Prejudgment Interest: W.D. Texas Got It Right In The *VLSI v. Intel* Patent Suit

By John C. Jarosz, Robert L. Vigil, and Joseph F. Maloney

Abstract

Prejudgment interest in patent cases has flown under the radar for many years. The $162.3 million award in VLSI has shined new light on it. Though its reasoning appears a bit opaque, the court appears to largely have drawn the right conclusions as a matter of economics. Prejudgment interest should adequately embody the risk/return tradeoff that every investor faces. A damages award is not, after the fact, a risky investment. It is a known and awardable amount. As such, a risk-free rate should be used to bring past damages forward to today every time.

Though it did not explain the economic reasoning underlying its decision, the court in the Western District of Texas appears to have arrived at (largely) the right answer on the amount of prejudgment interest that was appropriate in VLSI's patent suit against Intel. Following a 2021 jury verdict of $2.175 billion in VLSI's favor, the court was presented with two alternatives to bringing past damages forward to the date of the verdict (prejudgment interest). VLSI argued for use of the prime rate. Intel argued for use of the 52-week Treasury Bill (T-Bill) rate. The court found in favor of Intel, adopting the 52-week T-Bill rate, resulting in prejudgment interest damages of $162.3 million. Perhaps very consciously, perhaps not, the court was right as a matter of economics. An award based on the prime rate would have made VLSI more than whole.

I. Case Overview

In April 2019, VLSI brought suit against Intel alleging infringement of two patents—U.S. Patent Nos. 7,523,373 and 7,725,759.[1] VLSI argued that, for approximately a decade, Intel sold billions of computer chips that utilized the energy-saving and speed-optimizing technology embodied in these patents.

Following a trial that ended in March 2021, the jury found Intel liable for infringement of both patents and awarded damages of $1.5 billion for one patent and $675 million for the other patent, totaling $2.175 billion.[2]

Following the verdict, Intel argued that prejudgment interest should not be awarded. It argued that the underlying damages award was generous enough, that any interest award on top of that would be unfairly punitive, and that VLSI was a non-practicing entity.[3] The court found that there was no exceptional circumstance in this case that undermined the general rule of granting prejudgment interest and that non-practicing entities were entitled to such relief.[4] Prejudgment interest, as a result, was deemed by the court to be awardable.

As to the appropriate interest rate, VLSI asked the court to award interest at the prime rate. It characterized use of the prime rate as "standard practice" and cited numerous cases applying that rate.[5] Intel asked the court to award interest at the 52-week T-Bill rate, claiming that this rate was "the standard rate absent evidence that the patent holder is entitled to a better rate."[6] It cited numerous cases applying that rate.[7]

The court sided with Intel. Its stated rationale was that the "T-bill rate is well-accepted in federal courts and is a reasonable method of placing VLSI in a position of where it would have been had there been no infringement by Intel."[8] The court noted that use of the T-Bill rate was well within its discretion.[9]

II. Purposes of Prejudgment Interest

The patent damages statute, 35 U.S.C. Section 284, provides that:

> [u]pon finding for the claimant the court shall award the claimant 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, together with interest and costs as fixed by the court.[10]

The U.S. Supreme Court has written that a damages award should provide "complete compensation."[11]

1. *VLSI Tech. LLC v. Intel Corp.*, Memorandum Opinion and Order, U.S. Dist. LEXIS 83985, *3-4 (W.D. Texas 2022).

2. *Id.*, at *3-4.

3. *Id.*, at *4-5.

4. *Id.*, at *5-6.

5. *Id.*, at *6.

6. *Id.*, at *7.

7. *Id.*, at *7.

8. *Id.*, at *7.

9. *Id.*, at *7.

10. 35 U.S.C. Sec. 284.

11. *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983).

