VALUING UNCERTAIN TRADE SECRETS: EPISTEMIC BOUNDARIES OF THE REASONABLE ROYALTIES REMEDY

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ABSTRACT

Reasonable royalties as a remedy for trade secret misappropriation presents a paradox. The Uniform Trade Secrets Act and the Defend Trade Secrets Act authorize reasonable royalties, only when actual damages and unjust enrichment cannot be proven. But courts are poorly equipped to construct the requisite counterfactual scenario (where the parties bargained to license the trade secret) where the record lacks sufficient facts. The result is doctrinal confusion, where some courts treat reasonable royalties as a default remedy whenever conventional measures fall short, while others are very hesitant to award them. This Article resolves the tension by recognizing different types of reasonable-royalty cases. Reasonable royalties work tolerably well for "market-anchored" secrets but are deeply problematic for "uncertain-value" secrets. Courts can use this distinction to render more consistent rulings on the appropriateness of reasonable-royalty remedies.

Market-anchored cases involve secrets that have been licensed, valued internally, or otherwise subjected to market discipline. Courts can reconstruct hypothetical negotiations by interpreting evidence that shows what parties actually agreed to in comparable circumstances.

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Uncertain-value cases involve secrets that lack any valuation anchor. Courts asked to award reasonable royalties in such cases must engage in unconstrained price-setting, rather than judicial interpretation of market evidence.

Drawing on Frank Knight's distinction between risk and uncertainty and on Guido Calabresi and A. Douglas Melamed's property-rule versus liability-rule framework, this Article shows why uncertain-value secrets present distinct challenges for judicial valuation. It proposes a calibration principle: courts should require plaintiffs to demonstrate meaningful price-discovery evidence before authorizing reasonable royalties and should presume the remedy unavailable for uncertain-value secrets. Sorrento Therapeutics, Inc. v. Mack, provides a proof of concept: enforcing the statutory precondition and recognizing epistemic limits courts face when asked to price assets that markets have never valued.

INTRODUCTION

In Sorrento Therapeutics, Inc. v. Mack, the Delaware Court of Chancery confronted a now-familiar remedial move in trade secret litigation.[1] The plaintiff's' damages case had largely fallen apart.[2] Their expert's lost-profits and unjust-enrichment models were excluded as speculative or untethered to the misappropriation.[3] What remained was a request for a "reasonable royalty," under California's version of the Uniform Trade Secrets Act, which permits courts to "order payment of a reasonable royalty for no longer than the period of time the use could have been prohibited" if "neither damages nor unjust

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[1] *See* Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *1–3 (Del. Ch. July 31, 2025).
[2] *Id.* at *18–19, 34–35.
[3] *Id.*

enrichment caused by misappropriation are provable."[4] Rather than treat that language as an invitation to improvise a number, Vice Chancellor Fioravanti refused to award any royalty at all.[5] He held that the statutory precondition was not satisfied and that the plaintiff's expert had improperly anchored the proposed royalty to the very lost-profits and unjust-enrichment figures the statute treated as unavailable.[6]

Sorrento is the latest chapter in an ongoing debate about reasonable royalties in trade secret law.[7] Courts and commentators have long described the reasonable royalty as a "fallback" or "safety valve" for situations in which lost profits are too speculative and the defendant's gains too difficult to trace.[8] The Uniform Trade Secrets Act and the federal Defend Trade Secrets Act both authorize reasonable royalties when actual damages and unjust enrichment cannot be proven.[9] In practice, however, courts have applied the remedy inconsistently.[10] Some treat it as freely

[4] *Id.* at *31–36; Cal. Civ. Code § 3426.3(b).
[5] *See Sorrento*, 2025 Del. Ch. LEXIS 195, at *36.
[6] *Id.* at *33–36.
[7] *See id.* at *31–36.
[8] *See* 4 ROGER M. MILGRIM, MILGRIM ON TRADE SECRETS § 15.02[1][a] (2024) (describing reasonable royalties as available "in rare instances, such as where plaintiff cannot prove damages *and* there is no unjust enrichment").
[9] UNIF. TRADE SECRETS ACT § 3(b) (UNIF. L. COMM'N 1985); 18 U.S.C. § 1836(b)(3)(B)(ii) (2016).
[10] *Compare* Mid-Michigan Computer Sys., Inc. v. Marc Glassman, Inc., 416 F.3d 505, 512–13 (6th Cir. 2005) (upholding $2 million reasonable royalty based on contractual liquidated damages clause of $50,000 per pharmacy location), *with* AirFacts, Inc. v. de Amezaga, 909 F.3d 84, 93–95 (4th Cir. 2018) (vacating denial of damages but requiring evidence beyond defendant's revenues to support reasonable royalty for airline software trade secrets). *See also* Jay L. Koh, From Hoops to Hard Drives: An Accession Law Approach to The Inevitable Misappropriation of Trade Secrets, 48 AMULR 271, 299–304 (Dec. 1998).

available whenever conventional measures fall short.[11] Others, like *Sorrento*, insist that the statutory precondition requires genuine proof of unavailability and that the hypothetical negotiation framework must rest on something more substantial than expert speculation.[12]

This Article makes a straightforward but consequential claim: reasonable royalties work tolerably well for market-anchored secrets but become problematic for uncertain-value secrets. When a secret has been licensed, valued internally, or otherwise subjected to market discipline, courts can use the hypothetical negotiation framework to estimate what willing parties would have agreed to. When a secret has never been licensed, has no documented internal valuation, and produces no traceable revenue, courts face what Frank Knight famously called "uncertainty" rather than mere "risk."[13] This hypothetical negotiation asks judges to imagine what a willing licensor and willing licensee would have agreed to at a moment when neither party knew whether the secret had value.[14] That exercise becomes speculative in a way that runs headlong into the foundational principle that damages may not rest on conjecture.[15]

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[11] *See, e.g.*, Ajaxo, Inc. v. E*Trade Fin. Corp., 187 Cal. App. 4th 1295, 1300 (2010) (holding that unjust enrichment is "not provable" for purposes of the reasonable royalty provision whenever the jury finds the defendant was not enriched, even if the plaintiff presented evidence on the issue at trial).

[12] *See* Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *31–36. (Del. Ch. July 31, 2025).

[13] FRANK H. KNIGHT, RISK, UNCERTAINTY AND PROFIT 233–35 (1921).

[14] *See* University Computing Co. v. Lykes-Youngstown Corp., 504 F.2d 518 (5th Cir. 1974).

[15] *See* Bigelow v. RKO Radio Pictures, Inc., 327 U.S. 251, 264 (1946) ("The most elementary conceptions of justice *and* public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created.").

The argument unfolds in three parts. Part I surveys the statutory architecture and doctrinal landscape. It identifies three families of reasonable royalty cases along a spectrum:

(1) market-anchored cases where licensing history or contractual provisions supply concrete valuation evidence;
(2) thin-evidence cases where some market comparables exist but require substantial judicial gap-filling; and
(3) uncertain-value cases where no meaningful anchor exists at all.

The statutory precondition functions most coherently when applied to this spectrum. Reasonable royalties work well for market-anchored cases, but require careful scrutiny for thin-evidence cases, and become problematic for uncertain-value cases.

Part II develops the theoretical case for skeptically treating uncertain-value royalties. It begins with Knight's distinction between risk and uncertainty and shows how that distinction applies to trade secret valuation.[16] When secrets have market anchors, parties face calculable risk. When secrets lack such anchors, parties face Knightian uncertainty, where even probability distributions cannot be specified.[17] Part II then draws on Guido Calabresi and A. Douglas Melamed's property-rule versus liability-rule framework to explain why reasonable royalties convert trade secret protection from exclusionary rights into court-priced licenses.[18] That conversion may be justified when courts have reliable valuation information, but it becomes

[16] KNIGHT, *supra* note 13, at 233–35.
[17] *Id.*
[18] Guido Calabresi & Alan Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1092–93 (1972).

arbitrary when no such information exists. Part II concludes by showing why the hypothetical negotiation framework breaks down when applied to uncertain-value secrets.

Part III proposes a calibration principle: courts should require plaintiffs to demonstrate meaningful price-discovery evidence before authorizing reasonable royalties and should presume the remedy unavailable for uncertain-value secrets. *Sorrento* provides a proof of concept.[19] The opinion enforces the statutory precondition and recognizes an epistemic boundary between what courts can interpret from market evidence and what they cannot know at all.[20] Part III applies the calibration principle to paradigm cases and shows how it clarifies the proper role of expert testimony in reasonable royalty litigation.

