme Court in *Evans*, the Federal Circuit should allow the district court, which is best situated to evaluate and direct the context-specific contours of a hypothetical negotiation for licensing fees, to use its sound discretion and institutional strength in determining reasonable royalties.[227] This would be accomplished through recasting the "entire market base" rule within the probative-versus-prejudicial balancing framework of Rule 403.[228]

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[224] *See id.* at 741–42.

> Each negotiation, like each litigant, is unique; reasonableness can only be determined by looking at the strength of the plaintiff's case, the stage at which the settlement is effective, the substantiality of the relief obtained on the merits, and the explanations of the parties as to why they did what they did.

*Id.* (quoting *Moore*, 762 F.2d at 1113 (Wald, J., concurring)).

[225] *See Evans*, 475 U.S. at 741–42.

[226] *See id.*; *Georgia-Pacific*, 318 F. Supp. at 1120–22 (setting out the famous list of factors, adopted by the Federal Circuit and known as the *Georgia-Pacific* factors, to consider in simulating a hypothetical licensing negotiation); Corgill, *supra* note 139, at 648–49; Golden, *supra* note 184, at 2141; Lemley & Shapiro, *supra* note 77, at 1999–2000, 2018. Although one is decided by the judge and the other by the factfinder, both are intended to encompass the realities of an actual negotiation. *See Evans*, 475 U.S. at 741–42; *Georgia-Pacific*, 318 F. Supp. at 1120–22.

[227] *Evans*, 475 U.S. at 741–42.

[228] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

This proposal would further provide the benefit of applying established principles of federal evidentiary law.[229]

B. *Out of the Frying Pan and into the Fire: Rule 403 "Waste of Time"*

An alternative strategy towards avoiding unfairly prejudicial evidence of the total sales of a compound product is to allow the defendant to present evidence of other contributors of value besides the infringing component.[230] This strategy recognizes that the underlying problem is one analogous to the "vividness effect": that jurors after having heard voluminous testimony on the value of the patented component will disregard their more limited and muted background knowledge of the value of all other contributors of value to the final compound product.[231]

Thus, under this proposal, in the *Uniloc* case, Microsoft would have been allowed to present expert testimony regarding the value of every feature of Microsoft Office and Microsoft Windows, which would have forced the jury to gain the proper perspective for how little value the infringing Product Activation feature provided.[232] Once forced to consider the Product Activation feature side by side with the myriad useful abilities and features of the entire Microsoft Office suite and the entire Windows operating system (such as writing, saving, and printing Word documents; composing emails; creating, saving, and printing Excel spreadsheets, etc.), the jurors would have easily seen the plaintiff's expert's 2.9% estimate as a gross exaggeration of contribution and been equipped to discern the plaintiff's pie chart ruse.[233]

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[229] *See Uniloc*, 632 F.3d at 1318–21; *Lucent*, 580 F.3d at 1339.

[230] *See* Lemley & Shapiro, *supra* note 77, at 2024–25. Note that some scholars raise doubts that defendants will choose to employ this strategy due to concern for admission of liability for infringing other patents not asserted in the suit. *See id.* at 2024 & n.92. It seems likely, however, that a defendant could present evidence of the benefits and value of other components of its product, such as market survey evidence, without introducing sufficient technical detail to generate liability for infringing other patents. *See id.*

[231] *See* Keith E. Stanovich, How to Think Straight About Psychology 71–72 (1985) (defining the vividness effect in the marketing context: that the vividness of testimonial evidence eclipses the importance of more reliable scientific data in a listener's perception and impedes rational decision making); Lemley & Shapiro, *supra* note 77, at 2025, 2029–35 (positing that juries that never hear about other contributors to total value of a product are likely to award a disproportionate royalty rate for a component that they do hear about, and providing some empirical support for this proposition).

[232] *See Uniloc*, 632 F.3d at 1318–21. Under the current system, juries do not ordinarily hear of the value of other components. *See* Lemley, *supra* note 1, at 664 n.41, 665; Lemley & Shapiro, *supra* note 77, at 2023–35.

[233] *Uniloc*, 632 F.3d at 1318–21.

The problem with this method of approaching reasonable royalties again lies with Federal Rule of Evidence 403, namely undue delay and waste of time.[234] It would be a mind-numbing exercise rivaling Psyche's grain-sorting toil (without the aid of ants) for any juror to sit through the dozens, if not hundreds, of presentations of evidence of the value of every single value-adding feature of a mammoth product like Microsoft Office.[235]

The district court may thus, if it wishes to admit evidence of the total sales value of a compound product, find itself caught between the twin perils of Federal Rule of Evidence 403.[236] One avenue of evidentiary proof may be inadmissible under Rule 403 due to its prejudicial effect outweighing its probative value, while the other avenue may be inadmissible under Rule 403 for waste of time due to its voluminousness.[237] Nevertheless, between these two evidentiary avenues—or a third, disallowing evidence of the entire market value of a compound product—a district court is likely well equipped to fashion an appropriate evidentiary ruling tailored to the exigencies of the particular circumstances and to the strengths and susceptibilities of the jury.[238]

## Conclusion

Considerable confusion has accompanied the application of the entire market value rule to reasonable royalties calculations. This Note has addressed some sources of this confusion, and argued for better delineation of the scope and purpose of the rule. I propose a new name for the rule within reasonable royalties calculations, the "entire market base" rule. This new appellation will allow a clearer focus on the statutory and policy underpinnings of the rule. I also propose a recasting of the rule as a specific application of the Federal Rule of Evidence 403. It is hoped that the steps developed here may contribute to a clearer and fairer application of patent law and the adjustment of patent remedies to best incentivize innovation.

Michael A. Greene

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[234] *See* Fed. R. Evid. 403.

[235] *See It's All in the Numbers*, Microsoft Developer Network (MSDN) Blogs (Nov. 2, 2006, 7:09 PM), http://blogs.msdn.com/b/macmojo/archive/2006/11/03/it-s-all-in-the-numbers.aspx. In 2006, Microsoft Office required about 30 *million* lines of computer code to write, approximately the equivalent of a 750,000-page book. *Id.*

[236] *See* Fed. R. Evid. 403; *supra* notes 192–235 and accompanying text.

[237] *See* Fed. R. Evid. 403; *supra* notes 192–235 and accompanying text.

[238] *See supra* note 215.