Prejudgment interest is one component of damages that is meant to effectuate complete compensation. The Court of Appeals for the Federal Circuit (Fed. Cir.) has written that, like any other component of monetary compensation, "the purpose of prejudgment interest is to place the patentee in as good a position as [it] would have been had the infringer paid a reasonable royalty rather than infringe."[12] Moreover, "the award of pre-judgment interest is the rule, not the exception."[13]

The U.S. Supreme Court has added, however, that because interest is "fixed by the court," a district court has some discretion to decide whether to award prejudgment interest.[14] According to the Court, "it may be appropriate to limit prejudgment interest, or perhaps even to deny it altogether, where [for instance] the patent owner has been responsible for undue delay in prosecuting the lawsuit."[15] Reiterating that the refusal to grant prejudgment interest should be rare, the Federal Circuit in *Kaufman v. Microsoft* recently wrote that the patent owner's five-year delay in filing suit was neither "undue" nor "prejudicial" to Microsoft; prejudgment interest should be awarded in the case at hand.[16]

III. Importance of Prejudgment Interest

Prejudgment interest has generated limited attention in the world of, sometimes eye-popping, patent damages awards.[17] That is likely the case for one or more of three reasons. First, many patent damages cases cover a limited number of historical years. Because many do not go very far back in time, the adjustment to bring damages forward is reasonably insignificant. Second, there are not many eye-popping damages awards. A time value of money adjustment on top of a modest damages award is a modest adjustment. Third, for many years, interest rates have been modest. Because of that, applying a time value of money adjustment to any level of award has been relatively insignificant.

As the VLSI case shows, prejudgment interest can matter, and increasingly does. Big damages award cases can and do have big prejudgment interest awards. Though the percentage of the total award encompassing prejudgment interest may be no different in a big case than a small case, the absolute amounts in big cases are much more noticeable. Prejudgment interest of $162.3 million in the VLSI case as a percentage of the total award was "only" seven percent of the total award. Undoubtedly, $162.3 million is a lot of money to anyone.

Prejudgment interest damages can be particularly important when interest rates are high and, as we know, interest rates are on the rise. Figure 1 below shows the progression of the 52-week T-Bill rate over the last two years, and the market's expectation of the rate over the next two years.

Prejudgment interest damages can be particularly noticeable when interest is compounded over several years. For example, applying an assumed prejudgment interest rate of 3.00 percent to a damages award of $50 million results in a single year of prejudgment interest of $1.5 million. But, applying that over five years, assuming annual compounding, results in prejudgment interest of $8.0 million. That is shown in Figure 2.

As revealed in VLSI, different interest rate proposals can lead to a large spread in prejudgment interest amounts. VLSI's proposal, using the prime rate, resulted in potential prejudgment interest damages of $846.7 million. Intel's proposal for the same damages period using the 52-week T-Bill rate resulted in prejudgment interest damages of $162.3 million. A fivefold difference in prejudgment interest is likely to matter to both litigating parties and is likely to be a source of great litigation friction. If not, it should be.

IV. Calculation of Prejudgment Interest

Though it provided limited description of its reasoning, the court in VLSI got many things right.

First, as a matter of economics, prejudgment interest should be awarded in every case in which there are past damages. This is because time is valuable and, in

■ John C. Jarosz,
Managing Principal,
Analysis Group Inc.,
Washington, DC, USA
E-mail: John.Jarosz@analysisgroup.com

■ Robert L. Vigil,
Principal,
Analysis Group Inc.,
Washington, DC, USA
E-mail: Robert.Vigil@analysisgroup.com

■ Joseph F. Maloney,
Manager,
Analysis Group Inc.,
Washington, DC, USA
E-mail: Joseph.Maloney@analysisgroup.com

12. *SSL Servs., LLC v. Citrix Sys.*, 769 F.3d 1073, 1094 (Fed. Cir. 2014).

13. *Energy Transport. Group, Inc. v. William Demant Holding A/S*, 697 F.3d 1342, 1358 (Fed. Cir. 2012).