This Article offers a modest way to organize a persistent doctrinal puzzle. Trade secret law has borrowed the reasonable royalty remedy from patent law, without fully adapting it to trade secret's distinctive features.[21] Unlike patents, trade secrets have no fixed duration, no public disclosure requirement, and no guarantee of exclusivity. The hypothetical negotiation must account for possibilities that patentees need not consider: independent development, reverse engineering, and lawful discovery. More fundamentally, trade secrets often reach litigation without ever being subjected to a market valuation. Courts asked to award reasonable royalties in such cases must decide whether to engage in unconstrained price-setting or to acknowledge the limits of judicial competence. The calibration principle suggests courts should choose the latter course.

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[19] *See* Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *31–36 (Del. Ch. July 31, 2025)

[20] *Id.*

[21] Douglas G. Smith, Application of Patent Law Damages Analysis to Trade Secret Misappropriation Claims, 25 SEATTLE U. L. REV. 821, 823–24 (2002)

I. THE STATUTORY FRAMEWORK AND THREE FAMILIES OF CASES

The reasonable royalty provision in trade secret law presents a problem. The statutory text treats it as a conditional, last-resort remedy, available only when actual damages and unjust enrichment cannot be proven.[22] Yet courts have borrowed the hypothetical negotiation framework from patent law, where reasonable royalties function as a standard measure whenever infringement is proven.[23] This Part resolves the puzzle by showing that reasonable royalty cases fall along a spectrum based on the availability of market anchors for valuation. At one end lie cases where licensing history, contractual provisions, or documented valuations supply concrete evidence of value. At the other end lie cases where no such evidence exists and courts must engage in unconstrained price-setting. In between lies a middle category where thin evidence provides some guidance but leaves substantial uncertainty about value. The statutory precondition functions most coherently when applied to this spectrum: reasonable royalties work well for market-anchored cases, but require careful scrutiny for thin-evidence cases, and become problematic for uncertain-value cases.

A. The UTSA and DTSA Text

The Uniform Trade Secrets Act establishes a remedial hierarchy. Section 3(a) provides that damages can include both the actual loss caused by misappropriation and the unjust enrichment caused by misappropriation that is

[22] UNIF. TRADE SECRETS ACT § 3(b) (UNIF. L. COMM'N 1985); 18 U.S.C. § 1836(b)(3)(B)(ii) (2016).
[23] Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120–21 (S.D.N.Y. 1970)

not taken into account in computing actual loss.[24] This dual measure allows plaintiffs to recover either their own losses or the defendant's gains, whichever is greater, or if they do not overlap they can recover both.[25] The statute thus prioritizes compensation tethered to proven economic harm.[26]

Section 3(b) then adds a conditional remedy: "If neither damages nor unjust enrichment caused by misappropriation are provable, the court may order payment of a reasonable royalty for no longer than the period of time the use could have been prohibited."[27] The text signals several important limitations.[28] First, the reasonable royalty is available only when actual damages and unjust enrichment are not provable. Second, the remedy is discretionary ("may order") rather than mandatory.[29] Third, the duration is capped at the period during which injunctive relief could have prevented use.[30] This structure suggests that reasonable royalties function as a safety valve rather than a primary remedy.

It authorizes damages for actual loss and unjust enrichment under 18 U.S.C. § 1836 (b)(3)(B)(i), and provides that reasonable royalty damages may be awarded if neither damages nor unjust enrichment caused by the misappropriation are provable.[31] The DTSA's legislative history indicates that Congress intended to harmonize

[24] UNIF. TRADE SECRETS ACT § 3(a) (UNIF. L. COMM'N 1985).
[25] *Id.* (The dual recovery provision prevents double counting but does not limit plaintiffs to one measure or the other); *See* MILGRIM, *supra* note 8, § 15.02[3][a] (2024) (explaining that plaintiffs may recover both actual loss *and* unjust enrichment so long as the unjust enrichment "is not taken into account in computing actual loss").
[26] UNIF. TRADE SECRETS ACT § 3(a), 3(b) (UNIF. L. COMM'N 1985).
[27] UNIF. TRADE SECRETS ACT § 3(b) (UNIF. L. COMM'N 1985).
[28] *Id.*
[29] *Id.*
[30] *Id.*
[31] 18 U.S.C. § 1836(b)(3)(B)(ii) (2016).

federal remedy provisions with the UTSA's approach, while providing a federal forum for trade secret litigation involving interstate or international commerce.[32]

Courts and commentators have long described the reasonable royalty as a fallback or a last-resort remedy. As MILGRIM ON TRADE SECRETS explains, reasonable royalties are available "in rare instances, such as where plaintiff cannot prove damages and there is no unjust enrichment."[33] This characterization reflects the remedy's subsidiary role in the statutory scheme. Unlike patent law, where reasonable royalties serve as a standard measure when infringement is proven but lost profits cannot be established, trade secret law treats royalties as an exceptional remedy conditioned on the unavailability of more direct compensation measures.

The statutory precondition has generated interpretive disputes.[34] Some courts read "not provable" to mean that plaintiffs must affirmatively demonstrate the unavailability of both actual damages and unjust enrichment before seeking a royalty.[35] In other courts "not provable" is satisfied whenever the evidence fails to

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[32] *See* S. Rep. No. 114-220, at 6–8 (2016) (explaining that DTSA remedies provisions were modeled on UTSA framework to provide consistency across state *and* federal trade secret law).

[33] MILGRIM, *supra* note 8, § 15.02[1][a] (emphasis added).

[34] Compare Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *37–43 (Del. Ch. July 31, 2025) (holding that plaintiffs must affirmatively demonstrate that both actual damages *and* unjust enrichment are unavailable before reasonable royalties may be considered), *with* TXCO Res., Inc. v. Peregrine Petroleum, L.L.C., 475 B.R. 781, 821-23 (Bankr. W.D. Tex. 2012) (treating reasonable royalty as available when lost profits cannot be proven with reasonable certainty, without requiring affirmative showing that unjust enrichment is also unavailable).

[35] *See Sorrento*, 2025 Del. Ch. LEXIS 195, at *37–43 (holding that plaintiffs must affirmatively demonstrate that both actual damages *and* unjust enrichment are unavailable before reasonable royalties may be considered).

establish damages or unjust enrichment with reasonable certainty.[36] The difference matters: the former reading imposes a heightened burden on plaintiffs, while the latter allows reasonable royalties, whenever conventional damage measures fall short. The statutory text supports the stricter reading. By requiring that "neither" measure be provable, the statute suggests a conjunctive precondition: both avenues must be closed before the court may turn to the hypothetical negotiation framework.

B. The Hypothetical Negotiation Framework

When the statutory preconditions are satisfied, courts calculate reasonable royalties using a hypothetical negotiation methodology borrowed from patent law. The framework asks what a willing licensor and willing licensee would have agreed to in an arms-length transaction at the time misappropriation began.[37] Courts instruct juries to imagine that the parties sat down to negotiate a license knowing what they knew then, not what became apparent later during litigation.[38]

The approach has deep roots in trade secret jurisprudence. In *University Computing Co. v. Lykes-Youngstown Corp.*, the Fifth Circuit endorsed using "the actual value of what has been appropriated" as the measure of reasonable royalty damages.[39] The court emphasized flexibility, noting that trade secret valuation often requires

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[36] *See TXCO Res., Inc.*, 475 B.R. at 821–23 (treating reasonable royalty as available when lost profits cannot be proven *with* reasonable certainty, without requiring affirmative showing that unjust enrichment is also unavailable).
[37] *See* MILGRIM, *supra* note 8, § 15.02[3][b][ii] (describing hypothetical negotiation as asking what "a willing buyer *and* a willing seller would have agreed to at the time of the misappropriation").
[38] *Id.*
[39] Univ. Computing Co. v. Lykes-Youngstown Corp., 504 F.2d 518, 539 (5th Cir. 1974).

consideration of factors that would be irrelevant in patent cases, including the secrecy itself and the possibility of independent development or reverse engineering.[40] Patent damages assume a fixed term of exclusivity; trade secret damages must account for the possibility that the defendant could have lawfully obtained the information through alternative means.[41]

The hypothetical negotiation framework provides structure, but it does not eliminate indeterminacy. Courts typically instruct experts and juries to consider factors such as:

(1) the nature and value of the secret;
(2) the plaintiff's licensing history, if any;
(3) the defendant's expected profits from use of the secret;
(4) the duration of the defendant's competitive advantage;
(5) development costs the defendant avoided;
(6) industry practices regarding similar technology; and
(7) any other relevant economic evidence.[42]

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[40] *Id.*

[41] *See* MPEP § 1540 (9th ed. Rev. 31, Jan. 2024) (describing the limited term of patent exclusivity); RESTATEMENT (THIRD) OF UNFAIR COMPETITION § 43 (recognizing independent development *and* reverse engineering as lawful means of acquisition).

