ESSAY

THE EQUIPOISE EFFECT

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This Essay explores an overlooked way to use the remedy of disgorgement in torts, contracts, and regulation. It begins with a reminder that disgorging net gains does not force the liable actor to take a loss; by definition, it allows him to break even. As a matter of incentives, it places him in a sort of equipoise. This equipoise effect has a logical upshot that might seem counterintuitive: Substituting disgorgement for any other remedy, part of the time, can emulate the incentive effect of using that other remedy all of the time.

In theory, then, courts or regulators can sometimes substitute disgorgement for compensatory or expectation damages without undoing the benefits of harm internalization. This flexibility may prove especially useful in contexts where harm can be hard to measure. The accuracy of such emulation will depend on certain ideal conditions, however, and circumstances such as information costs will affect whether the approach is feasible and attractive.

INTRODUCTION

Would more polluters be deterred if they might be forced to dis-gorge their gains rather than pay damages based on harm? Would fewer promises be broken if contract breach might lead to disgorgement rather than expectation damages? And would such effects depend on how often disgorgement is awarded? Controversies arising from recent common law innovations,[1] as well as shifting regulatory strategies,[2] have centered on questions like these about the impact of expanding the use of disgorgement.

There may seem to be an easy answer: More disgorgement means more deterrence. After all, it is said to be an "extraordinary" remedy,[3] reserved for times when a tougher deterrent than ordinary harm-based damages proves necessary.[4] Tellingly, courts have viewed it as too harsh a

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1. Most notably, the sudden endorsement of disgorgement as a contracts remedy in the United Kingdom has fueled a broader debate about its use in the United States, as is evident in the controversy concerning the promotion of disgorgement as a contracts rem-edy in the new Restatement (Third) of Restitution and Unjust Enrichment. See A-G v. Blake [2001] 1 AC 268 (HL) (appeal taken from Eng.) (finding that disgorgement is an appropriate remedy for breach of contract in some circumstances); Caprice L. Roberts, A Commonwealth of Perspective on Restitutionary Disgorgement for Breach of Contract, 65 Wash. & Lee L. Rev. 945, 947 (2008) ("At least two legal events telegraph a restitutionary sea change for the Commonwealth and the United States . . . . [T]he House of Lords' decision in *Attorney General v. Blake* . . . [and] Section 39 of the pending American Restatement (Third) of Restitution and Unjust Enrichment."); see also Kansas v. Nebraska, 135 S. Ct. 1042, 1064 (2015) (Scalia, J., concurring in part and dissenting in part) (excoriating the new Restatement for suggesting disgorgement as a standard remedy for opportunistic breach, calling the suggestion a "'novel extension' of the law that finds little if any support in case law" and merely the Restatement authors' "aspirations for what the law ought to be").

2. See, e.g., Press Release, FTC, FTC Withdraws Agency's Policy Statement on Monetary Remedies in Competition Cases; Will Rely on Existing Law (July 31, 2012), http://www.ftc.gov/news-events/press-releases/2012/07/ftc-withdraws-agencys-policy-statement-monetary-remedies [http://perma.cc/P75L-B9BX] (announcing withdrawal of 2003 policy statement regarding the agency's use of disgorgement in antitrust cases); see also Einer Elhauge, Disgorgement as an Antitrust Remedy, 76 Antitrust L.J. 79, 84 (2009) (discussing and analyzing enforcement agencies' practices and their ability to use disgorgement).

3. Hearst Trust, FTC File No. 991-0323, at 1 (F.T.C. Dec. 14, 2001) (statement of Anthony & Thompson, Comm'rs), http://www.ftc.gov/sites/default/files/documents/cases/2001/12/anthstate.htm [http://perma.cc/KBW3-XH9G] (noting disgorgement is an "extraordinary remedy" that should be sought "only in exceptional circumstances").

4. See, e.g., James J. Edelman, Unjust Enrichment, Restitution, and Wrongs, 79 Tex. L. Rev. 1869, 1876 (2001) ("The cases in which disgorgement damages have been recog-

remedy even when the express aim of liability is to prevent misconduct.[5] It is "strong medicine" to be used "sparingly,"[6] we were reminded last year when the Supreme Court sanctioned Nebraska for siphoning off river water belonging to Kansas.[7] In academic parlance, we sometimes say that the threat to take away a wrongdoer's net gains goes beyond optimal deterrence to achieve complete deterrence,[8] and courts seem to agree.[9]

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nized have therefore been limited to instances in which there is a profound need for deterrence not fulfilled by compensatory damages."); Andrew Kull, Restitution's Outlaws, 78 Chi.-Kent L. Rev. 17, 18–19 (2003) ("Both disgorgement and punitive damages are . . . justified by the need to create a stronger disincentive to wrongful conduct—conduct that the threat of liability for actual damages does not adequately deter.").

    5. See, e.g., United States v. Philip Morris USA, Inc., 396 F.3d 1190, 1200 (D.C. Cir. 2005) (noting "[i]t is true, as the Government points out, that disgorgement may act to 'prevent and restrain' future violations by general deterrence insofar as it makes RICO violations unprofitable" but nonetheless rejecting disgorgement as too harsh).

    6. *Kansas*, 135 S. Ct. at 1070 (Thomas, J., concurring in part and dissenting in part) ("Disgorgement is strong medicine, and as with other forms of equitable power, we should impose it against the States only sparingly." (quoting Missouri v. Jenkins, 515 U.S. 70, 131 (1995) (Thomas, J., concurring))).

    7. In *Kansas*, the Court was concerned with an award of partial disgorgement in addition to a harm-based award; nonetheless, it appears from the Special Master's findings that even the sum of the two awards was still considerably *less* than a full disgorgement of Nebraska's profits. See id. at 1056 (majority opinion) (noting that according to the Special Master, the partial disgorgement award amounted to roughly half the harm-based damages but that Nebraska's profits were likely "more than several multiples" of Kansas's harm (quoting Report of the Special Master at 178, *Kansas*, 135 S. Ct. 1042 (No. 126))).

    8. In contrast with "optimal deterrence," which is meant to permit acts whose benefits justify their social costs, "complete deterrence" is reserved for acts that should never occur. Complete deterrence occurs when the remedy is so costly to the actor that he will choose not to act. See, e.g., Catherine M. Sharkey, Economic Analysis of Punitive Damages: Theory, Empirics and Doctrine, *in* Research Handbook on the Economics of Torts 486, 488–89 (Jennifer Arlen ed., 2013). There is a habit in the incentives literature, including in my own work, to suppose that gain-stripping sanctions achieve complete deterrence. See, e.g., Bert I. Huang, Concurrent Damages, 100 Va. L. Rev. 711, 713 n.7 (2014) (equating complete deterrence with "erasing the actor's gains"); Keith N. Hylton, Punitive Damages and the Economic Theory of Penalties, 87 Geo. L.J. 421, 421 (1998) ("Generally, complete deterrence is accomplished by eliminating the prospect of gain on the part of the offender."); Max Minzner, Why Agencies Punish, 53 Wm. & Mary L. Rev. 853, 861 (2012) (explaining the "complete deterrence approach" as designing penalties "to strip away gains rather than internalize costs"); Sharkey, supra ("The primary goal of gain elimination is the complete deterrence of socially unproductive activities.").

    9. See, e.g., SEC v. Contorinis, 743 F.3d 296, 301 (2d Cir. 2014) ("By forcing wrongdoers to give back the fruits of their illegal conduct, disgorgement also 'has the effect of deterring subsequent fraud.'" (quoting SEC v. Cavanagh, 445 F.3d 105, 117 (2d Cir. 2006))); SEC v. First Jersey Sec., Inc., 101 F.3d 1450, 1474 (2d Cir. 1996) ("The primary purpose of disgorgement . . . is to deprive violators of their ill-gotten gains, thereby effectuating the deterrence objectives of those laws."); Maier Brewing Co. v. Fleischmann Distilling Corp., 390 F.2d 117, 123 (9th Cir. 1968) ("[B]y removing the motive for infringements, [disgorgement would] have the effect of deterring future infringements."); Eriks v. Denver, 824 P.2d 1207, 1213 (Wash. 1992) ("Disgorgement of fees is a reasonable way to 'discipline specific breaches of professional responsibility, and to deter future mis-

But wait. Consider for a moment just how delicate an incentive this remedy really creates: Someone who expects to disgorge her net gain knows that her act will be neither gainful nor costly; it will be a wash.[10] She will break even. To fully persuade her not to act, then, *other* costs beyond disgorgement itself must finish the job.[11] Litigation costs or opportunity costs might do it. But the remedy itself only places her on the fence—a precarious point of equipoise, from which she can tip either way.[12]

Our usual rhetoric hides this fact because the way we speak about disgorgement often conflates the remedy itself with the trappings of its usage, implicitly piling on extra nonremedial costs.[13] As a result, the con-

conduct of a similar type.'" (quoting In re E. Sugar Antitrust Litig., 697 F.2d 524, 533 (3d Cir. 1982))).

10. This Essay uses the term "disgorgement" in its most ideal sense: damages that remove the marginal net gains (or marginal net savings) relative to the actor's best alternative noninfringing course of action. For example, in the torts context, that amount may be the net savings from failing to take adequate precautions. The consequences of mismeasuring such marginal net gains or marginal net savings are considered at length throughout this Essay, especially in Parts I and III. At the outset, however, it should be noted as a matter of terminology that in practice some remedies labeled "disgorgement" fail to offset part of the actor's costs (including opportunity costs) by neglect or by design; some go still further to require the actor to give up profits not attributable to the infringing choice, or even *gross* gains. See infra note 134 and accompanying text (discussing quasi-punitive versions of disgorgement).