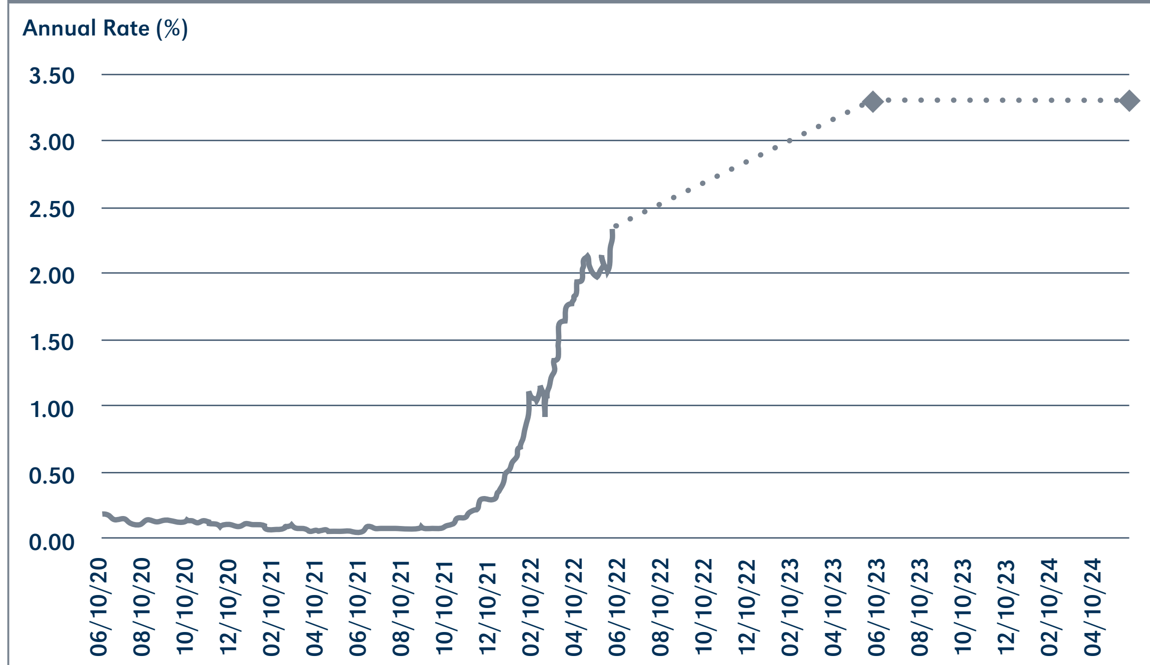
14. *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 656-57 (1983).

15. *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 656-57 (1983).

16. *Michael Philip Kaufman v. Microsoft Corp.*, Cases 2021-1634; 2021-1691 (Fed. Cir. 2022).

17. For example, while annual "year in review" patent litigation reports from companies such as Docket Navigator provide highlights on notable decisions on liability, damages, injunctive relief, and attorney fees, they rarely mention decisions on prejudgment interest. See, *e.g.*, "2021 Patent Litigation Year In Review," Docket Navigator, January 2022, pp. 18-19, *https://brochure.docketnavigator.com/2021-year-in-review/*.

Figure 1: 1-Year Constant-Maturity U.S. Treasury Rate (In Percent Per Year)



Notes:
The solid line is the market yield on 1-year U.S. Treasury Securities from the Board of Governors of the Federal Reserve, Release H.15 Selected Interest Rates. The dotted line reflects the implied expected 1-year yield one and two years going forward, based on the Treasury yield curve as of June 9, 2022, from the U.S. Department of the Treasury.

