

## Anchors Away! An Appeal For Reference Rates When Calculating Prejudgment Interest

By Nisha Mody and Evan Schulz

### Abstract

*Under the Entire Market Value rule, judges prohibit attorneys and damages experts from introducing large, irrelevant numbers into IP litigation, because such numbers can anchor juries toward affording plaintiffs relatively larger awards. We suggest a similar anchoring problem emerges where attorneys introduce antiquated statutory rates when arguing for pre-judgment interest. We suggest judges should make recourse to a set of publicly available reference rates, grounded in economic and financial reality, when affording parties pre-judgment interest.*

### Article:

In the 1970s, Daniel Kahneman and Amos Tversky, two researchers on the psychology of judgment, observed that people employ “heuristics,” or conceptual shortcuts, when making decisions under conditions of uncertainty. Among the heuristics they document is a cognitive effect called “anchoring”:

In many situations, people make estimates by starting from an initial value that is adjusted to yield the final answer. The initial value, or starting point, may be suggested by the formulation of the problem, or it may be the result of a partial computation. In either case, adjustments are typically insufficient. That is, different starting points yield different estimates, which are biased toward the initial values. We call this phenomenon anchoring.<sup>1</sup>

Their research on cognitive biases enjoyed broad academic reception and application. For this work, in 2002, Daniel Kahneman was awarded the Nobel Prize for Economics.<sup>2</sup>

The pervasiveness of anchoring is arguably acknowledged by courts in steps to limit a jury’s exposure to large, irrelevant values. The most familiar form of such shielding is represented by limitations on employing the so-called “entire market value rule” (EMV). Consider, for example, the court’s expressed concern in

*Uniloc USA v. Microsoft*, wherein the plaintiff’s damages expert presented an estimate of \$19 billion gross revenue for total accused products as his “reasonableness check” for a far smaller damages opinion. In this situation, cognitive research suggests a jury’s perspective is vulnerable to “anchoring” upon that \$19 billion value. District and Circuit Courts of Appeal expressed similar concerns, noting (emphasis added):

This case provides a good example 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. As the district court aptly noted, “[t]he \$19 billion cat was never put back into the bag even by Microsoft’s cross-examination of Mr. Gemini and re-direct of Mr. Napper, and in spite of a final instruction that the jury may not award damages based on Microsoft’s entire revenue from all the accused products in the case.” *Uniloc II*, 640 F.Supp.2d at 185. This is unsurprising. 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.<sup>3</sup>

Thus, one can arguably draw a conceptual line from the insights of cognitive psychologists to a judge’s role as “gatekeeper” when administering justice. Damages experts are now admonished to employ the entire market value rule only when relevant, and instead to maintain analytic focus on the so-called “smallest saleable practicing unit” (SSPU). These twin pillars of current damages analysis, (i.e., EMV and SSPU) limit opportunity for a jury to be anchored by irrelevant values that might otherwise skew decisions regarding damages.<sup>4</sup>

3. *Commonwealth Scientific and Industrial Research Organization v. Cisco Systems, Inc.*, . No. 2015–1066. Decided: December 3, 2015

4. Patent damages are obviously not the only litigation realm subject to anchoring. In a recent trade secrets matter, Judge Alsup, from the Northern District of California, notes that the damages expert proffered a high rate and deemed it “conservative” as a “transparent attempt to skew the damages horizon and desensitize the jury to the enormity of what Waymo is seeking by contrast with what it supposedly could have sought.” *Waymo, LLC v. Uber Technologies*.3:17-cv-00939-WHA, November 6, 2017, Document 2176.

1. Amos Tversky and Daniel Kahneman, “Judgment under Uncertainty: Heuristics and Biases.” *Science*, September 27, 1974, Vol. 185, p.4157.

2. This should not be understood as a slight of his co-researcher, Amos Tversky. Prof. Tversky died in 1996, and the Nobel Prize committee does not award prizes posthumously.

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On its face, there is no reason to believe judges are immune to anchoring. To the contrary, a recent study by Jeffrey Rachlinksi, Andrew Wistrich and Chris Guthrie concludes that, “judges find it challenging to convert injuries into awards without being influenced by anchoring.”<sup>5</sup> Rachlinkski et al. seek to show that judges assign shorter sentences when considering the sentence time in months rather than in years; award larger damages sums when they are told the cap on the possible award; and impose different sentences depending upon the sequence in which they hear cases. Such unintended behavior is expected by cognitive psychologists.