[42] These factors are adapted from the Georgia-Pacific factors used in patent reasonable royalty analysis, setting forth 15 factors for calculating reasonable royalty in patent cases. Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970). Trade secret courts have modified these factors to account for differences between patent *and* trade secret law, including the absence of fixed exclusivity periods and the possibility of lawful independent development. *See* Univ. Computing Co. v. Lykes-Youngstown Corp., 504 F.2d 518, 538–39 (5th Cir. 1974) (adapting the Georgia-Pacific factors for trade secret claims and condensing them into five factors addressing competitive posture, licensing history, development costs, intended use, and availability of alternatives); Myriad Dev., Inc. v.

These factors echo the *Georgia-Pacific* factors familiar in patent law, but trade secret courts have adapted them to fit a context where exclusivity is contingent rather than guaranteed.[43]

The framework assumes that valuation is difficult but not impossible. It presupposes that parties operating in good faith could reach an agreement on price even if the negotiation would be complex. That assumption holds reasonably well when the secret has been commercialized, licensed to others, or otherwise subjected to market discipline. That assumption becomes problematic when the secret's value is genuinely uncertain at the time of misappropriation, a point we develop in Part II.

C. Three Reasonable Royalty Families

Reasonable royalty cases fall into three families based on the strength of the evidentiary foundation. These families represent points along a spectrum rather than rigid categories. Cases at the market-anchored end supply concrete valuation evidence. Cases at the uncertain-value end lack any meaningful anchor. Cases in the middle have some evidence but require substantial judicial gap-filling.

1. Market-Anchored Royalties

Market-anchored cases involve secrets that have been licensed, valued internally, or otherwise subjected to market discipline before misappropriation. These cases provide concrete evidence of what parties actually agreed to or would have agreed to in arms-length transactions. The

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Alltech, Inc., 817 F. Supp. 2d 946, 971–73 (W.D. Tex. 2011) (applying the adapted five-factor test). *Cf.* Silverthorne Seismic, L.L.C. v. Sterling Seismic Servs., Ltd., 125 F.4th 593, 601–02 (5th Cir. 2025) (declining to limit DTSA reasonable royalty analysis to either the University Computing trade secret factors or the original Georgia-Pacific patent factors).

[43] *Id.*

plaintiff can point to evidence of value that existed independent of the litigation. The court's role then becomes interpreting and applying evidence, rather than inventing a valuation from whole cloth.

Mid-Michigan Computer Systems, Inc. v. Marc Glassman, Inc. exemplifies this category.[44] The plaintiff licensed pharmacy management software under agreements containing liquidated damages clauses.[45] If the licensee wrongfully accessed source code held in escrow, it would pay $50,000 per pharmacy location using the software.[46] When the defendant misappropriated elements of the source code to develop a competing conversion program, the plaintiff sought a reasonable royalty based on the liquidated damages formula.[47] The jury awarded $2 million - calculated as 40 pharmacies multiplied by $50,000.[48] The Sixth Circuit upheld the award, reasoning that the parties had established their own valuation through the contractual provision and that applying it to calculate the "hypothetically agreed value of what the defendant wrongfully obtained" was not clearly excessive.[49]

The strength of *Mid-Michigan* lies in its evidentiary foundation.[50] The liquidated damages clause was not created for litigation; it predated any dispute and reflected the parties' contemporaneous business judgment about value.[51] The plaintiff did not ask the jury to speculate about what the source code was worth.[52] They pointed to a

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[44] Mid-Michigan Computer Sys., Inc. v. Marc Glassman, Inc., 416 F.3d 505, 510 (6th Cir. 2005).
[45] *Id.* at 506–07.
[46] *Id.*
[47] *Id.* at 509–10.
[48] *Id.* at 511.
[49] *Id.* at 510–13.
[50] *Mid-Michigan Computer Sys.*, 416 F.3d at 510–12.
[51] *Id.* at 506–07, 511.
[52] *Id.* at 510.

contractual term that already answered that question.[53] The court's task was to determine whether applying that term was reasonable under the circumstances, not to construct a valuation methodology from scratch.[54]

Other market-anchored cases rely on established licensing rates, internal financial projections, or documented development costs. In *California Safe Soil, LLC v. KDC Agribusiness*, LLC, the Delaware Court of Chancery awarded $1.625 million in reasonable royalty damages anchored to the parties' pre-existing license agreement, which specified milestone payments and running royalties of 10-20% of net sales.[55] The court explicitly adopted the "established royalty" framework, treating the parties' own licensing terms as the primary measure of value rather than constructing a hypothetical negotiation from scratch.[56] Courts have anchored reasonable royalties to fees charged for legitimate access to proprietary databases, to industry-standard royalty rates for comparable technologies, or to the plaintiff's own licensing history with unrelated third parties.[57] The common thread is

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53 *Id.* at 511–12.

54 *Id.* at 513. The court noted that the liquidated damages clause was designed to compensate [plaintiff] in the event that [defendant] improperly obtained access to the source code *and* that applying it to measure reasonable royalty damages was consistent *with* the hypothetical negotiation framework. *Id.* The clause provided objective evidence of what the parties themselves had agreed the wrongful access would be worth.

55 California Safe Soil, LLC v. KDC Agribusiness, LLC, No. 2021-00498-MTZ, 2025 Del. Ch. LEXIS 11, at *11, 18, 73, 75-76 (Del. Ch. Jan. 10, 2025).

56 Id. at *73–74.

57 Mid-Michigan Computer Sys., Inc. v. Marc Glassman, Inc., 416 F.3d 505, 509–10 (6th Cir. 2005). Courts in other market-anchored cases have relied on plaintiff's established fee schedules for database access, industry-standard royalty rates for comparable technologies, and plaintiff's licensing history with third parties; the common thread is pre-litigation evidence of value established through market behavior.

concrete evidence that provides an objective benchmark for valuation. The hypothetical negotiation remains hypothetical, but it is anchored to actual market behavior.

2. Thin-Evidence Royalties

A middle category involves secrets with some market evidence but not enough to provide precise valuation. These cases typically rely on industry benchmarks, market comparables, or documented costs that supply rough guidance but leave substantial uncertainty. The hypothetical negotiation requires interpolation and judgment calls, but it remains tethered to external reference points.

TXCO Resources, Inc. v. Peregrine Petroleum, L.L.C. illustrates this category.[58] The defendant misappropriated the plaintiff's seismic data and geological assessments for oil and gas exploration in Texas.[59] The plaintiff's lost-profits claim failed because it could not prove with reasonable certainty what profits it would have earned had the defendant not drilled competing wells in the same geological formation.[60] Unjust enrichment was equally difficult to establish, because the defendant's gains came from complex drilling operations in which the seismic data was only one input among many contributing factors.[61]

The court turned to a reasonable royalty analysis, using the cost of TXCO's farmout arrangement with Encana—approximately $15.9 million that TXCO had paid

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See, e.g., *California Safe Soil, LLC*, 2025 Del. Ch. LEXIS 11, at *11, 18, 73, 75-76 (awarding $1.625 million reasonable royalty anchored to the parties' pre-existing license agreement specifying milestone payments and running royalties of 10–20% of net sales).

[58] TXCO Res., Inc. v. Peregrine Petroleum, L.L.C., 475 B.R. 781, 828 (Bankr. W.D. Tex. 2012).

[59] *Id.* at 795–96.

[60] *Id.* at 827–28.

[61] *Id.*

as a carry under a joint exploration agreement—as a proxy for the value of the misappropriated seismic data.[62] The farmout costs provided a reference point, though not a direct market comparable for the data itself.[63] The court acknowledged that this calculation involved "rough justice" given the evidentiary limitations but found the farmout costs provided a sufficient foundation to sustain the award, even though the calculation required substantial interpolation.[64] The hypothetical negotiation was not anchored to the plaintiff's own pricing or licensing history, but it was informed by what other parties in the industry actually paid for similar information.[65]

TXCO illustrates how market anchors need not be perfect to be serviceable.[66] The plaintiff could not point to its own licensing agreements or contractual provisions establishing value.[67] But it could demonstrate what a comparable exploration arrangement had cost, providing a proxy—imperfect but grounded in actual business conduct—that courts could work with.[68] The hypothetical negotiation remained tethered to external benchmarks, even if those benchmarks required interpolation and expert judgment to apply.[69] The case sits on the spectrum between market-anchored and uncertain-value cases: there was enough market information to avoid pure speculation, but

[62] *Id.*
[63] *Id.*
[64] *TXCO Res., Inc.*, 475 B.R. at 822–28.
[65] *Id.* at 827–28.
[66] *Id.*
[67] *Id.*
[68] *Id.*
[69] *Id.* at 834–35 (emphasizing that "rough justice" was appropriate given the difficulty of proving lost profits or unjust enrichment with certainty, but still required that the farmout costs provided a sufficient evidentiary foundation to sustain the award, even though the proxy was imperfect).

not enough to eliminate substantial uncertainty about the appropriate royalty rate.