Figure 2: Interest Accrual Over Five years Assuming $50 Million Damages Award and 3.00% Prejudgment Interest Rate

	Year 1	Year 2	Year 3	Year 4	Year 5
Starting Balance	$50,000,000	$51,500,000	$53,045,000	$54,636,350	$56,275,441
Interest Accrued	$1,500,000	$1,545,000	$1,591,350	$1,639,091	$1,688,263
Ending Balance	$51,500,000	$53,045,000	$54,636,350	$56,275,441	$57,963,704
Cumulative Interest	$1,500,000	$3,045,000	$4,636,350	$6,275,441	$7,963,704

Notes:
Interest Accrued = Starting Balance × 3.00%.
Ending Balance = Starting Balance + Interest Accrued.
Cumulative Interest = Cumulative Interest (Prior Years) + Interest Accrued (Current Year).

the absence of compensatory interest, the passage of time forecloses on valuable investment opportunities.[18] Economics supports awarding prejudgment interest in every case.

The law provides that prejudgment interest is the "general rule" in patent damages cases.[19] Exceptions to the rule can be and are granted when it is found that the patent owner delayed in bringing suit, for instance, and the infringer has been prejudiced. No exceptional circumstances were found to exist in VLSI. Moreover, the exceptions, in VLSI and beyond, are not economic, but punitive. Though we are not disputing that courts may and often do consider the nature of the parties' actions prior to litigation, economic principles underlying the "make whole" standard do not. Not finding any

18. Jonathan Berk and Peter DeMarzo, "Corporate Finance," 5th Ed. (*Harlow, England: Pearson*, 2020), 99 ("In general, a dollar today is worth more than a dollar in one year. If you have $1 today, you can invest it. For example, if you deposit it in a bank account paying 7% interest, you will have $1.07 at the end of one year. We call the difference in value between money today and money in the future the time value of money.").

19. *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655-66 (1983).

Figure 3: Effect of Compounding Interest
Assuming $50 Million Damages Award and 3.00% Prejudgment Interest Rate

	Year 1	Year 2	Year 3	Year 4	Year 5
Compound Interest	$1,500,000	$1,545,000	$1,591,350	$1,639,091	$1,688,263
Cumulative Interest	$1,500,000	$3,045,000	$4,636,350	$6,275,441	$7,963,704
Simple Interest	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000
Cumulative Interest	$1,500,000	$3,000,000	$4,500,000	$6,000,000	$7,500,000
Annual Difference (%)	0%	3%	6%	9%	13%
Cumulative Difference (%)	0%	1%	3%	5%	6%

Notes:
Annual Difference (%) = Compound Interest / Simple Interest – 1.
Cumulative Difference (%) = Cumulative Compound Interest / Cumulative Simple Interest – 1.

exception to be appropriate, the VLSI award comported with standard economic principles.

Second, as a matter of economics, prejudgment interest should be computed on a compound basis, as the court did in VLSI. Compound interest allows for interest to be earned on interest. Simple interest, in contrast, only allows for interest to be earned on principal. Figure 3 shows the difference in interest amounts using simple versus compound interest over five years for the same $50 million initial damages award and an assumed 3.00 percent annual interest rate. The figure shows that the difference in cumulative interest under these two approaches can be significant.

In the real world, interest almost always is earned on interest. Some exceptions include certain Treasury Bills, certain agency securities, commercial paper, bankers' acceptances, and other generally short-term securities that are issued on a discount basis.[20] Even for such securities, however, investors can and do reinvest the proceeds of maturing issues in other securities at prevailing yields to earn a return that reflects the benefits of compounding.

Under the law, patent courts have discretion to award compound or simple interest[21] and some patent courts have chosen the latter.[22] Those choices, however are not economic in nature, as they do not place the patent owner in the same position it would have been in but for the infringement, *i.e.*, the patent owner is not made whole.

Third, as a matter of economics, use of the T-Bill rate is more appropriate than use of the prime rate. And that is what the court used in VLSI.

Every interest rate includes a base, or risk-free, component (primarily to account for the passage of time) and a risk premium.[23] The appropriate interest rate in every case is one that fairly compensates the injured (or investing) party for the time value of money while properly accounting for risk. There is no question that an injured party did not, in fact, have access to the damages amount during the damages period. As a result, it was denied the opportunity to utilize the proceeds in any number of risk-bearing ventures, *i.e.*, it was denied the opportunity to bear risk. Some of those ventures may have yielded very high returns. Some may have yielded very low returns, or even lost principal. Regardless, those risks were not borne and, therefore, no risk premium should be awarded. Risk premiums, which are embedded in the prime rate,[24] should be granted only to those investors who actually bear risks.