11. The theoretical literature does at times recognize that when we speak of "disgorgement" as achieving complete deterrence, we should better understand the term as shorthand for disgorgement plus something extra. See, e.g., Robert D. Cooter, Punitive Damages, Social Norms, and Economic Analysis, 60 Law & Contemp. Probs., Summer 1997, at 73, 78 (1997) [hereinafter Cooter, Punitive Damages] ("When the goal of law is to deter injurer's from committing forbidden acts, the injurer's gain, not the victim's loss, provides the correct baseline for computing damages. Under ideal conditions—including certain liability—a small increment added to perfectly disgorging damages will deter."); A. Mitchell Polinsky & Steven Shavell, Should Liability Be Based on the Harm to the Victim or the Gain to the Injurer?, 10 J.L. Econ. & Org. 427, 428 (1994) [hereinafter Polinksy & Shavell, Harm or Gain] (noting gain-based liability achieves deterrence by "making the injurer disgorge his gain (or a little more)").

12. See, e.g., Cooter, Punitive Damages, supra note 11, at 77 ("'Perfect disgorgement' is a sum of money that leaves the injurer indifferent between the injury with liability for damages or no injury."); Benjamin E. Hermalin, Avery W. Katz & Richard Craswell, Contract Law, *in* 1 Handbook of Law & Economics § 5.3.2, at 116 (2007) (A. Mitchell Polinsky & Steven Shavell eds., 2007) ("Disgorgement damages, if assessed with certainty, leave the breaching party indifferent between performance and breach."). I use the term "equipoise" rather than the economics term "indifference" because, in common parlance, saying that someone is indifferent to something may suggest a mild sense of disfavor—and thus the term "indifference" may misleadingly suggest that the contemplated act is disfavored—whereas the intended meaning is that the actor neither strictly prefers inaction over action, nor strictly prefers action over inaction. The term "equipoise" crisply conveys this intended meaning.

13. Part III examines such costs, including litigation costs, reputation costs, opportunity costs, and the implicit expected costs created (in some contexts) by allowing the plaintiff to choose the remedy.

ventional discourse has also lulled us into overlooking how we might embrace disgorgement's equipoise effect and use it to good advantage.

This Essay will suggest ways for courts and regulators to do so. Its primary aim, however, is to develop a theoretical point—a logical implication of the equipoise effect: *Substituting disgorgement for any other remedy, part of the time, can emulate the incentive effect of using that other remedy all of the time.*

To see this more vividly, imagine meeting the founder of a tech start-up in the Bay Area. Suppose that she expects to be held liable for patent infringement if she uses a certain technology without license.[14] Also suppose that patent remedies are designed such that a prospective infringer might have to disgorge her net profits (thus breaking even), or alternatively, might have to pay compensation for harm to the patentee (thus keeping her profits while also paying for the patentee's loss).[15]

Anticipating this uncertain mix of potential remedies, the start-up founder should be expected to make the *same* decision as if she faced only the harm-based damages with certainty. If her profits from infringing would exceed the compensation she would have to pay, then it is worthwhile for her to infringe—whether she expects to enjoy that net gain for sure, or only with some probability. Likewise, if her profits would fall short of the compensation she would have to pay, then it is not worthwhile for her to infringe—whether she faces that net loss for sure, or only with some probability.[16]

The underlying logic is simple. Some chance of breaking even, but otherwise enjoying a net gain, is still a net gain overall. Some chance of breaking even, but otherwise suffering a net loss, is still a net loss overall. Thus, the occasional possibility of having to disgorge profits instead of paying compensation should leave an actor's decision *unchanged* relative

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14. It is assumed, for the sake of exposition, that she will face liability with certainty if she infringes. See infra note 31 (addressing the possibility of imperfect enforcement).

15. This remedies structure is hypothetical, though it is somewhat similar to how patent damages sometimes play out in reality, often to some controversy. As a formal matter, the current regime requires harm-based damages and no longer allows disgorgement of the infringer's profits as a remedy per se, with the exception of design patents. (A cautionary note about the terminology of patent remedies: An *infringer's* profits, which is a measure of gain, should not be confused with a *patent holder's* "lost profits," which is a measure of harm.) See, e.g., Mark A. Lemley, Distinguishing Lost Profits from Reasonable Royalties, 51 Wm. & Mary L. Rev. 655, 655 (2009) [hereinafter Lemley, Distinguishing Lost Profit] ("Patent damages are designed to compensate patentees for their losses, not punish accused infringers or require them to disgorge their profits."). Yet some courts are starting to use the infringer's profits as a benchmark for reasonable royalties. See William C. Rooklidge, Infringer's Profits Redux: The Analytical Method of Determining Patent Infringement Reasonable Royalty Damages, Bloomberg BNA (Feb. 4, 2015), http://www.bna.com/infringers-profits-redux-n17179922755/ [http://perma.cc/BWL4-K4KN].

16. The discussion here assumes that these are the only incentives at work (for example, it assumes that the infringement entails no further penalties).

to a standard compensatory regime.[17] The possible substitution of disgorgement dilutes her incentives—but thanks to the equipoise effect, her incentives continue to point her toward the same decision.[18]

This theoretical observation cuts across the standard debates. Those who bristle at the notion of efficient breach or optimal deterrence have long urged the greater use of disgorgement as a way to increase deterrence.[19] Meanwhile, their opponents favor the usual harm-based damages, pointing to the familiar behavioral benefits of forcing actors to internalize the harms they cause.[20] But both views are incomplete.

As we have just seen, the logic of the equipoise effect implies that a court or a public enforcer may be able to substitute disgorgement some of the time, in place of harm-based damages, *without* altering the overall effect on behavior. To put it more generally, if the actor is uncertain about whether the remedy she must pay will be disgorgement or harm-based damages, then the resulting incentive effect emulates that which results from facing harm-based damages for sure. This may be welcome

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17. This reasoning is expressed more formally in section I.A.

18. Such dilution *can* distort her choices, however, if there are other incentives at work; sections I.D.3, II.B.2, and III.C address this concern about dilution and "leftover incentives" in more depth. For now, it is worth re-emphasizing that this Essay uses the term "disgorgement" in the ideal sense of removing all marginal net gains (or net savings) relative to the actor's best noninfringing alternative course of action; in this sense, accurate disgorgement accounts for any leftover incentives.

19. See Kansas v. Nebraska, 135 S. Ct. 1042, 1057 (2015) (noting that "awarding actual damages for a compact's infringement may be inadequate, because that remedy alone 'would permit [an upstream State] to ignore its obligation to deliver water as long as it is willing' to pay that amount" (quoting Texas v. New Mexico, 482 U.S. 124, 132 (1987))); id. at 1059 (noting that the threat of disgorgement "will adequately guard against Nebraska's repeating its former practices"); see also Nat'l Merch. Corp. v. Leyden, 348 N.E.2d 771, 776 (Mass. 1976) (presenting Justice Benjamin Kaplan's argument that "an intending tortfeasor should not be prompted to speculate that his profits might exceed the injured party's losses, thus encouraging commission of the tort" and upholding a disgorgement-based award).

20. As the Utah Supreme Court put it, "We are persuaded by the efficient breach arguments discussed above. When an efficient breach occurs, a breaching party may retain its profits in excess of a plaintiff's losses as long as the plaintiff is made whole." TruGreen Cos. v. Mower Bros., 199 P.3d 929, 935 (Utah 2008); see also Barry E. Adler, Efficient Breach Theory Through the Looking Glass, 83 N.Y.U. L. Rev. 1679, 1693 (2008) ("Theoretical qualifications and refinements aside, however, expectation damages are both the doctrinal norm and a tolerably proficient mechanism for encouraging efficient breach and investment decisions." (footnote omitted)); E. Allan Farnsworth, Your Loss or My Gain? The Dilemma of the Disgorgement Principle in Breach of Contract, 94 Yale L.J. 1339, 1381–83 (1985) [hereinafter Farnsworth, Your Loss or My Gain?] (explaining how expectation damages enable efficient breach but noting that efficient breach occurs also under disgorgement if transaction costs are zero). Cf. *Kansas*, 135 S. Ct. at 1069 (Thomas, J., concurring in part and dissenting in part) ("If disgorgement is an antidote for 'efficient breach,' then it need only be administered when 'conscious advantage-taking' and 'opportunistic calculation' are present.").

news for those favoring harm internalization, but disappointing for those promoting disgorgement as the sure path to stronger deterrence.

Internalizing harm is not the only aim, moreover, that can be emulated in this way. The underlying logic extends to other incentives that the law may seek to create by imposing remedies, including complete deterrence.[21] Furthermore, such flexibility in switching between remedies may also ease the tradeoffs with nondeterrence concerns in a given case, such as distributional effects or certain notions of justice.[22]

In theory, at least. Part I details three ideal conditions for the underlying logic of emulation to work. Much of the analysis that follows will examine departures from these conditions. It is worth noting here, however, two conditions that are *not* required: First, nothing about the underlying logic requires that the harms and the gains be similar in value. The logic works not because gains are serving as a proxy for harms, but because of the equipoise effect. Second, the logic does not rely on the use of a liability test for predetermining which acts should be deterred.[23]

Part II develops one particular application for this logic, showing how such a substitution strategy can be used to work around a common problem for courts and regulators—the fact that harm-based damages can often be hard to measure. A typical response in the law of remedies has long been to resist counting certain types of losses in compensatory

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21. For example, consider an actor who faces some chance of breaking even, due to disgorgement, but who will otherwise pay a penalty ensuring a net loss. Overall, he will expect a net loss. Thus, he will be deterred, even though he could break even sometimes. It may seem ironic that one could say he is deterred *despite* the use of disgorgement. See infra section I.A. (demonstrating this logic as applied to complete deterrence).