In most intellectual property cases, a jury determines a damages awards; and judges exercise their gatekeeping role to limit the jury from anchoring conclusions to any unrelated information. Thus, Federal judges’ own decision-making biases on award amounts do not come into play until post-judgment motions. We have reviewed multiple orders of prejudgment interest, and conclude judges are subject to anchoring to state statutory rates, some of which have been in effect for decades. If so, such anchoring bias would unintentionally produce windfall gains associated with prejudgment interest on a damages award, and in other cases, non-economically grounded decisions regarding any actual rate imposed.

Most states’ statutory interest rates have existed for years, if not decades. When created, these statutes sought to specify what might constitute a reasonable rate of interest, often in counterpoint to usurious rates of interest of social concern. The fact that statutory rates were created many years—and often decades—ago, and have mostly remained constant, should give pause to an assumption of their economic relevance.

To take an example, consider the language associated with California’s statutory rate, adopted by electoral enactment in 1976 (and amended in 1979):

The rate of interest upon a judgment rendered in any court of this State shall be set by the Legislature at not more than 10 percent per annum.

Such rate may be variable and based upon interest rates charged by federal agencies or economic indicators, or both.

In the absence of the setting of such rate by the Legislature, the rate of interest on any judgment rendered in any court of the State shall be seven percent per annum.<sup>6</sup>

Within the financial context of their adoption in 1976 and 1979, rates of seven percent and 10 percent made some economic sense. In Figure 1 below, we reproduce the annualized inflation rate reported by the Bureau of Labor Statistics by month, between 1975 and 1982. The period was characterized by high and rising inflation, associated with “guns and butter” fiscal policies, loose monetary policies, and OPEC embargos which substantially increased energy prices overnight.

Interest rates are directly responsive to inflation rates: lenders demand rates of return that preserve the value of their loan from expected inflation, as well as afford an appropriate risk-adjusted return. Unsur-

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**Figure 1. Monthly Annualized Inflation Rates: 1975–1982**

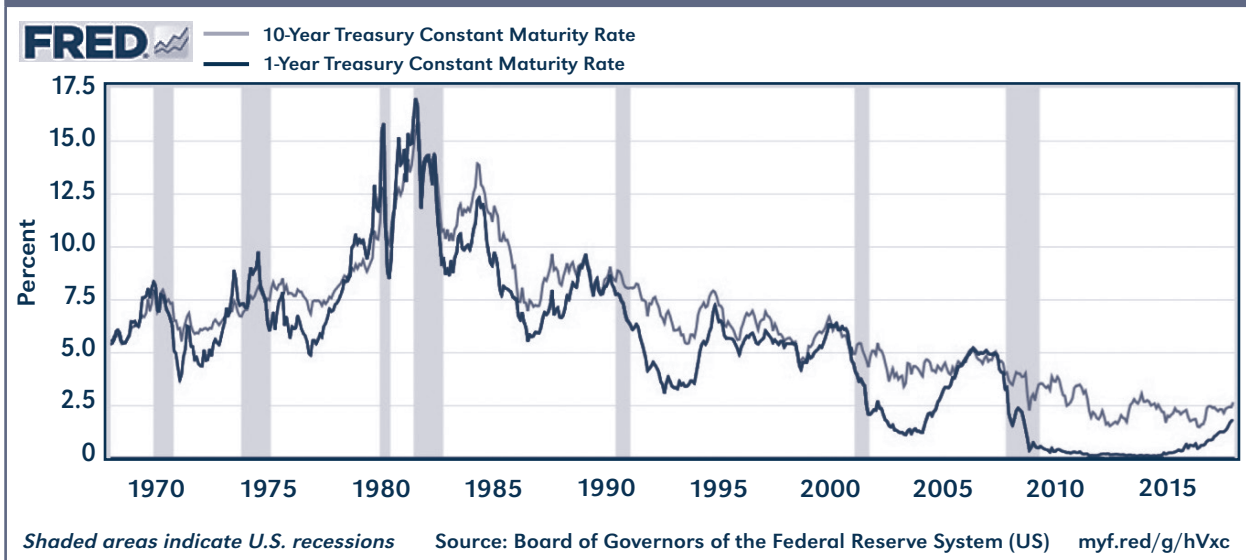
Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1975	11.8	11.2	10.3	10.2	9.5	9.4	9.7	8.6	7.9	7.4	7.4	6.9
1976	6.7	6.3	6.1	6.0	6.2	6.0	5.4	5.7	5.5	5.5	4.9	4.9
1977	5.2	5.9	6.4	7.0	6.7	6.9	6.8	6.6	6.6	6.4	6.7	6.7
1978	6.8	6.4	6.6	6.5	7.0	7.4	7.7	7.8	8.3	8.9	8.9	9.0
1979	9.3	9.9	10.1	10.5	10.9	10.9	11.3	11.8	12.2	12.8	12.6	13.3
1980	13.9	14.2	14.8	14.7	14.4	14.4	13.1	12.9	12.6	12.8	12.6	12.5
1981	11.8	11.4	10.5	10.0	9.8	9.6	10.8	10.8	11.0	10.1	9.6	8.9
1982	8.4	7.6	6.8	6.5	6.7	7.1	6.4	5.9	5.0	5.1	4.6	3.8