3. Uncertain-Value Royalties

At the far end of the spectrum lie cases where no meaningful market anchor exists. These cases typically involve technical know-how, preliminary research, process improvements, or strategic insights that were never commercialized, never licensed, and never valued before misappropriation. The plaintiff proves that the defendant obtained something of competitive value but cannot quantify that value through a conventional means. The hypothetical negotiation asks courts to imagine what parties would have agreed to when there is no evidence of what either party thought the information was worth at the time.

AirFacts, Inc. v. de Amezaga illustrates judicial skepticism toward uncertain-value royalties.[70] AirFacts develops and licenses revenue accounting software for airlines; its principal product, TicketGuard, audits airline ticket transactions for pricing errors.[71] A former employee, de Amezaga, left AirFacts and went to work for American Airlines, AirFacts' largest TicketGuard client.[72] AirFacts alleged that de Amezaga misappropriated trade secrets including flowcharts created for AirFacts and proprietary aspects of the TicketGuard software.[73] The plaintiff could not establish lost profits with reasonable certainty because it could not prove that American Airlines would have

[70] AirFacts, Inc. v. Amezaga, 30 F.4th 359, 369–70 (4th Cir. 2022) (discussing the need for evidence *and* skepticism toward unsupported calculations).
[71] *See id.* at 361–62 (describing TicketGuard *and* airline auditing software).
[72] *Id.* at 362–63, 366.
[73] *Id.* at 362.

continued or expanded its use of TicketGuard absent the misappropriation.[74]

The plaintiff's damages expert proposeda reasonable royalty based on AirFacts' own license fees for TicketGuard.[75] The district court excluded the testimony for failing to establish a sufficient nexus between the proposed royalty and the misappropriated information.[76] On appeal, the Fourth Circuit reversed in part and remanded, holding that the district court had applied too stringent a standard in excluding the damages evidence entirely.[77] On remand, the case proceeded through further discovery and ultimately settled after additional proceedings.[78] The court remanded for further proceedings but signaled that substantially more evidence would be required to support any reasonable royalty award.[79]

AirFacts illustrates the difficulty of valuing trade secrets that lack independent market benchmarks.[80] The court held that when plaintiffs seek such royalties, they must provide evidence beyond the fact of misappropriation and the defendant's subsequent revenues.[81] The expert needed to explain why a willing licensee would have paidthe proposed amount, what comparable licenses existed in the industry, or what other objective factors supported the calculation.[82] Without such evidence, the hypothetical negotiation becomes untethered from any observable

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[74] *Id.* at 366 ("AirFacts conceded it couldn't prove . . . 'specific injury.'").
[75] *Id.* at 369 (district court view that "evidence undermines [expert's] reasonable royalty calculation").
[76] *AirFacts, Inc.*, 30 F.4th at 369 (criticizing evidentiary support for royalty calculation).
[77] *See id.* at 369.
[78] *Id.* at 367 (internal quotation marks omitted).
[79] *Id.* at 367–69.
[80] *Id.*
[81] *Id.*
[82] *AirFacts, Inc.*, 30 F.4th at 367–69.

market behavior.[83] The case illustrates the problem of uncertain-value secrets: when neither party placed a value on the information before misappropriation, and when no comparable transactions provide guidance, asking a jury to construct a hypothetical license agreement amounts to asking the jury to make a guess.

D. The Doctrinal Puzzle

These three families reveal how the statutory precondition operates in practice and why it matters. Market-anchored cases satisfy the precondition almost by definition: if concrete valuation evidence exists, courts can use it for reasonable royalty calculations even when lost profits and unjust enrichment remain difficult to prove with precision. The evidence provides a substitute measure of value that avoids speculation. Uncertain-value cases fail the precondition: if no valuation anchor exists, "not provable" means that courts lack the evidentiary foundation to calculate any monetary remedy reliably. Thin-evidence cases fall in between and present the hardest line-drawing problems. They have enough evidence to avoid pure guesswork but not enough to eliminate substantial uncertainty.

The statutory text treats reasonable royalties as conditional, available only when actual damages and unjust enrichment cannot be proven.[84] That condition makes sense

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[83] *Id.* at 368–69. On remand, the case would need to address whether plaintiff could provide evidence such as: what plaintiff charged for legitimate data access, what competitors paid for similar customer information, or what industry standards suggested about the value of customer lists in the private aviation services sector. The Fourth Circuit's opinion signaled that merely pointing to the defendant's revenues and proposing a percentage royalty, *with*out evidence linking that percentage to market behavior, would be insufficient. *Id.*

[84] UNIF. TRADE SECRETS ACT § 3(b) (UNIF. L. COMM'N 1985); 18 U.S.C. § 1836(b)(3)(B)(ii) (2016).

when understood as requiring meaningful price-discovery evidence. If courts can identify what the secret was worth through licensing history, internal valuations, documented costs, or market comparables, the hypothetical negotiation has evidentiary support. The court interprets market information rather than inventing it. If courts cannot identify such evidence, awarding a reasonable royalty requires judicial creation of value rather than judicial interpretation of existing market signals.

Sorrento Therapeutics, Inc. v. Mack enforces this understanding.[85] The Delaware Court of Chancery refused to award reasonable royalties under California's UTSA where the plaintiff had not demonstrated that both actual damages and unjust enrichment were unavailable.[86] The court held that the statutory precondition requires an affirmative showing that both measures are not provable before reasonable royalties become available.[87] The court also held that the plaintiff's damages expert had improperly derived the proposed royalty from lost-profits and unjust-enrichment figures that had been excluded as speculative.[88] If those measures lacked evidentiary support sufficient for direct recovery, they could not supply inputs for the hypothetical negotiation.[89] The opinion signals that the statutory precondition functions as a substantive limitation on speculative damages rather than a mere procedural hurdle that plaintiffs can satisfy by nominally attempting to prove actual damages before pivoting to reasonable royalties.

Part II explains why uncertain-value secrets present distinct theoretical challenges for judicial valuation and

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[85] Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *11–12 (Del. Ch. July 31, 2025).
[86] *Id.* at 32.
[87] *Id.*
[88] *Id.* at 11–12.
[89] *Id.*

why the statutory precondition serves important functions in limiting courts' engagement with speculative price-setting.

II. WHY UNCERTAIN-VALUE SECRETS ARE DIFFERENT

Part I showed that reasonable royalty cases fall along a spectrum based on the availability of market anchors for valuation. This Part explains why uncertain-value secrets present distinct challenges that market-anchored and thin-evidence cases do not. When parties can point to licensing history, internal valuations, or market comparables, the hypothetical negotiation interprets existing market information. When no such anchors exist, courts must create value rather than discover it. Three interconnected problems arise. First, uncertain-value secrets involve what Frank Knight called "uncertainty" rather than calculable "risk," making probability-based valuation impossible.[90] Second, reasonable royalties convert property-rule protection into liability-rule protection, forcing exchanges at court-determined prices when courts lack reliable valuation information.[91] Third, the hypothetical negotiation framework assumes parties could have reached agreement, but that assumption breaks down when neither party knew what the secret was worth at the time of misappropriation.