22. The strategy proposed here thus shares a kinship in spirit—although it is quite distinct in mechanism and logic—with an innovative proposal by Professor Richard Brooks in the contracts context. Professor Brooks proposes allowing the *promisee* an option between forcing performance and receiving disgorgement damages, rather than the standard approach of allowing the *promisor* the option of performing or paying expectation damages. Richard R.W. Brooks, The Efficient Performance Hypothesis, 116 Yale L.J. 568, 581–84 (2006). Notably, Professor Brooks analyzes the efficiency of the *promisee's* choice under his hypothetical promisee's-option scheme, id., whereas this Essay analyzes the *promisor's* choice under a different hypothetical scheme that does not involve shifting the choice to the promisee but rather involves the mixing of remedies.

23. The proposed remedial combination itself sorts between efficient and inefficient acts, just as a purely harm-based damages regime would do, under strict liability. Note that this feature distinguishes this Essay's contribution from other analyses of gain-based damages that do assume such a test at the liability stage for sorting between efficient (or desirable) and inefficient (or undesirable) acts. See, e.g., Robert Cooter & Ariel Porat, Disgorgement Damages for Accidents, 44 J. Legal Stud. 249, 250–53 (2015) (assuming the use of a liability test such as negligence or community standard of care and applying disgorgement as the "minimum damages that deter" an act that has thus been deemed undesirable); Hylton, supra note 8, at 421, 433–34 (assuming the use of a liability test comparing costs and gains as a precondition for applying a gain-based remedy and noting that "complete deterrence is accomplished by eliminating the prospect of gain on the part of the offender").

damages;[24] the result is systematic underdeterrence. But an alternative solution, enabled by the equipoise effect, is to substitute disgorgement when harm-based damages are biased or hard to assess.[25] Such an approach may be more attractive for certain public enforcement actions in which societal harm may be hard to prove, individual compensation may not be a pressing concern,[26] and setting accurate incentives *is* a pressing concern.

Part III turns to the various additional costs that often do push an actor from equipoise over to complete deterrence, including litigation costs, reputation costs, and opportunity costs. Such costs are fairly obvious, and the analysis will not belabor them; rather, it focuses on how such costs might alter the effectiveness of the proposed substitution strategy. It also addresses the complications that arise when a plaintiff is allowed to choose between pursuing a harm-based or a gain-based award.[27]

Several limitations of scope are worth noting at the outset. First, as this Essay focuses on deterrence, it will not delve into the vast trove of ex post distributional concerns and expressive purposes that have traditionally animated much of the law of restitution and unjust enrichment.[28] Second, in the contracts context, the analysis will focus only on the breach-or-perform decision.[29] Third, most of the exposition will assume that the infringing act causes harm with certainty,[30] and that liability is

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24. See, e.g., Freund v. Wash. Square Press, Inc., 314 N.E.2d 419, 422 (N.Y. 1974) (noting that the "amount of royalties plaintiff would have realized was not ascertained with adequate certainty and, as a consequence, plaintiff may recover nominal damages only"); Steven F. Napolitano & Peter Luneau, Speculating About Speculative Damages, N.Y. L.J., Jan. 17, 2012 (collecting recent cases).

25. The assumption here is that the actor's gains are measurable, even though the harms might not be. But the actor's gains can also be hard to measure, of course. See, e.g., *Kansas*, 135 S. Ct. at 1058 ("Notably, Kansas does not insist on all of Nebraska's gain. It recognizes the difficulty of ascertaining that figure, given the evidence the parties presented."). This important tradeoff is noted throughout this Essay, including a more focused discussion in section I.E.

26. This is not to ignore the fact that some regulatory enforcers have also used disgorgement awards as a means of compensating private parties—most notably the SEC, using its "fair funds" statutory mechanism, and the FTC, using disgorgement awards to create consumer compensation funds. See infra note 108 (describing SEC "fair funds" and FTC use of disgorgement).

27. See section III.D (addressing remedial regimes with plaintiff's election of remedies, such as in cases of conscious wrongdoing, certain fiduciary breaches, and copyright violations).

28. See, e.g., Hanoch Dagan, The Law and Ethics of Restitution (2004); Ward Farnsworth, Restitution: Civil Liability for Unjust Enrichment (2014) [hereinafter Farnsworth, Restitution].

29. How earlier choices—such as contract design, price, reliance, investment, or precautions—might be affected by remedial mixing (operating as a default rule) is a rich inquiry left for future work.

30. As Part I notes, because the exposition assumes that the infringing act results in harm with certainty, an adaptation in interpretation and in implementation is needed to

sure to follow,[31] although the analysis will also illustrate how the core idea can be applied in cases of imperfect enforcement.[32]

Tradeoffs abound in the terrain to be explored—the aims of compensation and procedural justice compete with the aim of deterrence, errors of one kind compete with errors of another, and courts and enforcers must make do with imperfect information or else fail to act. If at times this Essay's exposition suggests a theoretical neatness, it is only for clarity's sake and should not be read as making easy assumptions about reality.[33] And it goes without saying that other reasons to use or eschew disgorgement may conflict or coexist with those introduced here.

I. EQUIPOISE AND EQUIVALENCE

For the listener, who listens in the snow,
And, nothing himself, beholds
Nothing that is not there and the nothing that is.[34]

This Part develops the core theoretical point of this Essay. It begins by explaining how the incentive effect of any remedy can be emulated by a probabilistic mix of that remedy and disgorgement, inducing the actor to make the same choices—a situation we might call "choice equivalence." It then articulates three ideal conditions for choice equivalence and details the consequences of departures from each of these condi-

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apply the basic logic to infringing acts that generate a risk of harm but do not always result in harm. See infra notes 37–38 and accompanying text.

31. The classic solution to the problem of imperfect enforcement—that is, the possibility that the actor might get away with no liability despite causing harm—is to apply a damages multiplier. Such an application will be illustrated in section II.C. But a fuller analysis can be quite complex, as Professor Richard Craswell has shown. See Richard Craswell, Deterrence and Damages: The Multiplier Principle and Its Alternatives, 97 Mich. L. Rev. 2185, 2193–98 (1999) [hereinafter Craswell, Deterrence and Damages] (illustrating a range of complications for the multiplier principle, such as when the probability of sanction is correlated with the magnitude of harm).

32. See infra section II.C (incorporating the classic damages multiplier into the analysis and illustrating how the logic of emulation creates some flexibility in using such multipliers).

33. Among the myriad possible complications bracketed here are risk aversion and insurance, behavioral heuristics or biases, the victim's or nonbreacher's incentives, bilateral accidents, the costs of enforcement and incentives to sue, renegotiation, Coasian bargaining, judgment-proof actors, overlapping regulatory regimes, and uncertain legal standards. As is conventional in the incentives literature, this Essay's analysis assumes that actors are aware of the remedies that they may face (although this assumption can and should be questioned, of course). Whether actors need to know exactly how often disgorgement will be substituted is an interesting question addressed in sections I.D.1 and I.E.1. The issue of information costs for the courts or public enforcers—including the possibility that gains or harms cannot be easily determined—will be raised throughout, with emphasis at the end of Part I and in Part II.

34. Wallace Stevens, The Snow Man, *in* Harmonium 16, 17 (1923).

tions. The exposition thus begins at a high level of abstraction, before Part II turns to a set of potential applications.

A few preliminary notes are in order: The terms "disgorgement" and "gain-based damages" will be used interchangeably throughout this Essay to mean an amount of damages that removes the marginal net gains (or marginal net savings) relative to the actor's best alternative noninfringing course of action.[35] In general, the exposition will speak as if the actor faces a binary choice between not acting (and thus incurring no gains, no harm, and no liability) and acting (and thus incurring gains, harm, and the costs of liability).[36] This setup naturally suits strict liability contexts, including contract breach;[37] it can also be adapted to fit a simplistic version of a negligence regime.[38]

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35. This meaning corresponds to what Professor Robert Cooter has called "perfect disgorgement" and others simply call "disgorgement." See Cooter, Punitive Damages, supra note 11; Farnsworth, Your Loss or My Gain?, supra note 20, at 1343 (noting that "[w]hen one speaks of 'gain' in the context of the disgorgement principle, one means gain that is in some sense *caused* by the breach of contract" and thus should not include "the profit [that] could have resulted had there been no breach of contract"). This is not to ignore the possibility of errors in assessing this measure, as sections I.D and III.C will emphasize. See also infra note 134 and accompanying text (discussing the doctrinal or judicial strategy of refusing to offset certain costs as a deliberate way to add a quasi-punitive measure beyond this ideal disgorgement amount).

36. Also note that for convenience, this Essay will generally adopt the simplistic phrasing of saying that an actor "will" act whenever there are positive net incentives to do so (among a relatively immediate set of incentives, usually), as if all characters are Holmesian bad men. This is not meant as a description of human or institutional behavior, of course, but a shorthand that is conventional and convenient for the theoretical analysis of law-created incentives and deterrence.

37. An adaptation of the interpretation and implementation of the basic logic is needed, however, in order to apply it to infringing acts that generate a risk of harm but do not always result in harm—which is presumably more often the case with tortious acts than with contract breach. For such situations, we need to reinterpret the actor's binary choice as between not acting and the entire course of action that has led to the harm (or would cause such harm in expectation). As recognized in the literature, one way to implement this conception is to consider the actor's entire (real) course of action, including occasions on which harm did not materialize even though the actor performed the risk-creating act (and thus enjoyed net gains or net savings that should be counted in the disgorgement award); another way is to apply a damages multiplier to approximate the net gains or net savings from a (perhaps fictional) version of such an entire course of action. See, e.g., Cooter & Porat, supra note 23, at 258–67 (proposing several forms of disgorgement multipliers to account for such probabilistic harm or probabilistic enforcement); Saul Levmore & William J. Stuntz, Remedies and Incentives in Private and Public Law: A Comparative Essay, 1990 Wis. L. Rev. 483, 484–86 (explaining shortfall if the accounting omits the occasions that created risk but did not end up causing harm).