5. Jeffrey Rachlinksi, Andrew Wistrich and Chris Guthrie, “Can Judges Make Reliable Numeric Judgments? Distorted Damages and Skewed Sentences.” *Indiana Law Journal*, 2015 Vol 90, p. 735.

6. California Constitution, Article XV (Usury), Section 1.

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Figure 2. 10-Year and 1-Year Treasury Constant Maturity Rate (Jan. 1968–Jan. 2018)



prisingly, interest rates over this period reflect this dynamic. In Figure 2, we provide historic detail for 1-year and 10-year U.S. Treasury rates. The figure shows that throughout the 1970s, both short and long term rates were generally above 5 percent; and that into the close of that decade, in the face of sustained double-digit inflation, both short and long term rates spiked quite higher, above 10 percent. Thus, statutory rates of 7 percent to 10 percent as applied to pre-judgment interest would have made economic sense at that time, to afford a plaintiff the real purchasing power of a damages judgment delayed by several years by the normal course of litigation.

In 1981, the U.S. Federal Reserve, led by Paul Volker took aggressive steps to end inflation, and by the end of 1982, inflation had subsided to a 3.8 percent annualized rate (see Figure 1 above). Interest rates also peaked in corresponding fashion, and as Figure 2 shows, Treasury rates systematically declined for the next +35 years. For example, the 1-year Treasury constant maturity rate began 2018 at 1.76 percent, a far cry from the 17.29 percent rate observed in September 1981. Similarly, the 10-year Treasury constant maturity rate began 2018 at 2.40 percent, whereas it reached a peak of 15.84 percent in September 1981. The implication is that statutory rates of the 1970s, enacted under a specific historical set of inflationary circumstances, have precious little relevance for the economic circumstances of the present period, characterized as it has been by an ensuing generation of price-stability and ever-lower interest rates.

The resulting spread between antiquated statutory rates, and current prevailing economic rates, creates

the opportunity for anchoring effects, especially when courts consider the suggested rates offered by attorneys representing both sides of a matter. This is arguably most easily observed when courts choose prejudgment rates of interest other than the state statutory rate, but invoke the statutory rate as a point of reference or comparison, because that point of reference is advanced by attorneys representing a prevailing party. Consider the following examples.

On April 10, 2009, Hon. Judge Morrison England ruled on prejudgment interest associated with Wordtech Systems, Inc. patent infringement win over Integrated Network Solutions, Corp. pending in the Eastern District of California. The opinion stated (emphasis added):

However, Plaintiff also produced evidence at trial showing that the average reasonable royalty rate charged was approximately five percent and the rate charged for past-due payments was 10 percent. Therefore, **this Court finds that the California statutory rate for liquidated amounts, which is seven percent and falls in the mid-range of those rates charged for timely and past-due royalty payments, will adequately compensate Plaintiff for the instant infringement.** *Cal. Const. Art. 15, § 1*; See also *In re Hayes Microcomputer Products Inc.*, Patent Litigation, 766 F. Supp. 818, 824 (N.D. Cal. 1991) (plaintiff “failed to convince the court of the necessity to depart from the California statutory rate of seven (7) percent.”). Accordingly, Plaintiff is hereby awarded simple