A. Risk, Uncertainty, and the Limits of Valuation

Economists distinguish "risk" from "uncertainty" in ways that matter for trade secret damages.[92] Risk refers to

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[90] KNIGHT, *supra* note 13, at 233–35.
[91] Calabresi & Melamed, *supra* note 18 at 1092.
[92] KNIGHT, *supra* note 13, at 19–20 .

situations where outcomes are unknown but probabilities can be estimated.[93] A coin flip involves risk: we cannot predict any individual flip, but we know the probability distribution.[94] Uncertainty, by contrast, refers to situations where neither outcomes nor probabilities can be reliably estimated.[95] Frank Knight developed this distinction to explain entrepreneurial profit: entrepreneurs earn returns by successfully bearing true uncertainty rather than merely insuring against calculable risk.[96]

When courts apply the hypothetical negotiation framework to market-anchored secrets, they work with risk.[97] Licensing history may not reveal the precise value, but it provides data from which parties can estimate ranges and probabilities.[98] Internal valuations reflect management's probability-weighted projections.[99] Market comparables show what similar parties paid in analogous transactions.[100] Uncertainty remains, but it is the manageable uncertainty of estimation error rather than the

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[93] *Id.* at 233–35.
[94] *Id.*
[95] *Id.*
[96] *Id.* at 269–70 arguing that measurable uncertainty (risk) can be managed through insurance *and* diversification, while unmeasurable uncertainty cannot. Entrepreneurs earn profits by successfully bearing unmeasurable uncertainty, while workers and capital providers receive fixed returns because they bear only calculable risk).
[97] *Id.* at 233–35.
[98] KNIGHT, *supra* note 13, at 145–46 (explaining that measurability depends on grouping similar instances *and* deriving outcome proportions from experience).
[99] *Cf. id.* at 225–26 (describing business judgments as estimates of future outcomes where decisionmakers still form probability-like assessments despite imperfect measurability).
[100] *Id.* at 145–46 (emphasizing that probability-based reasoning depends on assimilating cases into classes of similar instances).

deep uncertainty of unknowability.[101] Parties operating in good faith could negotiate a license even if they disagreed about precise values, because both sides could articulate their valuations and explain their reasoning.[102]

Uncertain-value secrets present Knightian uncertainty rather than calculable risk.[103] Consider a concrete scenario: a defendant misappropriates preliminary research notes documenting experiments that might lead to a marketable pharmaceutical product. At the time of misappropriation, the research is incomplete and its commercial prospects are genuinely unknown. Neither plaintiff nor defendant knows whether the experiments will yield a viable drug candidate, whether that candidate would survive clinical trials, whether regulatory approval would be obtained, or what market share a successful drug might capture.

What would a willing licensor demand and a willing licensee pay for access to these notes at the time of misappropriation? A risk-averse licensor might demand substantial upfront payment plus royalties on any future revenues, reasoning that the research has option value even if its probability of success is low. A risk-averse licensee might refuse to pay anything significant for speculative leads, reasoning that most pharmaceutical research fails and that investing in unproven concepts would be economically irrational. A risk-neutral party might try to calculate expected value by probability-weighting potential outcomes. But if neither party can estimate the relevant probabilities with any confidence, expected value

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[101] *Id.* at 225–26, 233–35 (contrasting estimable judgment under partial comparability *with* true uncertainty where no probability distribution can be formed due to uniqueness).

[102] *Id.*

[103] *Id.* at 233–35 (distinguishing measurable "risk," where probability distributions are known, from "uncertainty," where outcomes cannot be reduced to probabilities because situations are unique).

calculations become impossible.[104] Both parties face Knightian uncertainty, and the hypothetical negotiation has no determinate answer.[105]

Patent law confronted similar problems and developed doctrines to constrain speculative damages.[106] Courts prohibit calculating reasonable royalties as a percentage of a defendants' total product revenues when the patented feature contributes only part of that value.[107] Apportionment requirements mandate that royalty calculations isolate the value attributable to the patented invention rather than to unpatented features.[108] These constraints reflect judicial recognition that juries should not be invited to award damages untethered to what was actually misappropriated. Trade secret law lacks these guardrails, yet the same concerns about speculation apply with equal force.

B. Property Rules, Liability Rules, and Judicial Price-Setting

Guido Calabresi and A. Douglas Melamed distinguished "property rules" from "liability rules" in

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[104] *See* Itzhak Gilboa & David Schmeidler, *Maxmin Expected Utility with Non-Unique Prior*, 18 J. MATH. ECON. 141, 5–6 (1989) (formalizing decision-making under Knightian uncertainty). This problem is distinct from situations where parties disagree about probabilities but each can articulate a probability estimate. Under Knightian uncertainty, parties lack sufficient information to form probability estimates at all.
[105] KNIGHT, *supra* note 13, at 225–26 (explaining that where situations are unique, it is "meaningless" to determine probabilities *and* outcomes cannot be reduced to a calculable distribution).
[106] *See* VirnetX, Inc. v. Cisco Sys., Inc., 767 F.3d 1308, 1326–27 (Fed. Cir. 2014) (holding that reasonable royalty must be apportioned to reflect value of patented feature rather than entire product).
[107] *Id.*
[108] *Id.* at 1327 (requiring that damages be commensurate *with* the value that the patented feature adds to the infringing product).

ways that illuminate reasonable royalty problems.[109] Property rules protect entitlements through injunctions.[110] Entitlement holders can refuse any transaction, and others may acquire the entitlement only through voluntary exchange at prices the holder accepts.[111] Liability rules protect entitlements through damages.[112] Entitlements can be taken without consent so long as takers pay court-determined compensation.[113] Property rules give entitlement holders veto power; liability rules permit forced exchanges at judicially set prices.[114] Traditionally, trade secret law relied on property rules.[115] Courts have enjoined misappropriation and left parties to negotiate voluntary licenses if they wished.[116] Plaintiffs could refuse to license at any price or could demand terms defendants found unacceptable. If negotiations failed, defendants had to develop the information independently or do without. This arrangement placed the burden of negotiation on parties who possessed information about their own valuations and had incentives to reveal that information truthfully through bargaining.

Reasonable royalties convert this property-rule protection into liability-rule protection.[117] Courts force licenses on plaintiffs at prices courts set retrospectively.[118] Defendants obtain entitlements without plaintiffs' consent, and plaintiffs receive compensation courts determine rather

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[109] Calabresi & Melamed, *supra* note 18 at 1092–93.
[110] *Id.*
[111] *Id.*
[112] *Id.*
[113] *Id.*
[114] *Id.*
[115] MILGRIM, *supra* note 8, § 15.02[2].
[116] *See id.* (discussing the traditional primacy of injunctive relief in trade secret litigation).
[117] *Id.*
[118] UNIF. TRADE SECRETS ACT § 3 cmt (UNIF. L. COMM'N 1985).

than amounts plaintiffs would have accepted voluntarily.[119] Calabresi and Melamed cautioned that liability rules work well only when courts have reliable information about value. Without such information, forced exchanges at court-set prices risk systematic over-compensation or under-compensation.[120]

This risk intensifies for uncertain-value secrets.[121] A court that awards substantial reasonable royalties for preliminary research that never produces commercial results may over-compensate plaintiffs. A court that awards nominal damages for research that eventually yields valuable products may under-compensate. Neither party can appeal to market evidence to demonstrate error because no market existed at the relevant time. Courts must make normative judgments about appropriate compensation rather than empirical findings about market value.[122]

Nuisance cases provide instructive analogies.[123] *In Whalen v. Union Bag & Paper Co., the New York Court of Appeals upheld an injunction requiring a pulp mill to stop discharging pollutants into a stream, even though the mill represented an investment exceeding one million dollars and the plaintiff's damages were comparatively small.*[124] Property rights deserved property-rule protection, and "balancing of injuries cannot be justified by the circumstances of this case."[125] Decades later, *Boomer v.*

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[119] *See* UNIF. TRADE SECRETS ACT § 3 cmt. (UNIF. L. COMM'N 1985) (discussing how the UTSA also permits ongoing royalty injunctions in exceptional circumstances, where the court orders an ongoing royalty in lieu of prohibiting future use). These "reasonable royalty injunctions" present similar valuation challenges when no market anchor exists.

[120] *See* Calabresi & Melamed, *supra* note 18, at 1106–10.

[121] *Id.*

[122] *Id.*

[123] *See* Whalen v. Union Bag & Paper Co., 208 N.Y. 1, 5–6 (1913).

[124] *Id.* at 5–6.

[125] *Id.* at 4–5.

Atlantic Cement Co. awarded permanent damages in lieu of an injunction, reasoning that relative hardship and public interest counseled against shutting down a cement plant.[126] Yet even *Boomer* required proof of actual harm; the court authorized damages based on proven losses rather than speculative estimates.[127]

Similar principles should constrain trade secret reasonable royalties. Courts can protect entitlements with injunctions.[128] They can award damages based on proven losses.[129] They can trace defendants' actual gains through unjust enrichment measures.[130] Ordinary damages law resists awarding compensation based on speculation about value when neither party could have determined that value at the relevant time.