38. To adapt the analysis to a negligence regime, it is useful to consider two types of situations. In the first, the actor's best nonliable alternative is *not to act at all*; in other words, the actor faces a binary choice between acting without due care and not acting. The basic logic can then be interpreted in a straightforward way (because the actor is sure to be liable if she acts), just as it can under a strict liability regime. In the second type of situation, the actor's best nonliable alternative is to *act with due care*; in other words, the actor faces a binary choice between acting without due care and acting with due care. Here, by

A.   *Choice Equivalence*

To fix ideas, let us label as the "primary" remedy whatever the law has set up as the default remedy in a given context. This shift to a more general terminology is purposeful: Although much of the discussion thus far has focused on compensatory damages or expectation damages, the logic elaborated here extends beyond harm-based damages.

First, suppose that a certain primary remedy will cause a net loss for the actor whenever it is ordered, because the remedy will cost her more than she will gain from the act that creates the liability. Examples might be heavy criminal fines, civil penalties, or punitive damages. If the actor anticipates facing this primary remedy with certainty, then she expects a net loss; she is completely deterred. But now suppose instead that the actor expects some chance of paying disgorgement in lieu of this primary remedy. Thus she faces some chance of breaking even (due to disgorgement) and otherwise a net loss (due to the primary remedy). Overall, she still faces an expected net loss; again, she is deterred.

> *Illustration—Fraud.* The consumer protection agency seeks to completely deter sellers of herbal supplements from making fraudulent claims. In many cases, the agency applies civil penalties that exceed the seller's profits resulting from the fraud; but sellers know that sometimes, for idiosyncratic reasons, the agency will instead seek only the disgorgement of those profits. The incentive effect of this probabilistic mix of remedies is still complete deterrence; even though sellers will sometimes break even, overall they expect a net loss.

The same logic applies if the primary remedy is one that leaves the actor with a net gain. An example might be a lenient civil fine. If the actor anticipates facing such a primary remedy with certainty, then she will not be deterred; she will have an incentive to act. But suppose instead that the actor expects some chance of paying disgorgement in lieu of this primary remedy. Thus she expects some chance of breaking even (due to disgorgement) and otherwise a net gain (due to the primary remedy). Again she is not deterred, as overall she still faces an expected net gain from the act.

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definition, the amount to be disgorged is the marginal net gain or net savings (including savings from forgoing precautions) from acting without due care relative to acting with due care. Likewise, the relevant amount of harm-based damages for the present analysis is also the marginal increase in harm from acting without due care relative to acting with due care. This amount corresponds to the usual measure of compensatory or expectation damages if no harm would occur if the actor acted with due care (but not if some harm would still occur). Beyond this simplistic adaptation, however, this Essay's analysis should not be assumed to apply to a more complex characterization of a negligence regime, to liability regimes based on intent, or to regimes that take the other party's behavior into account (such as comparative negligence). The present analysis also does not address continuous, rather than discrete, choice sets. These would be important and useful extensions to pursue.

Many common remedies work in both directions, of course. They are designed to tip the actor sometimes in favor of acting and sometimes against acting, depending on whether the actor's gains will exceed the cost of the remedy. An example might be compensatory damages or a carefully calibrated regulatory fee. By the same logic as the prior scenarios, the overall incentive effect of such a primary remedy can be emulated by a probabilistic mix of that remedy and of disgorgement. This was illustrated in the patent remedies scenario in the Introduction;[39] it is restated in slightly more general terms here.

> *Illustration—Reasonable Royalty.* Imagine an intellectual property statute that is designed to allow infringement when the user is willing to pay a reasonable royalty, but to deter infringement when the user is unwilling to pay that amount.[40] When the accurate amount of a reasonable royalty can be proved, the court will award that amount as damages; when the amount is difficult to prove, however, the statute permits the court in its discretion to award instead a disgorgement of profits attributable to the infringement.[41] If the user is uncertain which course the court will take—and thus anticipates some chance of paying the royalty but otherwise disgorging profits—then the user faces incentives that mimic the effect of a regime where the award is always the royalty.

The simple logic at work can be expressed more formally as follows: Suppose the actor faces the primary remedy—call it r—with probability p, but otherwise faces disgorgement. If the actor chooses to act, she will enjoy a gain of g. Thus, the actor faces some chance p of ending up with $(g - r)$, but otherwise breaks even, and so she has a positive incentive to act if $p(g - r) > 0$. This reduces to $(g - r) > 0$ for $p > 0$, which means that she has a positive incentive to act if her gains will be greater than the primary remedy and if she expects some positive chance of facing the primary remedy. Notice that $(g - r) > 0$ is also the condition for her to

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39. See supra notes 14–18 and accompanying text.

40. This hypothetical regime resembles the state of the law for patent damages, which sets reasonable royalties as a minimum measure of damages (at least, when the patentee is a nonpracticing entity, and thus the "lost profits" measure of harm-based damages generally does not apply). See Lemley, Distinguishing Lost Profit, supra note 15, at 661–69 (analyzing controversy surrounding courts' methods for calculating reasonable royalties). The central statutory provision is 35 U.S.C. § 284 (2012) (permitting damages "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention"). The illustration excludes the possibility of further sanctions, such as treble damages.

41. The possibility of disgorgement remedies for patent infringement is not entirely imaginary, as it has been permitted by earlier statutes and remains the subject of some debate. See, e.g., Caprice L. Roberts, The Case for Restitution and Unjust Enrichment Remedies in Patent Law, 14 Lewis & Clark L. Rev. 653, 654–70 (2010) (describing the history of federal patent law, including the possibility of disgorgement as a remedy prior to 1964, summarizing the current debate over measures of patent remedies, and arguing for Congress and courts to consider the revival of disgorgement).

have a positive incentive to act if she were to face the primary remedy with certainty. Likewise, she would be deterred if $p(g - r) < 0$, which reduces to $(g - r) < 0$ for $p > 0$.[42] Thus, whether the actor faces the probabilistic mix of remedies or only the primary remedy, the resulting incentive effects are equivalent in the sense that they will induce the same choice.[43]

The ideal conditions for such emulation are detailed below. But before moving on, it is worth emphasizing that the underlying logic is not limited to contexts in which the primary remedy is some form of harm-based damages. Notice that in the fraud illustration above, the primary remedy being emulated is punitive; the aim (and the result) is complete deterrence. And in the intellectual property illustration, the primary remedy being emulated is a court-determined price; depending on the regulatory scheme, such a price may or may not reflect the harm done.[44]

For practical reasons, however, most of this Essay will focus on contexts in which the typical primary remedy *is* some form of harm-based damages, such as expectation damages or compensatory damages. The next section thus turns our focus to the special case of emulating harm internalization.

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42. The condition $p = 0$ corresponds to a regime where disgorgement is always used, and so the equivalence concept has no use. This is why $p > 0$ is listed as one of the conditions for choice equivalence in section I.D. The condition $(g - r) = 0$ only occurs if the primary remedy is also disgorgement itself (and so again the equivalence concept has no use) or if the value of the primary remedy matches the disgorgement amount in a given scenario (in which case equivalence occurs because the primary remedy itself also puts the actor in equipoise).

43. Again, one should not conflate the equivalence proposed here (and the form of substitution suggested here) with the different type of equivalence (and another type of substitution) found in Professor Brooks's innovative "efficient performance" approach. See supra note 22.

44. In the case of patents, for example, the "reasonable royalty" rate can be sensibly understood as a measure of harm in the case of nonpracticing patentees (after all, what they lost was the fee they would have charged for a license). See, e.g., Lemley, Distinguishing Lost Profit, supra note 15, at 655–56. The same measure, however, is only a backstop (minimal) measure of damages in the case of practicing patentees who are unable to prove their true "lost profits." Id. Note that this Essay's intellectual property illustrations assume hypothetical aims for imaginary remedial regimes to show the mechanics of the emulation logic, but do not mean to imply any argument about the broader public welfare or about how static and dynamic efficiencies interact. See, e.g., Michael A. Heller & Rebecca S. Eisenberg, Can Patents Deter Innovation? The Anticommons in Biomedical Research, 280 Science 698, 698–701 (1998) (analyzing problems of dynamic efficiency—meaning innovation—in the context of biomedical patents); C. Scott Hemphill, Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem, 81 NYU L. Rev. 1553, 1556 (2006) (reviewing arguments in antitrust and patent literatures on static and dynamic efficiency); Mark A. Lemley, Industry-Specific Antitrust Policy for Innovation, 2011 Colum. Bus. L. Rev. 637, 638–39 (2011) (discussing the tradeoff between static and dynamic efficiency); Jonathan Masur, Patent Inflation, 121 Yale L.J. 470, 480 (2011) (same).

B. *Harm Internalization*

Torts and contracts damages are normally harm-based measures—compensatory damages and expectation damages, respectively.[45] These harm-based damages create incentives that are conventionally thought to promote efficient choices. In torts, we say that harm internalization serves optimal deterrence,[46] and in contracts, we say that it provides efficient incentives for the breach-or-perform decision.[47] For these reasons, this Essay gives extra attention to choice equivalence when the primary remedy is damages based on harm.[48]

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45. One distinction is salient, however. In the contracts context, the doctrines governing remedies, including expectation damages, are default rules. One might then ask: Would the remedial mixes proposed in this Essay be ones that parties with incomplete contracts would have wished for? And if courts were to impose such remedial mixes, how might parties react in setting contract prices? Analysis of these questions is left for future work, but two tentative observations might be ventured here. First, if the parties' contractual purpose is to allow (only) efficient breaches, the substitution strategies suggested here may well be what the parties themselves would wish for, given that these strategies may serve efficient breach as effectively as (or possibly better than) expectation damages alone would. See section II.B (explaining when a substitution strategy can serve the aims of harm internalization better than a purely harm-based damages regime). If so, moreover, some of this Essay's analysis may offer guidance to such parties on drafting a liquidated damages clause that incorporates the substitution strategy. Second, and somewhat contrarily, expectation damages might not be the remedial rule that all parties would choose for themselves. See Robert E. Scott & George G. Triantis, Embedded Options and the Case Against Compensation in Contract Law, 104 Colum. L. Rev. 1428, 1430–31 (2004) (analyzing why parties may be willing to pay ex ante for non-harm-based remedial provisions and providing counterexamples including free-return policies and airline ticket-change fees). For a survey of scholarly views on how default rules should be set, see Hermalin, Katz, & Craswell, supra note 12, § 4.3.2.