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interest at seven percent accruing from the date of first infringement on each patent.<sup>7</sup>

On March 19, 2012, Hon. Cathy Ann Bencivengo of the Southern District of California explained:

In this case, for the period of time at issue, an award of 7 percent statutory interest would appear to overcompensate Warsaw and be punitive to Nuvasive. The Court finds that Warsaw is fully compensated by an award of simple interest calculated at the prime rate.<sup>8</sup>

Hon. Dana Sabraw of the Southern District of California issued an order on July 27, 2012, requiring Signet Armorlite to pay Carl Zeiss Vision International GMBH prejudgment interest on its damages of 7 percent. The judge failed to provide guidance as to compounding:

In this case, the Court finds **the statutory interest rate of seven percent is more likely to put Zeiss in the position it would have been in** had Signet entered into a reasonable royalty agreement concerning the '713 Patent. Accordingly, the Court awards prejudgment interest at the rate of seven percent on Zeiss's compensatory damages. The Court declines to award prejudgment interest on any attorneys' fees award.<sup>9</sup>

In February 2014, Southern District of California Hon. Judge Sabraw again concluded that the statutory rate was appropriate in the *KFX Medical Corp v. Arthrex Inc.* matter:

District courts in California have applied both the California statutory rate and the Treasury Bill rate...In this case, the Court finds the statutory interest rate of seven percent is more likely to put KFX in the position it would have been in had Arthrex entered into a reasonable royalty agreement concerning the patents at issue. Accordingly, the Court awards prejudgment interest at the California statutory rate of seven percent.<sup>10</sup>

In April of 2016, Hon. Judge Orrick of the Northern District of California determined that Fujifilm's suggested rate of seven percent per California Statutory interest was too high, and that Motorola's suggested

Treasury rate at simple or annual compounding was too low:

I find that the appropriate interest rate here is the prime rate, compounded quarterly. Motorola's arguments for withholding prejudgment interest altogether are not convincing, and neither party offers more than a scintilla of evidence in support of its desired rate. Absent a more conclusive record, I find that the "the prime rate more nearly approximates the position [Fujifilm] would have been in had [Motorola] entered into a reasonable royalty agreement."<sup>11</sup>

While not all judges conclude that the statutory rate is appropriate and some eschew any prejudgment interest award, judges frequently include some discussion of that rate when plaintiff (or in some cases, defendant) attorneys make reference to it as a preferred rate in their post-trial motions. Why is this important? First, the goal of prejudgment interest is "to make the patent owner whole" by recognizing and reversing the forgone opportunity value of an otherwise earlier stream of royalties:

The standard governing the award of prejudgment interest under §284 should be consistent with Congress' overriding purpose of affording patent owners complete compensation. In light of that purpose, we conclude that prejudgment interest should ordinarily be awarded. In the typical case an award of prejudgment interest is necessary to ensure that the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty agreement. An award of interest from the time that the royalty payments would have been received merely serves to make the patent owner whole, since his damages consist not only of the value of the royalty payments but also of the forgone use of the money between the time of infringement and the date of the judgment.<sup>12</sup>

The sample of cases mentioned suggests prejudgment interest is awarded with an eye on statutory rates, or based on a compromise between the statutory rate and some other rate, as much as upon the principle of full compensation. Does this make sense?

Consider the following hypothetical example: in January 2018, a Northern District of California judge affirms a jury award of \$10 million in the form of a lump

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7. *Wordtech Systems, Inc. v. Integrated Network Solutions, Inc., et al.* U.S. District for the Eastern District of California. Case No. 2:04-cv-01971-MCE-EFB, April 2009

8. *Warsaw Orthopedic, Inc. v. Nuvasive, Inc.* U.S. District for the Southern District of California. Case No. 08-cv-1512-CAB (MMD) March 2012.

9. *Carl Zeiss Vision International GMBH, et al. v. Signet Armorlite, Inc.* U.S. District for the Southern District of California. Case No. 07-cv-0894-DMS-DHB. July 2012

10. *KFX Medical Corporation v. Arthrex Incorporated*, U.S. District for the Southern District of California. Case: 3:11-cv-01698-DMS-BLM. February 2014.