C. When Hypothetical Negotiations Become Indeterminate

Hypothetical negotiation methodology assumes parties could have reached agreement had they negotiated when the misappropriation began.[131] For market-anchored secrets, this assumption holds tolerably well. Licensing history, internal valuations, and market comparables reveal what parties likely would have agreed to by showing what similar parties actually agreed to in comparable

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126 Boomer v. Atlantic Cement Co., 26 N.Y.2d 219, 227 (1970).
127 *Id.* at 229 (Jasen, J., dissenting) (noting that even under the majority's permanent damages approach, plaintiffs still had to prove actual harm rather than speculative future harm). The majority authorized substituting permanent damages for an injunction but did not authorize awarding damages for harms that could not be proven. *Id.*
128 *Id.* at 223–24.
129 *Id.* at 222.
130 *Id.* at 226.
131 Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

circumstances.[132] Courts interpret market evidence rather than invent it.[133]

Uncertain-value secrets strain this assumption to the breaking point. When no market anchor exists, courts must imagine what parties would have agreed to when the parties themselves would not have known what to agree to.[134] If parties faced Knightian uncertainty, there may be no determinate price both would have accepted.[135] Without evidence of what parties facing similar uncertainty actually agreed to, courts cannot ground the hypothetical negotiation in market behavior.[136] Any price selected becomes arbitrary in the sense that it cannot be tied to how actual markets resolved similar valuation problems.

This indeterminacy differs from a bilateral monopoly—a market with a monopsony (single buyer) on the demand side and a monopoly (single seller) on the supply side[137]—which also does not necessarily generate the same "price" as a competitive market would generate.[138] In bilateral monopoly situations, parties know the value but face strategic bargaining challenges.[139] Each

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[132] *Id.* at 1120–21.
[133] *Id.* at 1120–22.
[134] KNIGHT, *supra* note 13, at 225–26.
[135] *Id.*
[136] *Id.* at 145–46, 225–26.
[137] *See* Steven A. Greenlaw, David Shapiro & Daniel MacDonald, *Principles of Economics 3e*, OPENSTAX (2022), https://openstax.org/books/principles-economics-3e/pages/14-key-terms [https://perma.cc/8ZHV-67D6].
[138] Robert Cooter, *The Cost of Coase*, 11 J. LEGAL STUD. 1, 32–33 (1982) (modeling the outcome of a bilateral monopoly and demonstrating via game theory how it generates different results than a competitive market whether the parties adopt a cooperation or noncooperation strategy).
[139] Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233, 242 (1979) ("…in an idiosyncratic condition of bilateral monopoly, both buyer and seller are strategically situated to bargain over the disposition of any

party has incentives to misrepresent its reservation price to capture more surplus.[140] Game theory provides tools for analyzing such strategic behavior, and courts can sometimes infer likely outcomes by examining how similar bilateral monopolies were resolved.[141] Under Knightian uncertainty, however, there is no "true" value to discover and no strategic bargaining problem to solve.[142] Parties genuinely do not know what the secret is worth and examining how other parties resolved similar problems provides no guidance because those parties faced the same indeterminacy.[143]

Identifying factors relevant to valuation becomes equally problematic. For market-anchored secrets, courts can evaluate licensing history, development costs, industry standards, and comparable transactions.[144] Experts can testify about how these factors informed actual licensing

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incremental gain whenever a proposal to adapt is made by the other party.").

[140] *See id.* ("…each [party in a bilateral monopoly] also has an interest in appropriating as much of the gain as he can on each occasion to adapt.").

[141] *See generally* John Nash, *The Bargaining Problem*, 11 ECONOMETRICA 155 (1950) (theorizing the two-person bargaining situation in game theoretic terms); *see also* Albert choi and George Triantis, *The Effect of Bargaining Power on Contract Design*, 98 VIRGINIA L. REV. 1665, 1724-1729 (2012) (demonstrating that the "indeterminacy" of bilateral monopoly pricing is resolved through the parties' relative patience and ability to make counteroffers, which ultimately facilitates more efficient contract design).

[142] KNIGHT, *supra* note 13, at 145–46, 225–26

[143] *Id.* at 216, 232. (Distinguishing Knightian uncertainty from standard risk scenarios due to the inability to form probability distributions. Under risk, parties can disagree about probabilities, but both can calculate expected values. Under Knightian uncertainty, even the attempt to calculate expected values becomes indeterminate because no probability distribution exists.).

[144] Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970).

negotiations.[145] For uncertain-value secrets, however, identifying relevant factors requires speculation. Should the hypothetical royalty be based on development costs, probability-weighted expected value, or defendants' avoided costs? Without market evidence showing how actual parties weighed these factors, courts must make normative choices about how value ought to be measured rather than empirical findings about how it was measured.[146]

Problems compound when plaintiffs' damages experts work backwards from litigation-generated valuations.[147] If experts start with defendants' actual revenues or profits and calculate royalties as percentages, the analysis assumes the secret's value equals its *ex post* commercial impact. But this assumption is precisely what the hypothetical negotiation should test. At the time of misappropriation, neither party knew what commercial impact the secret would have. Using hindsight to determine royalty rates converts the exercise from a hypothetical negotiation into a penalty based on actual results, which may bear no relationship to what parties would have agreed to ex ante.[148]

Sorrento Therapeutics identified precisely this methodological flaw.[149] The court held that the plaintiff's expert had improperly anchored the proposed royalty to lost-profits and unjust-enrichment figures already excluded

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[145] *Id.*

[146] *Id.* at 1121 (holding valuation requires "exercise of judicial discretion" *and* judgment where evidence is incomplete).

[147] *See* Whitserve, LLC v. Comput. Packages, Inc., 694 F.3d 10, 32 (Fed. Cir. 2012) (cautioning against using hindsight to inflate reasonable royalty awards by noting that a fundamental precept of the hypothetical negotiation is that the results of the infringement cannot be considered in the analysis).

[148] *Id.*

[149] Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *42 (Del. Ch. July 31, 2025).

as speculative.[150] If those measures lacked sufficient evidentiary support for direct recovery, they could not supply inputs for the hypothetical negotiation.[151] The opinion signals that courts should refuse to award reasonable royalties when the only available evidence consists of speculative projections untethered to contemporaneous market behavior.[152]

Part III applies these insights to develop a calibration principle: reasonable royalties should be available only when plaintiffs can demonstrate meaningful price-discovery evidence, and courts should presume the remedy unavailable for uncertain-value secrets.

III. THE CALIBRATION PRINCIPLE

Parts I and II established that reasonable royalty cases fall along a spectrum and that uncertain-value secrets present distinct challenges for judicial valuation. This Part proposes a practical framework: courts should reserve reasonable royalties for cases with meaningful price-discovery evidence and presume the remedy unavailable for uncertain-value secrets. *Sorrento Therapeutics* provides a proof of concept.[153] Properly understood, the opinion enforces the statutory precondition and recognizes an epistemic boundary between what courts can interpret from market evidence and what they cannot know at all.

A. Sorrento and Judicial Valuation Under Uncertainty

Sorrento Therapeutics, Inc. v. Mack arose from a failed business relationship in the pharmaceutical

[150] *Id.*
[151] *Id.* at *33–36.
[152] *Id.*
[153] *Id.*

industry.[154] Anthony Mack served as president of Scilex Pharmaceuticals while simultaneously diverting development opportunities to Virpax Pharmaceuticals, a competing entity he controlled.[155] The Delaware Court of Chancery found liability for breach of fiduciary duty, breach of contract, and trade secret misappropriation under California's UTSA.[156] The remedial phase, however, proved more difficult.[157]

Plaintiffs sought reasonable royalty damages through a hypothetical negotiation framework.[158] Their expert, Dr. Darius Lakdawalla, constructed a "zone of potential agreement" bounded by plaintiffs' projected lost profits and defendants' avoided development costs.[159] Working from this range, Lakdawalla recommended a royalty approaching $6.7 million.[160] On its face, the methodology tracked conventional approaches borrowed from patent law. It reconstructed a negotiation and applied familiar valuation factors.