46. See, e.g., Catherine M. Sharkey, Punitive Damages as Societal Damages, 113 Yale L.J. 347, 365 (2003) [hereinafter Sharkey, Punitive Damages] (noting that the threat of damages measured by calculating aggregate tortious loss leads to "optimal deterrence" and that "[t]he goal is to force tortfeasors, and others similarly situated, to internalize the harms to society caused by their conduct").

47. The literature related to efficient breach is vast, of course. See Avery Katz, Virtue Ethics and Efficient Breach, 45 Suffolk U. L. Rev. 777, 777–78 (2011) (surveying the literature and noting that "[c]ontracts scholars have been arguing over the concept of 'efficient breach' for over thirty years . . . . yet the debate fails to subside"). For one court's endorsement, see TruGreen Cos. v. Mower Bros., 199 P.3d 929, 935 (Utah 2008) ("We are persuaded by the efficient breach arguments discussed above. When an efficient breach occurs, a breaching party may retain its profits in excess of a plaintiff's losses as long as the plaintiff is made whole."). Some who criticize the concept have nonetheless recognized other efficiency-related justifications for expectation damages. See, e.g., Daniel Markovits & Alan Schwartz, The Myth of Efficient Breach: New Defenses of the Expectation Interest, 97 Va. L. Rev. 1939, 1989 (2011) (criticizing efficient-breach theory but recognizing other "efficiency gains generated by expectations damages").

48. The analysis will bracket reasons why harm internalization might not be efficient, such as the problem of multiple margins, but extensions investigating such complications would be useful. See Richard Craswell, Instrumental Theories of Compensation: A Survey, 40 San Diego L. Rev. 1135, 1139, 1149 (2003) (summarizing the classical view that harm internalization through compensatory or expectation damages is desirable but cataloguing

> *Illustration—Chemical Spill.* Cyana, Inc., is a manufacturer that transports Chemical X on train lines running through major urban areas. One of Cyana's train cars is leaking and will spill chemicals on the next leg of its journey. Cyana expects to be held strictly liable for the spill. The standard remedy is compensatory damages, but suppose that if the court deems the harm to be too difficult to measure, the court may instead require Cyana to disgorge its savings from not replacing the leaky car on that trip. Facing this uncertainty, is Cyana more likely to replace the leaky car than if it faced compensatory damages for sure?[49]

The answer is no. If Cyana's savings fall short of the harm caused by the spill, then it will choose to replace the car. This will occur even if there is a chance the court will require disgorgement of its savings, because Cyana still anticipates some remaining chance of suffering a net loss from having to pay compensation. Likewise, it will not replace the car if its savings exceed the harm.

Note that this illustration assumes a strict liability regime. Nothing in the underlying logic relies on any liability threshold, such as the prebalancing of harm and gains in the Learned Hand version of negligence. Among other things, this means that the logic can be applied to contract breach.[50]

> *Illustration—Exclusive Sales Agreements.* The manufacturer Only Toys contracts with the retail chain Costmart not to sell any of its competitors' goods. Costmart is considering breaching by selling toys made by a competitor that are dissimilar to any product made by Only Toys. This breach would increase Costmart's profits while only slightly reducing profits for Only Toys. Costmart anticipates that a court might award expectation

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reasons developed in more recent literature challenging that view); id. at 1149 (noting that "the remedy that is most efficient in serving one goal might not be the most efficient in serving another" and that "there are many different 'margins' along which parties might adjust their behavior, and different remedies may have different effects along each of those margins"). It is worth a reminder here, however, that choice equivalence is not limited to harm internalization.

49. This illustration is loosely based on the classic torts case of Indiana Harbor Belt Railroad v. American Cyanamid Co., 916 F.2d 1174 (7th Cir. 1990) (Posner, J.). Readers who remember the case may already be anticipating the contest between negligence and strict liability that will play out at the end of Part I. See infra section I.E.2 (exploring implications of the logic of emulation for the choice between negligence and strict liability).

50. In the contracts context, this Essay focuses solely on incentives at the breach-or-perform stage. Analogous reasoning may offer guidance in setting ideal damages for influencing choices at earlier stages of contracting, such as promises, reliance, or precautions. I thank Professor Robert Scott for bringing this point to my attention. Email from Robert E. Scott, Alfred McCormack Professor of Law, Columbia Law Sch., to author (Aug. 24, 2016) (on file with the *Columbia Law Review*); see also Charles J. Goetz & Robert E. Scott, Enforcing Promises: An Examination of the Basis of Contract, 89 Yale L.J. 1261, 1281–86 (1980).

damages but also might substitute disgorgement if it deems the loss of business to Only Toys too hard to measure. Is Costmart more deterred from breaching than if it faced expectation damages for sure?

Again, the same logic applies: Even if Costmart faces some chance of disgorging its profits, there is still a chance it will enjoy a net gain from breaching and paying expectation damages, so it will breach. Likewise, if the breach would hurt Only Toys more than it would benefit Costmart, then Costmart will not breach.

These illustrations may come as a relief for those who favor harm-internalizing incentives. Starting from a regime of purely harm-based damages, a shift toward the greater use of disgorgement among courts or enforcers can thus result in the same choices by the actor if the actor faces some uncertainty about whether the remedy in her individual case will be disgorgement or harm-based damages.[51]

When complete deterrence is understood to be the law's aim instead, however, such choice equivalence may not be so welcome.

> *Illustration—Breach of Trust.* Frank Snepp, a former CIA analyst, wrote a tell-all memoir about the fall of Saigon. The Supreme Court required him to disgorge his profits from the book—a remedy that the dissent condemned as "Draconian."[52] In justification, the majority sounded the alarm of deterrence.[53] After all, Snepp had breached a nondisclosure agreement with the CIA, and disgorgement "is tailored to deter those who would place sensitive information at risk."[54] But the Court's opinion also appears to hint that, had the harm to the government been more readily quantifiable, harm-based damages might have been appropriate.[55]

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51. This is, of course, a specific application of our general analysis to the category of harm-based damages. See supra note 42 and accompanying text (presenting the general analysis). In terms of the expressions presented above, set the primary remedy r equal to damages based on harm h: That is, let $r = h$.

52. Snepp v. United States, 444 U.S. 507, 523 n.14 (1980) (Stevens, J., dissenting) (noting the majority's "solicitude for Snepp's welfare is rather ironic in view of the Draconian nature of the remedy imposed by the Court today").

53. Id. at 515 (majority opinion) ("Since the remedy [of disgorgement] is swift and sure, it is tailored to deter those who would place sensitive information at risk."); cf. id. at 517 (Stevens, J., dissenting) ("[T]he Court today grants the Government unprecedented and drastic relief in the form of a constructive trust over the profits derived by Snepp from the sale of the book.").

54. Id. at 515 (majority opinion). Moreover, the Court suggested that his contract (and his former employment) with the CIA involved a fiduciary-like level of trust. Id. at 510 ("Snepp's employment with the CIA involved an extremely high degree of trust."). To be precise, his breach was failing to submit the book to the CIA's review process for pre-publication clearance. Id. at 507–08. Arguably, a still more "tailored" remedy would have disgorged only his savings from not submitting the book for clearance.

55. Id. at 514 ("[T]he [circuit court's] decision may well leave the Government with no reliable deterrent . . . . [T]he actual damages attributable to a publication such as

Let's suppose that future whistleblowers read the opinion as suggesting that harm-based damages, rather than disgorgement, might be awarded in some instances. The resulting incentives—of facing some chance of paying compensation instead of disgorgement—would serve optimal deterrence and thwart complete deterrence.[56]

C. *A Class of Regulatory Alternatives*

A fuller appreciation of choice equivalence may help to expand our regulatory imagination. This section presents two further ways of seeing how the probabilistic mixing of remedies defines a class of regulatory alternatives whose incentive effects can induce the same choices as full harm internalization.

First, recall the classic reason for harm internalization: to make the actor take into account the harms she causes to others, just as she naturally takes into account her own gains. (Think of a pollution tax, the archetypal example.) Internalizing both harms and gains serves optimal deterrence.[57] So far, so familiar.

Now, notice that the point is really to have the actor weigh those harms and gains in *equal* measure—but not necessarily in *full* measure. The potential polluter will make the efficient choice if she is weighing harms against gains, both at full value. But she will make the same choice if she is weighing them both at $2/3$ of their true values.[58] And she will also do so if she is weighing them both at only $1/2$ of their true values. Any such combination is choice equivalent to any other.

Full internalization, then, is just one of many choice-equivalent regulatory approaches. A more general class of approaches involves matching *partial* internalization with the same degree of *partial* self-interest. Leveling down an actor's self-interest (by decreasing her prospective gains through some use of disgorgement) can complement our usual strategy of leveling up her concern for others' harm (by increasing her prospective costs through some use of harm-based damages) as a way to serve optimal deterrence.

> *Illustration—Chemical Spill.* Suppose that the chemical company, Cyana, anticipates a $2/3$ chance that the court will award compensatory damages and a $1/3$ chance that the court will or-

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Snepp's generally are unquantifiable. Nominal damages are a hollow alternative, certain to deter no one. The punitive damages recoverable after a jury trial are speculative and unusual.").

56. To be clear, optimal deterrence here would mean that these future whistleblowers might end up either acting or not acting (depending on whether the anticipated gain outweighs the anticipated harm). What is being thwarted is the complete-deterrence guarantee that whistleblowers will never act.