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11. *FujiFilm Corporation, v. Motorola Mobility LLC*, U.S. District for the Northern District of California. Case No.:3:12-cv-03587-WHO, April 2016. (Doc 383)

12. *General Motors Corp. v. Devex Corp.*, 461 US 648 - Supreme Court 1983.

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**Figure 3. Pre-Judgment Interest Variation Based on Different Rates**

	Statutory 7% Rate		Prime Rate		
	Simple	Compounded	Average	Simple	Compounded
2012	\$700,000	\$700,000	3.25%	\$325,000	\$325,000
2013	\$700,000	\$749,000	3.25%	\$325,000	\$335,563
2014	\$700,000	\$801,430	3.25%	\$325,000	\$346,468
2015	\$700,000	\$857,530	3.26%	\$326,000	\$357,729
2016	\$700,000	\$917,557	3.51%	\$351,167	\$369,355
2017	\$700,000	\$981,786	4.10%	\$409,667	\$381,359
<b>Total</b>	<b>\$4,200,000</b>	<b>\$5,007,304</b>	<b>Total</b>	<b>\$2,061,833</b>	<b>\$2,115,473</b>

sum, to have been hypothetically agreed to and secured at a hypothetical negotiation in January 2012. What are the consequences of various prejudgment interest rates given that the statutory rate in California is 7 percent? The table above summarizes the economic consequence of using the 7 percent statutory rate, either relying on a simple annual calculation (with resulting interest of \$4,200,000), or on annual compounding (with resulting interest of \$5,007,304). The table also considers prejudgment interest given reliance on the historical prime rate (i.e., the commercial rate banks charge their most secure corporate borrowers). Where calculated using a simple annual calculation, the result using prime is \$2,061,833, whereas when calculated using annual compounding, the result using prime is \$2,115,473. As this hypothetical example shows, the choice of interest rate can create variations worth millions of dollars. See Figure 3.

The critical question amid this is which of these scenarios best fulfills the goal, “to make the patent owner whole”? The answer depends entirely upon: 1) what the patent owner would have done with the lump sum damages award; and 2) what resulting benefit the patent owner would have realized in a but-for world where it had access to that sum. The reconstruction of “but-for” investments is clouded in uncertainty, and thus subject to the cognitive bias documented by Kahneman and Tversky.

While uncertainty dominates how a prevailing party might have invested a damages award in a but-for world, the Federal Reserve makes available online and for free a plethora of historical rates of returns realized over specified periods of time.<sup>13</sup> This makes calculation of historical interest far easier than back several decades when some states enacted statutory rates. Note additionally in contrast, that when it comes to post-judgment rates, federal courts do not enjoy discretion, and

those making calculations are directed by 28 U.S.C. 1961 to rely on a specific rate made publicly available by the Federal Reserve (emphasis added):

Interest shall be allowed on any money judgment in a civil case recovered in a district court. Execution therefor may be levied by

the marshal, in any case where, by the law of the State in which such court is held, execution may be levied for interest on judgments recovered in the courts of the State. Such interest shall be calculated from the date of the entry of the judgment, at a rate equal to the weekly average 1-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System, for the calendar week preceding. [FN1] the date of the judgment... Interest shall be computed daily to the date of payment except as provided in section 2516(b) of this title and section 1304(b) of title 31, and shall be compounded annually.