Vice Chancellor Fioravanti refused to award any reasonable royalty.[161] His analysis proceeded through two distinct but related steps. First, California's UTSA conditions reasonable royalties on an affirmative showing that "neither damages nor unjust enrichment caused by misappropriation are provable."[162] Plaintiffs had not made that showing.[163] They had abandoned their lost-profits theory after trial rulings excluded portions of their evidence and dropped their unjust-enrichment theory after settling

[154] *Id.* at *3.
[155] *Sorrento*, 2025 Del. Ch. LEXIS 195, at *3
[156] *Id.* at *7.
[157] *Id.* at *15–36.
[158] *Id.* at *9–12
[159] *Id.* at *31–32.
[160] *Id.* at *32.
[161] *Sorrento*, 2025 Del. Ch. LEXIS 195, at *33–35.
[162] *Id.* at *25–26 (quoting Cal. Civ. Code § 3426.3(b)).
[163] *Id.* at *25–26.

with the corporate defendant Virpax.[164] Rather than demonstrate that both conventional measures were genuinely unavailable, plaintiffs treated the reasonable royalty as their preferred option once other approaches proved inconvenient.[165] Vice Chancellor Fioravanti read California's conjunctive "neither…nor" language literally: both avenues must be closed before reasonable royalties become available.[166]

Second, even if the statutory precondition were satisfied, plaintiffs' methodology was fundamentally flawed. Lakdawalla had derived his royalty range from the very lost-profits and unjust-enrichment figures that lacked sufficient evidentiary support for direct recovery.[167] Plaintiffs confronted what the opinion aptly termed a "Catch-22": the statute makes reasonable royalties available only when other measures are not provable, yet the expert's analysis required those unprovable measures as inputs.[168] Using hindsight to determine royalty rates converts the exercise from hypothetical negotiation into penalty calculation. At the time of misappropriation, neither party knew what future outcomes would be.[169] Reconstructing a license based on ex-post knowledge of what happened transforms judicial valuation into speculation.[170]

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164 *Id.* at *33–34.
165 *Id.*
166 Cal. Civ. Code § 3426.3(b) (emphasis added) (stating that reasonable royalties are available only "if neither damages nor unjust enrichment caused by misappropriation are provable").
167 *Sorrento*, 2025 Del. Ch. LEXIS 195, at *34–35.
168 *Id.* at *41 n.123.
169 *Id.*
170 *Id.* (emphasizing that allowing this methodology would permit plaintiffs to recover through the reasonable royalty provision damages that the statute explicitly makes unavailable when other measures cannot be proven).

B. The Epistemic Boundary

Sorrento brings into focus a deeper question about what courts can know.[171] Market-anchored cases present valuation problems: evidence exists but requires interpretation.[172] Uncertain-value cases present epistemological problems: the evidence needed to value the secret may not exist at all. Distinguishing between these requires courts to recognize an epistemic boundary.

Consider what parties negotiating at the time of misappropriation actually knew. In market-anchored cases, they could point to licensing history, internal valuations prepared for business purposes, or market comparable.[173] Disagreements about precise values would remain, but both sides could articulate positions grounded in observable evidence. Courts reconstructing such negotiations interpret market information rather than invent it. In *Mid-Michigan*, the liquidated damages clause in the escrow agreement supplied exactly this kind of anchor: the parties had already negotiated a value for wrongful access before any dispute arose.[174]

Uncertain-value cases present a different situation. Plaintiffs in *Sorrento* alleged misappropriation of five documents related to pharmaceutical development.[175] No licensing history existed for those documents or similar materials.[176] No internal valuations assessed their worth.[177] No market comparables showed what pharmaceutical companies pay for early-stage development documents.[178]

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[171] *Id.* at *25–26.
[172] *Id.*
[173] *Sorrento*, 2025 Del. Ch. LEXIS 195, at *25–26.
[174] Mid-Michigan Comput. Sys., Inc. v. Marc Glassman, Inc., 416 F.3d 505, 512–13 (6th Cir. 2005).
[175] *Sorrento*, 2025 Del. Ch. LEXIS 195, at *34.
[176] *Id.*
[177] *Id.*
[178] *Id.*

The expert's hypothetical negotiation rested on projected revenues from products not yet approved by FDA regulators.[179] At the time of misappropriation, neither party could have specified probability distributions for the relevant outcomes. The value depended on whether drug candidates would clear clinical trials, obtain regulatory approval, secure reimbursement, and compete successfully in their markets.[180] These contingencies were not merely uncertain in the sense that outcomes were unknown; they were uncertain in Frank Knight's sense that even the probability distributions could not be specified.[181]

When courts confront this kind of uncertainty, the hypothetical negotiation asks them to imagine what parties would have agreed to when the parties themselves could not have agreed to anything determinate. Sometimes the law's most honest answer is that the price of a never-bargained-for license is not difficult to ascertain; rather, it is genuinely unknowable based on available evidence. Asking courts to proceed anyway invites arbitrary price-setting that ordinary damages law prohibits.[182]

C. The Calibration Principle Articulated

Sorrento's reasoning suggests a general principle: courts should require plaintiffs to demonstrate meaningful price-discovery evidence before authorizing reasonable

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[179] *Id.* at *18.
[180] *Id.*
[181] KNIGHT, *supra* note 13, at 19–20, 269–70 (distinguishing measurable uncertainty (risk) from unmeasurable uncertainty, arguing that entrepreneurs earn profits by bearing the latter.).
[182] *See* Bigelow v. RKO Radio Pictures, Inc., 327 U.S. 251, 264 (1946) ("The most elementary conceptions of justice *and* public policy require that the wrongdoer shall bear the risk of the uncertainty which his own wrong has created.") Bigelow assumes, however, that some quantum of damages can be proven even if the precise amount remains uncertain. *See id.*

royalty damages.[183] Where such evidence exists, the hypothetical negotiation can be grounded in observable market behavior. Where it does not, courts should presume reasonable royalties unavailable and rely on alternative remedies.

Price-discovery evidence includes licensing history for the secret or substantially similar secrets, internal valuations prepared before misappropriation for business purposes, documented development costs that establish value floors, market comparables from arms-length transactions in the relevant industry, or expert testimony grounded in established methodologies and tied to specific market evidence.[184] This evidence need not determine a precise value, but it must provide an anchor that distinguishes judicial interpretation from judicial invention.

Several considerations support this approach. First, it respects statutory text. Both the UTSA and DTSA condition reasonable royalties on unavailability of other measures.[185] That condition prevents reasonable royalties from becoming a general substitute whenever damages are merely difficult rather than genuinely impossible to prove. Without price-discovery evidence, courts lack foundations to distinguish the two. Plaintiffs who cannot establish actual loss or unjust enrichment with reasonable certainty likely cannot establish what hypothetical licensing negotiations would have produced either.

Second, it acknowledges institutional limits. Courts excel at interpreting market evidence and applying legal standards to facts. They do not excel at creating markets where none existed. When parties have not valued a secret before misappropriation, when no comparable market exists, and when value depends on unknown future

[183] *Sorrento*, 2025 Del. Ch. LEXIS 195, at *18.
[184] *Id.*
[185] *See* UNIF. TRADE SECRETS ACT § 3(b) (UNIF. L. COMM'N 1985); 18 U.S.C. § 1836(b)(3)(B)(ii).

contingencies, courts cannot reliably reconstruct hypothetical negotiations.[186] As Part II explained, Knightian uncertainty makes probability-based valuation impossible.[187] Reasonable royalties ask courts to solve problems that parties themselves could not solve, using information that parties themselves did not possess.[188]

Third, alternative remedies remain available. Refusing reasonable royalties in uncertain-value cases does not leave plaintiffs without recourse.[189] Injunctions prevent ongoing misappropriation and can be coupled with nominal damages to vindicate rights.[190] Development costs provide value floors even when precise quantification proves impossible. Unjust enrichment measures capture defendants' actual gains when those gains can be traced.[191] Fee-shifting provisions under the DTSA deter wrongdoing and compensate plaintiffs for litigation costs.[192] *Sorrento* itself awarded injunctive relief and damages for breach of fiduciary duty measured by Mack's salary during the period of disloyalty.[193]

Fourth, preserving property-rule protection matters. When courts grant injunctions, they preserve plaintiffs' ability to negotiate voluntary licenses or refuse licensing altogether.[194] Reasonable royalties convert property-rule protection into liability-rule protection by permitting

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[186] *See supra* Part II (explaining Knightian uncertainty makes probability-based valuation impossible).
[187] *Id.*
[188] *Id.*
[189] *See* Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *15–22 (Del. Ch. July 31, 2025).
[190] *Id.*
[191] *Id.*
[192] *See* 18 U.S.C. § 1836(b)(3)(D) (authorizing attorney fee awards in DTSA cases).
[193] *Sorrento*, 2025 Del. Ch. LEXIS 195, at *15–22.
[194] *Id.*

continued use at court-determined prices.[195] That conversion may be justified when courts have reliable valuation information. Without such information, forced exchanges at judicially set prices risk systematically undercompensating plaintiffs while encouraging defendants to misappropriate first and pay court-set royalties later.