57. See Sharkey, Punitive Damages, supra note 46, at 365 (explaining how the internalization of harm serves optimal deterrence).

58. In other words, $g > h$ if and only if $(2/3)g > (2/3)h$. And so forth.

der disgorgement of its savings from not replacing the leaky car. This remedial mix dilutes Cyana's self-serving motivations, because it is less sure to enjoy the savings. Meanwhile, it also raises Cyana's internalization of harms, because it may have to pay harm-based damages. Because Cyana now weighs both its savings and the harms at 2/3 of their values, it makes the same choices as if it faced compensatory damages for sure.

Another way of appreciating why such alternatives are choice equivalent draws on an insight that contracts scholars have long noticed. As Professors Charles Goetz and Robert Scott put it, "In order to maintain the efficiency value of [a damages] rule, however, it is only necessary that some minimal amount of benefits are retained by the breacher in order to induce him not to perform."[59] In other words, any damages amount that falls between the promisee's value and the promisor's cost (but is not equal to the promisor's cost) should serve efficient breach, just as standard expectation damages would. Professor Avery Katz has similarly suggested that "it may be optimal to split the difference" between expectation damages and the promisor's cost.[60] To see the connection with the analysis above, we can interpret such intermediate values as naturally leveling up and leveling down in just the right proportions.[61] Likewise, we can interpret the probabilistic mixing of expectation damages with disgorgement as setting expected damages for the breaching party somewhere in between the cost to the promisor and the value to the promisee.

We can then extend the underlying intuition beyond the contracts context: For a given actor, if the gains from acting are greater than the harm, then any expected damages amount falling between the harm and the gains (but not equal to the gains) must be less than the gains. And so the actor's ex ante incentive will be to act. But if the harm is greater than the gains, then any expected damages amount falling between the harm and the gains (but not equal to the gains) must be greater than the gains. And so the actor is deterred. These choices are equivalent to those the actor would make if he faced harm-based damages for sure.[62]

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59. Charles J. Goetz & Robert E. Scott, Liquidated Damages, Penalties and the Just Compensation Principle: Some Notes on an Enforcement Model and a Theory of Efficient Breach, 77 Colum. L. Rev. 554, 559 (1977).

60. Avery Katz, Reflections on Fuller and Perdue's *The Reliance Interest in Contract Damages*: A Positive Economic Framework, 21 U. Mich. J.L. Reform 541, 560 (1988).

61. I thank Professor Katz for pointing out to me that such an intermediate amount can be characterized as a linear combination of the value to the promisee and the cost to the promisor: Any fixed amount falling between the promisor's cost c and the promisee's value v can be written as the linear combination $av + (1 - a)c$. Thus the promisor will breach if $av + (1 - a)c < c$, which reduces to $v < c$. Email from Avery W. Katz, Vice Dean & Milton Handler Professor of Law, Columbia Law Sch., to author (Aug. 24, 2016) (on file with the *Columbia Law Review*).

62. Indeed, these choices are equivalent to those the actor would make if he faced any other expected damages amount falling between the harm and the gains (but not equal to the gains)—including, at one end of the spectrum, full harm internalization.

This intuition also readily applies to settlements. If the actor expects to settle in the shadow of a probabilistic mix of remedies, and thus anticipates paying a settlement price equal to the expected value of that mix, such an expectation sets incentives that are choice equivalent to an expectation of settling at a price equal to compensation for harm.

D. *Ideal Conditions*

Noticing the possibility of choice equivalence is only step zero of the analysis. The accuracy of such emulation depends on certain ideal conditions. In some contexts they will not be especially demanding. But reality will also often depart from the ideal, sometimes irretrievably. This section identifies three ideal conditions as well as the possible departures that may pose the greatest challenges.

1. *Use of the Primary Remedy.* — The first ideal condition is that the gain-based remedy must not be used exclusively. This may seem a trivial condition because if no other remedy is involved, then there is no use for the equivalence concept. Yet there are subtle ways in which this condition may fail. For example, suppose that although the courts are mixing remedies as a general matter, the actor somehow knows ex ante that the particular court it will face will substitute disgorgement in this case.[63] This first condition then fails because disgorgement would be the only remedy relevant to the actor's incentives. For remedial mixing to matter, the actor needs to face uncertainty ex ante about whether a future court will order disgorgement or the primary remedy in its case.

Note what this condition does *not* say. It does not demand that the primary remedy be used much more often than the gain-based remedy. The actor must perceive *some* chance that the primary remedy will be used, but that is all. In theory, choice equivalence can occur even if the primary remedy is only ordered relatively rarely.

> *Illustration—Chemical Spill.* Recall that Cyana is deciding whether to replace a leaky train car carrying Chemical X. Suppose that it anticipates only a 1/5 chance that the courts will award compensatory damages and a 4/5 chance that the courts will order disgorgement. Its incentives are still choice equivalent to harm internalization alone.
>
> Cyana will thus make the same choice, whether it expects a 1/5 chance of compensatory damages or a 2/3 chance (as in the earlier illustration). Notice that this also means it will make the same choice even if it miscalculates the chances (say, if the true chance is 2/3 but Cyana guesses 1/5).

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63. Another context in which this condition is likely to fail is when a private plaintiff is allowed to choose between remedies. See infra section III.D (describing consequences when the plaintiff can choose between the primary remedy and disgorgement).

Thus, in theory, the actor's choice will not depend on how often the gain-based remedy will be used. Even if the primary remedy's influence is greatly diluted, it will still point the actor in the right direction.[64]

2. *Accuracy of the Primary Remedy.* — A second ideal condition becomes relevant if the actor is uncertain ex ante about the value of the primary remedy. In such a case, emulation requires that the actor anticipate that the expected value of the primary remedy, when it *is* awarded, reflects the primary remedy's expected value were it always awarded. (This condition is obviously met when the primary remedy has only one possible value—for example, if there is a fixed fine, or if the actor knows ex ante the amount of damages that will be assessed.[65])

> *Illustration—Chemical Spill.* Suppose Cyana does not know exactly how much harm will result from the spill, but knows the range of the possible extent of harm. Cyana also believes that courts tend to award compensatory damages when harm turns out to be at the higher end of the range, but tend to substitute disgorgement when harm turns out to be at the low end. Due to this perceived selection bias, Cyana's incentives are choice equivalent to damages based on higher-than-average harm.[66]

The result is that Cyana faces incentives that are more deterrent than those that would result were the courts always awarding compensatory damages. In essence, the remedial mix in this case is emulating a biased sample from the range of potential compensatory damages, rather than a representative sample. How effectively courts or enforcers can make use of such substitution—or how readily they might fail—will often turn on this issue of selection bias.[67]

Perfect emulation is not always a good thing, however. What if harm-based damages are sometimes badly distorted—for instance, by gross mismeasurement or by doctrines that artificially limit recovery? As Part II will detail, a more strategic use of the equipoise effect may then be in

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64. This assumes that the other ideal conditions also hold. If not, then the relative usage of the primary remedy and of disgorgement *can* affect the degree of departures from exact choice equivalence, as described below. See infra section I.D.3 (discussing impact of dilution when the actor has "leftover incentives" outside disgorgement's reach); section III.C (analyzing distortionary effect of such leftover incentives and suggesting solutions).

65. For example, in the case of harm-based damages, this may occur if the actor knows the amount of harm her conduct will cause and expects harm-based damages to reflect that amount. It may also occur if the actor expects the remedy to be set equal to the expected value of the possible harms. (It will generally be assumed throughout this Essay that the actor knows her net gains from the conduct she is contemplating and thus the value of the disgorgement.).

66. By contrast, if Cyana knows the amount of harm its spill will cause, and thus it knows how much compensatory damages would be, then there is no issue of selection bias.

67. See infra section II.B.1 (examining the issue of selection bias in greater depth); infra section III.D (same).

order. Courts and public enforcers might instead *co-opt* the mechanism of selection bias, using it to counteract such distortions.[68]

3. *Accuracy in Erasing Gains.* — The third condition may be called the "no leftover incentives" condition. The substitution of disgorgement dilutes two competing incentives in equal measure: the net gains from the act and the legal disincentives for the act due to the primary remedy. If these are the only incentives at work, then there is no problem. But if the actor has other incentives that fall outside the reach of disgorgement, then those incentives are not diluted. Instead, by comparison, they will loom large.

What might such leftover incentives be? Most commonly, there may be costs of acting that are not offset in the disgorgement award.[69] Although disgorgement aims to remove only net gains—and thus implies offsetting of the actor's costs—this offset may be imperfect. Some non-economic costs might not be quantifiable. Or a court might omit opportunity costs or the cost of capital (though courts have recognized the need to offset both kinds of costs and have found ways to do so).[70] To put it in more abstract terms, a court might fail to accurately assess the marginal net gain (or marginal net savings) relative to the actor's best noninfringing alternative course of action.[71]

Moreover, an actor might also have *favorable* incentives that disgorgement will not reach—for example, longer-term economic gains not yet evident or not provable to the court or enforcer.[72]

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68. See infra section II.C (explaining use by public enforcers); infra section II.D (explaining use by courts).

69. This sort of omission is sometimes a deliberate choice; courts or doctrines might overstate the profits to be disgorged. As Professor Mark Gergen has observed, "[C]ourts sometimes fudge the factual issue to award more than the likely gain attributable to the wrong in order to deter." Mark P. Gergen, Causation in Disgorgement, 92 B.U. L. Rev. 827, 830–31(2012). He further argues that "[t]he *Restatement (Third) of Restitution and Unjust Enrichment* is less candid about this practice than it might be, perhaps because candor weakens the claim in justice for what is described falsely as disgorgement in such cases." Id.; see also infra note 133 and accompanying text (noting courts might purposefully ignore leftover incentives as a way to increase the effective penalty).