The risk/return trade-off makes common sense. People or companies will only invest their hard-earned capital if the expected return is high enough to compensate for the expected risk of the investment. For example, investors in high-tech stocks expect a much higher return than investors in U.S. T-Bills. However, this does not mean that the higher return from the high-tech stock is automatic or risk-free. In fact, just the opposite is true. Individual high-tech investments

20. Frank J. Fabozzi and Steven V. Mann, "The Handbook of Fixed Income Securities," 7th Ed. (*New York: McGraw-Hill*, 2005), 230-231, 242, 288, 290.

21. *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1555 (Fed. Cir. 1995).

22. See, *e.g.*, *Union Carbide Chems. Plastics Tech. Corp. v. Shell Oil Co.*, Civ. Nos. 99-CV-274-SLR (Consolidated), 99-846-SLR, 51 (D. Del. 2004); *Gyromat Corp. v. Champion Spark Plug Co.*, 735 F.2d 549, 556-57 (Fed. Cir. 1984).

23. See, *e.g.*, Zvi Bodie, Alex Kane, and Alan Marcus, "Investments," 12th Ed. (*New York: McGraw-Hill*, 2021), 130.

24. The risk premium in any rate is affected by a variety of factors, including 1) the type of issuer; 2) the issuer's perceived creditworthiness; 3) the term or maturity of the instrument; 4) provisions that grant options; 5) the taxability of the interest; and 6) the expected liquidity of the issue. See, *e.g.*, Frank J. Fabozzi, "The Handbook of Fixed Income Securities," 7th Ed. (*New York: McGraw-Hill*, 2005), 135-39.

can be lost entirely or can result in huge profits. The higher expected return on high-tech stocks is only available to investors on average and across many years. In other words, if investors could earn this higher expected return over relatively short periods of time and with no additional risk, they would enjoy a "free lunch." In essence, investors would be able to earn a high rate of return for free.

Though we cannot tell whether this argument was presented in VLSI, proponents of using an interest rate like the prime rate often argue that it is equivalent to assuming that the injured party loaned the damages amount to the infringer at loan terms that specified the prime rate. If this were true, the injured party would have been exposed to risk—the possibility that the infringer would be unable to meet its repayment obligations, in whole or in part. In the case of an after-the-fact damages award, the injured party will not and has not borne this risk. Because the injured party is entitled to a specified damages award, and nothing less, it is not subject to any risks, like a default risk, that are embedded in a risk premium meant to compensate the investor/injured party. Awarding a rate higher than the risk-free rate, such as the prime rate, would increase damages substantially and inappropriately. It would leave the injured party in a better position than it would have been in had the damages not occurred. An injured party is entitled to interest that compensates it for the risks that it bore, and no more. In the case of an after-the-fact damages award, that is the risk-free return on U.S. government securities.

Some academic papers have taken the view that the appropriate prejudgment interest rate is the defendant's borrowing rate.[25] The logic is that the defendant "forced" the injured party to lend it funds, and the defendant should be required to pay back that "forced loan" at its conventional borrowing rate. This argument has great appeal, particularly from an *ex-ante* (pre-damages period) perspective. Its primary shortcoming is that damages are determined *ex-post*, at which point there is knowledge as to whether the defendant has defaulted or not. Moreover, provisions are often in place (through, for instance, insurance coverage) allowing for the payment of damages. No premium needs to be paid for default risk that is likely embedded in a defendant's borrowing rate.