D. Application and Implications

Applying the calibration principle requires courts to evaluate the quality and specificity of proffered evidence rather than merely its existence.[196] Plaintiffs offering internal valuations must show those valuations were prepared for business purposes before any dispute arose, not created in anticipation of litigation.[197] Plaintiffs offering licensing history must demonstrate that prior licenses involved sufficiently similar secrets in comparable contexts.[198] Plaintiffs offering market comparables must establish that compared transactions involved arms-length bargaining rather than settlement or special relationships.[199]

Sorrento illustrates how this works in practice.[200] Plaintiffs alleged misappropriation of documents related to pharmaceutical development but pointed to no licensing history, no internal valuations, and no market

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[195] *See* Calabresi & Melamed, *supra* note 18, at 1092–93; *see also supra* Section II(B) (analyzing property rule versus liability rule framework).

[196] Calabresi & Melamed, *supra* note 18, at 1108–09

[197] ResQNet.com, Inc. v. Lansa, Inc., 594 F.3d 860, 869–70 (Fed. Cir. 2010)

[198] Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1325–27 (Fed. Cir. 2009)

[199] LaserDynamics, Inc. v. Quanta Comput., *Inc*., 694 F.3d 51, 77–79 (Fed. Cir. 2012)

[200] Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *20–22 (Del. Ch. July 31, 2025).

comparable.[201] Their expert's hypothetical negotiation relied on speculative projections about future FDA approval, market entry, and commercial success.[202] Under the calibration principle, reasonable royalties were unavailable because the evidentiary record provided no anchor for judicial price-setting.[203] Future courts facing similar facts can cite *Sorrento* for the proposition that uncertain-value secrets presumptively do not support reasonable royalty awards.[204]

Conversely, *Mid-Michigan* shows how the principle permits reasonable royalties when proper anchors exist.[205] Contractual liquidated damages clauses supplied price-discovery evidence: parties had negotiated value for unauthorized use before any dispute arose.[206] Courts could interpret the contractual term rather than invent a valuation. Similarly, cases where industries have established royalty rates for particular technologies, where plaintiffs have documented licensing programs, or where internal valuations prepared for business purposes provide benchmarks allow reasonable royalty analysis to proceed because courts interpret market information.

Thin-evidence cases present harder questions. *TXCO Resources* involved seismic data with some market comparables but no direct licensing history for the specific information misappropriated.[207] If expert testimony establishes that comparable data trades at identifiable rates in observable transactions, the case moves toward the

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[201] *Id.*
[202] *Id.* at *18.
[203] *Id.*
[204] *Id.*
[205] Mid-Michigan Computer Sys., Inc. v. Marc Glassman, Inc., 416 F.3d 505, 512–13 (6th Cir. 2005).
[206] *Id.*
[207] TXCO Res., Inc. v. Peregrine Petroleum, L.L.C., 475 B.R. 781, 822–23 (Bankr. W.D. Tex. 2012).

market-anchored category.[208] If experts can only gesture toward vague analogies without pointing to actual market behavior, the case remains uncertain-value and courts should be skeptical. The calibration principle provides a framework for disciplined analysis without mechanical answers.[209]

The principle also clarifies expert testimony's proper role.[210] Experts in market-anchored cases translate observable data into royalty rates.[211] Experts in uncertain-value cases face greater constraints. Courts should subject royalty models built on speculative projections to heightened scrutiny and should be willing to exclude such testimony when it lacks grounding in price-discovery evidence. This gatekeeping function preserves the boundary between judicial interpretation of markets and judicial creation of prices where no markets existed.

CONCLUSION

Reasonable royalties serve as an important function in trade secret law when properly cabined. Market-anchored cases demonstrate that the remedy can work: licensing history, contractual provisions, internal valuations, and market comparables provide anchors that allow courts to interpret rather than invent value. *Mid-Michigan Computer Systems* illustrates the paradigm.[212] Parties negotiated liquidated damages for wrongful access to escrowed source code, and courts applied that contractual term to measure reasonable royalty damages.[213]

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[208] *Id.*
[209] Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120–22 (S.D.N.Y. 1970).
[210] *Id.* at 1141.
[211] *TXCO Res., Inc.*, 475 B.R. at 827–28.
[212] Mid-Michigan Computer Sys., Inc. v. Marc Glassman, Inc., 416 F.3d 505, 509–13 (6th Cir. 2005).
[213] *Id.* at 512–13.

The hypothetical negotiation was genuinely hypothetical—parties had not actually negotiated a reasonable royalty—but it was grounded in their actual agreement about value.[214]

Uncertain-value cases present fundamentally different challenges. When secrets have never been commercialized, never been licensed, and never been valued, courts cannot reconstruct hypothetical negotiations without engaging in speculation. *Sorrento* brings this problem into sharp relief. Plaintiffs alleged misappropriation of pharmaceutical development documents but could point to no licensing history, no internal valuations, and no market comparables.[215] Their expert's proposed royalty rested on projections about future FDA approval and commercial success.[216] Vice Chancellor Fioravanti recognized that authorizing such awards would convert the reasonable royalty provision from conditional remedy into judicial price-setting unconstrained by market evidence.[217]

The calibration principle proposed here offers courts a framework for navigating between these extremes: require plaintiffs to demonstrate meaningful price-discovery evidence; presume reasonable royalties unavailable for uncertain-value secrets; and reserve the reasonable-royalties remedy for cases where the hypothetical negotiation can be grounded in observable market behavior. This approach respects statutory text, acknowledges institutional limits, preserves alternative

[214] *Id.* at 509, 511.
[215] Sorrento Therapeutics, Inc. v. Mack, No. 2021-0210-PAF, 2025 Del. Ch. LEXIS 195, at *20–22 (Del. Ch. July 31, 2025).
[216] *Id.*
[217] *Id.*

remedies, and maintains trade secret law's intellectual-property-law alignment.[218]

Several limitations warrant acknowledgment. First, this Article focuses on damages for past misappropriation rather than ongoing royalty injunctions for future use. The latter raise distinct questions about whether courts should authorize continued misappropriation at judicially determined prices rather than enjoin future use altogether.[219] Second, the analysis treats the three-family spectrum as a useful heuristic without claiming that courts can always classify cases cleanly.[220] Thin-evidence cases present genuinely hard questions about when market comparables are sufficiently similar to provide meaningful guidance. Third, the calibration principle requires courts to exercise judgment about evidence quality rather than apply mechanical tests.[221] Some indeterminacy at the margins is inevitable.

Fourth, this Article makes normative claims about how courts should interpret the statutory precondition without predicting how they will behave in practice. Plaintiffs have strong incentives to seek reasonable royalties when other measures fail, and courts may find it difficult to leave plaintiffs with only injunctive relief when

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[218] *See id.* at *21–23 (requiring adherence to statutory limits *and* emphasizing that reasonable royalties are a secondary remedy when other measures are not provable)

[219] UNIF. TRADE SECRETS ACT § 2 cmt. (UNIF. L. COMM'N 1985) (permitting courts to order ongoing royalties in lieu of injunctions in "exceptional circumstances." Whether such remedies should be available for uncertain-value secrets raises similar but distinct questions about prospective price-setting.).

[220] *See* University Computing Co. v. Lykes-Youngstown Corp., 504 F.2d 518, 538–39 (5th Cir. 1974) (describing reasonable royalty analysis as flexible *and* dependent on the particular facts, rather than subject to rigid categorization).

[221] *See Id.* at 538 (emphasizing that determining a reasonable royalty requires "a flexible *and* imaginative approach" grounded in the evidence).

misappropriation is proven. Empirical research could test whether courts actually enforce the statutory precondition, whether jurisdictions that treat reasonable royalties skeptically see different settlement patterns, and whether thin-evidence cases correlate with higher variance in award amounts. Such research would complement the doctrinal and theoretical analysis offered here.

Finally, this Article focuses on domestic trade secret law without addressing how reasonable royalties function in other jurisdictions or in international trade secret disputes. The UTSA and DTSA provide the relevant framework for American courts, but trade secret litigation increasingly crosses borders. Whether the calibration principle should apply when foreign law governs or when parties negotiate licenses across jurisdictions with different legal regimes remains an open question.

Within these limits, the analysis points toward a general insight. Sometimes the law's most honest answer is that the price of a never-bargained-for license is not just *difficult* to ascertain. Sometimes this counterfactual is fundamentally *unknowable*. Courts asked to award reasonable royalties for uncertain-value secrets face a choice between unconstrained price-setting and acknowledging epistemic limits. The calibration principle counsels for the latter approach because reasonable royalties serve as a supplement when market evidence permits meaningful valuation. Where such evidence is absent, courts should resist the temptation to treat judicial price-setting as mandatory and should instead recognize the boundaries of what damages law can reliably accomplish.