70. See, e.g., Frank H. Easterbrook & Daniel R. Fischel, Contract and Fiduciary Duty, 36 J.L. & Econ. 425, 442 (1993) ("Courts that award disgorgement of gain often temper that remedy by allowing the fiduciary a substantial reward for his entrepreneurial efforts."); Gergen, supra note 69, at 843 ("American courts are split on the question of whether a copyright or trademark infringer is allowed to deduct fixed costs or overhead in determining profits subject to disgorgement. . . . Causal analysis favors a deduction for fixed costs, for they represent opportunity costs.").

71. Section III.C analyzes in more depth the effects on choice equivalence of such leftover costs, as well as litigation costs.

72. See, e.g., Dennis S. Corgill, Measuring the Gains of Trademark Infringement, 65 Fordham L. Rev. 1909, 1914–15 (1997) (noting that "an infringer can benefit without earning profits during the period of knowing infringement").

> *Illustration—Breach of Trust.* Consider a case like that of the former CIA analyst, Frank Snepp.[73] In calculating the profits that such an author must disgorge, a court might fail to offset the value of the time he spent writing the book, which could have been spent writing a different book. Or the court may be unable to account for the emotional impact of either criticism or acclaim for being a whistleblower.[74]

The presence of such leftover incentives are, in a sense, an error in valuing the net gains to be disgorged, resulting in a failure to reach true equipoise in the first place. Such errors create distortions of a peculiar sort. The more the primary remedy is used relative to disgorgement in the remedial mix, the less the chance that these leftover incentives will make a difference in the actor's decision.[75]

This sliding-scale effect tempers a well-known peril of mismeasuring gains. As Professors Mitchell Polinsky and Steven Shavell observed, one disadvantage of relying on a gain-based remedy alone for setting incentives is that even a slight underestimation of the actor's gains can result in a failure to deter acts whose harms greatly exceed their benefits, because a purely gain-based remedy does not force the actor to internalize any of the harm, no matter how large.[76] But in the present context, harm-based remedies are mixed with the gain-based remedies, and thus the chances of such a harsh consequence are diminished in two related ways. First, the influence of an error in measuring gains is reduced because the actor does not expect disgorgement to be used all the time. Second, in this mixed scheme, actors *do* internalize harm (if only partially) and therefore cannot entirely ignore the possibility of causing great harm.[77]

E. *Information Demands*

At this point, it may seem that information costs must be quite high for the effective use of choice equivalence. Undoubtedly, in some contexts, such an approach will be infeasible or wasteful due to information costs. Most obviously, good information about the right amount of gains

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73. See supra notes 52–55 and accompanying text (describing the *Snepp* case).

74. Section III.A offers further illustrations of both hidden costs and hidden benefits.

75. Sections III.B and III.C contain examples and further analysis of the effect of leftover costs on choice equivalence.

76. Polinsky & Shavell, Harm or Gain, supra note 11, at 430–34.

77. Both the reduction in influence of disgorgement errors and the degree of internalization of harm will vary with the extent to which the remedial mix uses harm-based damages rather than disgorgement. The same reasoning applies to a further concern raised by Professors Polinsky and Shavell, that *overestimating* gain-based damages will deter actors even when gains greatly exceed harm. Id. This concern is diminished in the present context for essentially the same reasons: First, facing a remedial mix, the actor does not expect disgorgement to be used all the time; and second, whether gains outweigh harm does matter to the actor's choice.

to be disgorged may be unavailable. But without minimizing such concerns, a few favorable points should be noted.

1. *What Is Not Required.* — First, recall that the actor does not need to know exactly how often one remedy will be substituted for the other, because whatever mix she imagines will still induce the right choice (if choice equivalence holds).[78] Conveniently, this also means that courts and public enforcers need not guess what exact probabilistic mix the actor might be expecting; nor do they need to convey the exact probabilities to the actor. What the actor needs to perceive (and all that courts or enforcers need to convey), in theory, is uncertainty about whether the remedy in a specific case will be disgorgement or the primary remedy.[79]

Second, choice equivalence does not require calculating both harm-based damages and gain-based damages in a given case. Indeed, it allows the substitution of gain-based damages when harm is hard to measure, as Part II will detail.[80] And when harm-based damages *are* awarded, there is no need to calculate gains.

2. *Negligence or Strict Liability?* — One favorable quality of choice equivalence may be useful to consider in deciding between a negligence regime and a strict liability regime. The relative merits of these regimes have been studied in an extensive literature raising many complications that cannot be fully considered here,[81] but it may still be worth noting a fairly basic way for choice equivalence to enter into the calculus.

> *Illustration—Chemical Spill.* Judge Richards is deciding whether Cyana's chemical spill should be treated under negligence or strict liability, a question of first impression. She recognizes that in some such cases the full extent of harm may quickly become evident, while in other cases harm will be underestimated because future harm is unknown or not provable. How should this potential for errors in measurement affect her decision?

If the negligence test depends on information about harm, as the Hand formula does,[82] Judge Richards may sensibly decide that the law

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78. To borrow from an earlier example in section I.D.1, choice equivalence is possible even if the actor thinks that the chances of paying compensation rather than disgorgement are 1/5, say, while the actual chances are 2/3.

79. To be clear, the term "uncertainty" here means that the actor perceives some (nonzero) probability of paying the primary remedy and some probability of paying disgorgement. This Essay brackets the problem of radical uncertainty in the Knightian sense. See, e.g., Henry E. Smith, Property and Property Rules, 79 N.Y.U. L. Rev. 1719, 1726 (2004) ("The problem is that uncertainty does not allow for this thinking in terms of averages because we do not know what is supposed to be averaged.").

80. See infra section II.B (explaining such a strategy of substitution).

81. For a survey of this literature and its principal insights, including various dimensions of complications, see generally Steven Shavell, Foundations of the Economic Analysis of Law 174–256 (2004) [hereinafter Shavell, Economic Analysis of Law].

82. Judge Learned Hand's version of the negligence test famously requires a weighing of expected harm against the cost of precautions. See United States v. Carroll Towing

should favor a strict liability regime in which compensatory damages are awarded only when they can be reliably measured, while disgorgement is substituted otherwise. (As we have seen, this approach is choice equivalent to a regime of reliably measured compensatory damages.) The disadvantage of using a negligence test that relies on harm assessment, in contexts where harm is often hard to measure, is that doing so risks introducing errors at both the liability and the remedies stages.[83] By avoiding distortions at both stages, a strict liability regime with strategic substitution may well better serve the aim of harm internalization.

If, however, the negligence test is based on a different method for setting the standard of care that does not involve assessing harms, then a strict liability regime with strategic substitution may have less of an informational advantage, or may even have a disadvantage. At the liability stage, of course, such a negligence test still demands more information than strict liability.[84] But at the remedies stage, the presence of a negligence test might relieve some need for accuracy in setting the level of damages.[85] Then again, it might not,[86] in which case the informational

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Co., 159 F.2d 169, 173 (2d Cir. 1947) ("[I]f the probability be called P; the injury, L; and the burden, B; liability depends upon whether B is less than L multiplied by P: i.e., whether B > PL.").

83. To be clear, these may be distinct errors, although both are affected by the difficulty of measuring harm: At the liability stage, the proper use of the Hand formula, supra note 82, presumably would involve assessing the possible harms (and their likelihoods) that should reasonably have been foreseen by the actor ex ante, while at the remedies stage, what is being measured for compensation purposes is the realized harm.

84. The information costs occur both in setting the standard of care and in assessing whether the actor met that standard, as a factual matter. See, e.g., Shavell, Economic Analysis of Law, supra note 81, at 181 ("Under strict liability a court need only determine the magnitude of the loss that occurred, whereas under the negligence rule a court must in addition determine the level of care actually taken (a driver's speed) and calculate the socially optimal level of due care (the appropriately safe speed).").

85. See, e.g., Steven Shavell, Liability for Accidents, *in* 1 Handbook of Law and Economics 140, 165 (A. Mitchell Polinsky & Steven Shavell eds., 2007) ("Under the negligence rule . . . on one hand, damages can be somewhat less than harm and optimal care will still be induced; on the other hand, damages can exceed harm and optimal care will be induced."). The familiar reason is that there is a discrete jump in legal disincentives, jumping from zero to the damages amount, between actions on the safe side of the liability threshold and those on the liable side. See id. (explaining discontinuity); Robert Cooter, Prices and Sanctions, 84 Colum. L. Rev. 1523, 1523–24 (1984) (explaining "[i]f lawmakers can identify socially desirable behavior, but are prone to error in assessing the cost of deviations from it, then sanctions [which a negligence standard creates] are preferable to prices [which strict liability creates]" because "[a] sanction typically creates an abrupt jump in an individual's cost" when applied).

86. Professors Mark Grady and Marcel Kahan have observed that one reason a negligence regime may not necessarily mitigate the need for accuracy in setting damages levels is that the incentives discontinuity at the negligence threshold might be smoothed out by other properties of the legal regime. See, e.g. Jennifer Arlen, Torts Damages, *in* 2 Encyclopedia of Law and Economics 682, 685 (Boudewijn Bouckaert & Gerrit De Geest eds., 2000) (noting the insight that "if the application of 'but for' causation effectively eliminates the discontinuity in the injurer's expected liability function . . . injurers will not

advantage goes more clearly to a strict liability regime with strategic substitution.

II. USING EQUIVALENCE

The logic of choice equivalence points to a tantalizing "worry-free" possibility: Courts or public enforcers may be able to substitute disgorgement for other damages or sanctions, on occasion, without needing to worry about throwing off future actors' ex ante choices. This Part focuses on one application of this remedial flexibility—as a way to work around problems of measurement in awarding harm-based remedies such as compensatory or expectation damages. The following analysis will also suggest why using a probabilistic mix of harm-based and gain-based damages might even serve the aims of harm internalization better, in some circumstances, than using solely harm-based damages.[87]

Before proceeding, let us make a mental note of two limitations. First, the actor's gains may also be hard to measure in some contexts.[88] For clarity's sake, the exposition here will assume that accurate measurement of the marginal net gains or marginal net savings to be disgorged is feasible—but of course that is not always so.