Though we cannot tell whether this argument was presented in VLSI, proponents of using the prime rate often point to its presumed ubiquity. In fact, prejudgment interest rates range widely and include the U.S. T-Bill rate, the prime rate, the state statutory rate, corporate bond rates, a set percentage rate, the rate the injured party actually paid for borrowed funds, and the rate the injured party actually earned on spare cash. Despite such variation in the rate employed, a study of patent and trademark damages in the mid-2000s, which appears to be the most recent systematic study available, found that prejudgment interest was then most frequently awarded using the T-Bill rate. The authors reported,

> …since 2000, Treasury Bills have surpassed the prime rate as the most common benchmark because judges and juries consider them to be a more widely accepted risk-free rate and believe that the IP holder should not profit from taking risk with 2020 hindsight.[26]

Finally, the VLSI court's use of the 52-week T-Bill rate may not have been correct as a matter of economics. A 52-week rate is greater than a short-term (30-day) rate because interest rate risk is built into the longer instrument. That is, an investor is granted a rate with a premium because the investor has forfeited the option of having its principal returned and allowing it to invest in a higher yield instrument if the interest rates increase over the 52-week period. A short-term (30 day) T-Bill rate does not allow the investor a return for a risk it did not bear. This is consistent with the foundational 1993 paper analyzing stock and bond returns published by Nobel Laureate Eugene F. Fama and Kenneth R. French who used the one-month Treasury bill to measure the risk-free rate.[27]

Arguably, the term of the rate could be pegged to the period of infringement. In that case, the term of the T-Bill rate would change over time, with the furthest away damages entitled to the highest term premium and the nearest being entitled to the lowest term premium. As noted above, however, this would be granting the injured party compensation for the risk of being unable to respond to short term movements in interest rates. Though not voluntary, that risk has been removed *ex-post*. The injured party is entitled to

25. See, *e.g.*, James M. Patell, Roman L. Weil, and Mark A. Wolfson, "Accumulating Damages in Litigation: The Roles of Uncertainty and Interest Rates." *Journal of Legal Studies 11*, no. 2 (June 1982): 341-64; Franklin M. Fisher and R. Craig Romaine, "Janis Joplin Yearbook and the Theory of Damages," *Journal of Accounting, Auditing, and Finance 5*, no. 1 (January 1990); Knoll, Michael S., and Jeffrey M. Colon, "The Calculation of Prejudgment Interest," *Faculty Scholarship at Penn Law 114* (May 2005).

26. PwC Advisory Crisis Management, "2006 Patent and Trademark Damages Study," at 24.

27. See Eugene F. Fama and Kenneth R. French, "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics 33*, no. 1 (February 1993): 20 ("RF [the risk-free rate] is the one-month Treasury bill rate."). Fama and French continue to use the one-month Treasury bill rate as the risk-free rate today. See, *e.g.*, Kenneth R. French, "Description of Fama/French Factors," accessed June 13, 2022, *https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/Data_Library/f-f_factors.html*.

its full principal. As a result, a premium should not be awarded for risk not actually incurred *ex-post.*

In reality, there is often a limited difference, as shown in Figure 4, between the 30-day and 52-week T-Bill rate. In the period shown, the average premium of the 52-week rate above the 30-day rate was only 0.28 percentage points.[28] In comparison, the average premium for the prime rate above the 30-day T-Bill rate over the same period was 3.23 percentage points.[29]

When adopting the T-Bill rate, courts almost always adopt the readily available 52-week T-Bill rate. The VLSI court was very close to getting it entirely right on prejudgment interest, but certainly was on the right side of economic logic.