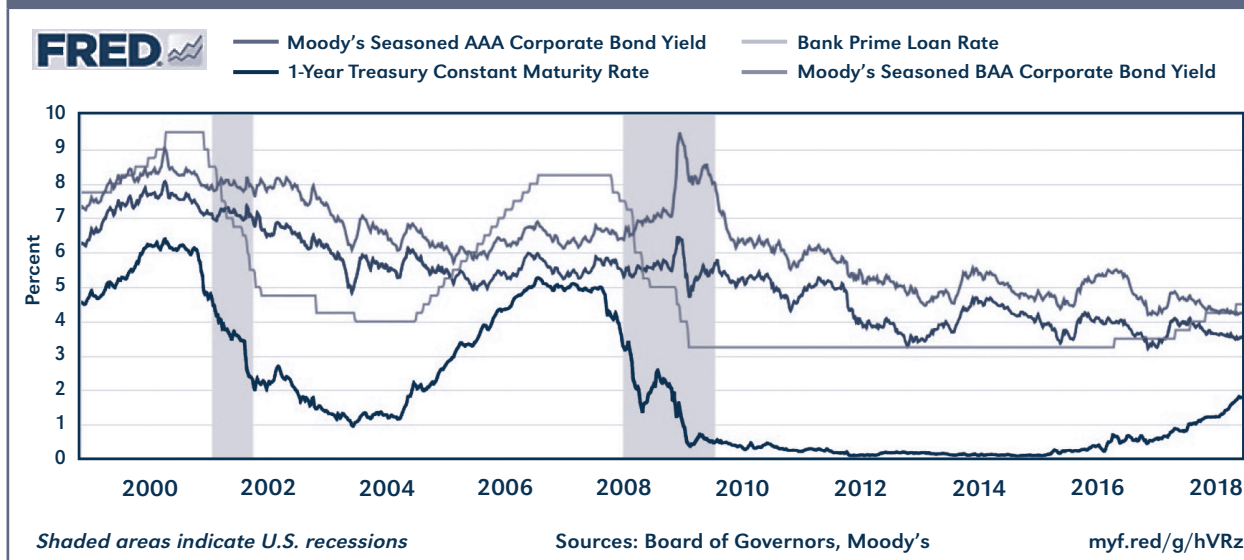
We believe that the use of public reference rates for post-judgment interest affords a better model for pre-judgment interest. Historical rates of return grounded in market-based reality are substantially more useful and appropriate as reference for prejudgment interest than a static, decades-old statutory rate. Further, reliance on historical reference rates would not deprive judges of a capacity to interpret how best to place a party “in as good a position as he would have been.” From their purview of the bench, federal judges possess broad judicial experience, but also enjoy specific experience with a case at hand that may inform unique considerations. Accordingly, they are afforded leeway in administering justice: to wit, federal judges may possess a capacity to find “willfulness” in an infringement proceeding, where the evidence supports it, thus affording a plaintiff an award that exceeds the estimate assessed by damages experts for infringement alone.

In advocating for reliance on reference rates, we seek simply to draw attention away from statutory rates that are antiquated and available for anchoring. In Figure 4 we present four available reference rates: 1) the 1-year Treasury constant maturity rate at the center of post-judgment relief, 2) the prime rate, 3) the yield on AAA corporate bonds, and 4) the yield

13. <https://fred.stlouisfed.org/>

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Figure 4. Reference Rates (2000-2018)



on BAA corporate bonds. Where a judge concludes that offsetting the effects of inflation places a plaintiff “in as good as a position as he would have been,” she could direct reliance on the 1-year Treasury constant maturity rate, the same rate afforded post-judgment interest. Where she decides that circumstances dictate departure from the effects of inflation, she could systematically increase the rate by choosing the prime rate, or the AAA corporate yield. Where the record reveals activity approaching willfulness or other commercial malfeasance, she might impose the BAA corporate yield. From such a basic “menu” of actual rates of return, judges would enjoy latitude to administer justice, avoid the pitfalls of anchoring, and tie pre-judgment to a relevant historical rate.

Finally, some discussion is merited of simple versus compounding interest. Regardless of the rate employed, our strong preference is to provide for the compounding of interest as the reasonable approach to making a patent owner whole. Why? Consider our example above. Regardless of whether one calculates interest based on a statutory 7 percent rate, prime rate, or some other reference rate, prejudgment calcu-

lations usually stretch back several years into the past, and in our example, back six calendar years. Simple interest calculation effectively says to an awardee: “We are going to take your judgment, and pretend that you invested it back on the appointed date. And then, every period, you will earn interest, and then we require that you take that earned interest and sequester it away and shield it from any ability to earn any additional rate of return.”

In this manner, reliance on a simple interest approach, especially when applied to many foregone years, necessarily requires suspension of basic financial sense. If one takes seriously the stipulation to provide for “the forgone use of the money between the time of infringement and the date of the judgment,” then the interest earned from the lost opportunity also merits earning its own rate of return (as does interest on the attendant interest). “Sequestration and shielding” of the sort conceptually demanded by simple compounding is as uneconomic as reliance on antiquated statutory rates from a bygone inflationary era. ■

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