V. Conclusion

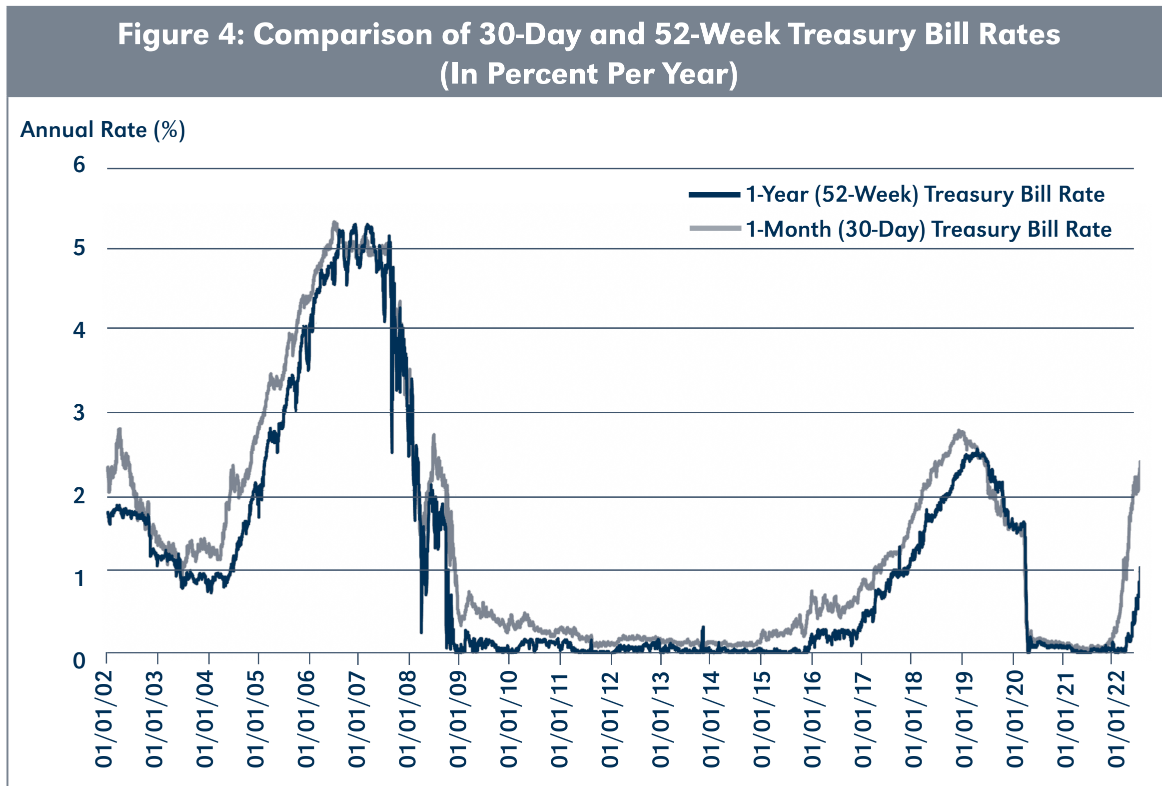
Prejudgment interest in patent cases has flown under the radar for many years. The $162.3 million award in VLSI has shined new light on it. Though its reasoning appears a bit opaque, the court appears to largely have drawn the right conclusions as a matter of economics. Prejudgment interest should adequately embody the risk/return tradeoff that every investor faces. A damages award is not, after the fact, a risky investment. It is a known and awardable amount. As such, a risk-free rate should be used to bring past damages forward to today every time. ■

Available at Social Science Research Network (SSRN): *https://ssrn.com/abstract=4179565*.

Disclosure Statement:

The views presented in this article are those of the authors and do not necessarily reflect those of Analysis Group, its affiliates, or its clients.

Figure 4: Comparison of 30-Day and 52-Week Treasury Bill Rates (In Percent Per Year)



Notes:
From the Board of Governors of the Federal Reserve, Release H.15 Selected Interest Rates.
Rates shown reflect constant-maturity rates quoted on an investment basis.

28. The premium is calculated as the rate on the 52-week U.S. Treasury minus the rate on the 30-day U.S. Treasury on the same day. The average of this premium across all days from January 2, 2002 through June 9, 2022 is .28 percentage points.

29. The premium is calculated as the prime rate minus the rate on the 30-day U.S. Treasury on the same day. The average of this premium across all days from January 2, 2002 through June 9, 2022 is 3.23 percentage points.