Second, substitution plainly sacrifices the aim of accurate compensation for those injured parties who do end up with a disgorgement award. Some such parties might recover more than the harm they suffered, and some might recover less. A substitution strategy may thus be more attractive to a public enforcer who is not bound to seek compensation for harm. It may be less appealing for contexts, including private disputes, in which accurate case-by-case compensation may be valued for reasons

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take due care unless damages fully compensate victims" (citing Mark Grady, A New Positive Economic Theory of Negligence, 92 Yale L.J. 799 (1983); Marcel Kahan, Causation and Incentives to Take Care Under the Negligence Rule, 18 J. Legal Stud. 427 (1989))).

87. In brief: By strategically substituting disgorgement, a court or enforcer can omit harm-based awards that suffer from artificial distortions, so that the remedial mix emulates the incentive effect of the set of only the remaining harm-based awards, which more accurately reflect true harm. More precisely, because we are focusing on the actor's ex ante incentives, what is important is that the actor *perceives* that distorted harm-based damages awards will be omitted. As section I.D emphasizes, however, this actor must face at least some uncertainty about whether the act he is contemplating will in fact lead to such a distorted damages award and thus trigger substitution, or whether instead the court will be able to assess accurate harm-based damages.

88. For example, in the Kansas–Nebraska water dispute, Nebraska's gain from the additional water was difficult to estimate, with figures ranging from at least $25 million to as much as $61 million. Report of the Special Master at 172, 177, Kansas v. Nebraska, 135 S. Ct. 1042 (2015) (No. 126).

other than deterrence.[89] This limitation may make the substitution strategy unpalatable in some contexts.[90]

A.   *The Problems of Measuring Harm*

At times it can be fiendishly hard to award accurate damages based on harm. Think of inchoate harms or future harms. And then there are subjective or idiosyncratic harms, including some emotional harms. Even some economic harms, such as lost profits or market prices when no market exists, may call for sophisticated guesses.

The usual common law approaches to such measurement problems range from tolerating guesswork to awarding nothing at all. If a court decides that the amount of damages cannot be shown with "reasonable certainty," then the award may end up being zero—even when the harms are very real.[91] This constraint operates in both the contracts and torts contexts.[92]

To take a textbook example, in *Freund v. Washington Square Press*, the high court of New York determined that a playwright could not recover lost royalties from his publisher who breached by refusing to publish his book, because the value of those royalties, "while theoretically compensable, was speculative."[93] Freund's lost royalties were a future harm and so he was able to provide "no stable foundation for a reasonable estimate of royalties he would have earned had defendant not breached its promise to publish."[94] He therefore recovered only nominal damages.

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89. When a court might normally decline to award harm-based damages for being too speculative or conjectural, however, the substitution of disgorgement would allow plaintiffs to recover something rather than nothing. (Indeed, it may well allow the plaintiff to recover more than the amount of harm.)

90. As this Essay focuses on introducing a theoretical analysis of the incentive-emulation implications of the equipoise effect, it will bracket important questions of how and when due process limitations might bar the sort of substitution strategies explored here (and whether they should).

91. See, e.g., Hermalin, Katz & Craswell, supra note 12, § 5.3.1 (noting that "in practice, a number of legal doctrines limit the losses that expectation damages will compensate," including the "reasonable certainty" requirement, which "often . . . will exclude recovery of 'speculative' losses whose amount was uncertain"); Napolitano & Luneau, supra note 24 (collecting recent New York cases barring "speculative" or "conjectural" damages in both the contracts and torts contexts); cf. Paul V. Niemeyer, Awards for Pain and Suffering: The Irrational Centerpiece of Our Tort System, 90 Va. L. Rev. 1401, 1402, 1414–17 (2004) (noting that "[p]ain is real, and, of course the suffering it causes is real" and that "pain and suffering are part of any genuine personal injury caused by a tort" but advocating for statutory restrictions and limitations on pain-and-suffering damages).

92. See, e.g., Napolitano & Luneau, supra note 24.

93. 314 N.E.2d 419, 421 (N.Y. 1974). I thank Professor Scott for reminding me that Freund's book advance can be seen as a form of liquidated damages (because he did not have to refund it). Email from Robert E. Scott to author, supra note 50.

94. *Freund*, 314 N.E.2d at 421.

B.   *A Substitution Strategy*

These travails suggest a reason for courts or public enforcers to make use of choice equivalence by substituting disgorgement when harm-based damages are difficult to measure or would be distorted relative to the true extent of harm.[95] In some contexts, courts have already experimented with substituting gain-based damages when harms are hard to prove or calculate; they have usually done so when the measure of an actor's gains can plausibly serve as a proxy measure for the plaintiff's harm.[96] But we can do better than that. The strategy of substitution suggested here is enabled by the equipoise effect; it does *not* rely on any closeness in value between gains and harms. Thus, its use is not confined to such cases. Gains and harms often differ greatly in value and cannot be justified as proxies for one another. Yet if choice equivalence is possible, substitution may nonetheless serve the aims of harm internalization.

> *Illustration—Noncompete Agreements.* Layton signed a non-compete agreement with his former employer Adz, a company selling advertisements in study guides it gives away to law students. Layton then formed his own company copying the Adz business model anyway. Finding Layton liable for breach, a court might estimate harm-based damages based on the value of the new company's profits, as an approximation, on the theory that Adz could have earned as much.[97] Yet even if the new company was actually far more (or far less) profitable than Adz, gain-based damages can still be useful as part of a substitution strategy if the conditions for choice equivalence can be met.

In fact, when the shortcomings of harm-based damages are severe, a substitution strategy might not only be serviceable for inducing a harm-internalizing effect, but also superior. The reason is that it may be better to emulate more accurate incentives by using a strategy of substitution, than to create distorted incentives by relying directly on biased harm-based damages.

> *Illustration—Patent Damages.* A patent-holding company, Luce, owns the patent for a one-click interface feature that is used in a variety of software.[98] Suppose that M-Soft is found to

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95. This approach is a workaround, and more direct solutions for improving the accuracy of damages may be possible; however, the structural errors that have characterized some attempts at more direct reform should not leave us with much optimism on that front. See, e.g., Huang, supra note 8, at 722–26, 730–31 (detailing failings of typical statutory damages schemes intended to aid recovery for harms that are hard to establish).

96. See, e.g., Melvin A. Eisenberg, The Disgorgement Interest in Contract Law, 105 Mich. L. Rev. 559, 587–88 (2006) (describing the use of disgorgement as a "surrogate" for expectation damages when the latter is hard to calculate).

97. This illustration is loosely based on National Merchant Corp. v. Leyden, 348 N.E.2d 771, 774–75 (Mass. 1976) (Kaplan, J.) (affirming an award of restitutionary disgorgement).

98. To be clear, let us assume that Luce is a patent-holding company that is a non-practicing entity; thus, a reasonable royalty is the proper harm-based measure of damages.

have infringed on Luce's patent based on a similar feature found in M-Soft's personal calendar software.[99] Setting compensatory damages based on a reasonable royalty may require the court to estimate the licensing price that the parties would have agreed to before the infringing use occurred. This task is fraught with guesswork at each step.

In the face of such uncertainty, courts have sometimes resorted to arbitrary fictions, much to the consternation of scholars and practitioners.[100] If choice equivalence holds, however, a substitution strategy becomes a possible alternative; courts can replace such fictional awards with disgorgement, while continuing to order the standard remedy when it is more readily assessed with accuracy.

Several principles should guide courts and enforcers when applying such substitution strategies. These guidelines, which correspond to the ideal conditions for choice equivalence articulated in Part I, can be organized into two categories: Those that relate to the problems of accuracy in representing true harm, and those that relate to the problems of accuracy in erasing gains.

1. *Guidelines as to Harm.* — Recall that in situations where the actor does not know how much harm the contemplated act will cause, it is important to avoid conveying a perception of selection bias in the substitution strategy. This corresponds to the second ideal condition described above, that substitution occur in such a way that the actor will perceive that the expected value of the primary remedy when it *is* used reflects the primary remedy's expected value were it used all the time.[101] In the present application, however, we are considering the complication that the primary remedy itself might be inaccurate or distorted. As a result, the proper aim is a modified principle: Substitution should be used in such a way that the expected value of the harm-based damages when they are awarded reflects the act's *true* average harm.

See, e.g., Peter S. Menell et al., Patent Case Management Judicial Guide § 7.3.4.7, at 7-14 (2009) (discussing the application of the reasonable royalty measure in cases of non-manufacturing entities).

99. This illustration is loosely based on Lucent Technologies, Inc. v. Gateway, Inc., 580 F.3d 1301, 1308–09 (Fed. Cir. 2009) (vacating a reasonable royalty award as unsupported by evidence).

100. One infamous fiction was presuming a 25% royalty rate; the Federal Circuit only (mostly) abandoned this fiction after many years of use. See Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1315 (Fed. Cir. 2011) (rejecting the "twenty-five-percent rule"). But see Energy Transp. Grp. v. William Demant Holding A/S, 697 F.3d 1342, 1356–57 (Fed. Cir. 2012) (allowing the limited use of the 25% rule as one factor in determining the rate). A somewhat more persistent fiction is the so-called "Entire Market Value Rule." See Lemley, Distinguishing Lost Profit, supra note 15, at 663–64 (lamenting distortive fictions such as the Entire Market Value Rule, which applies a royalty rate to the full market revenues of the infringing product even though the infringed patent accounts for only a part of the product's value).

101. See supra section I.D.2 (describing the need for such representativeness).

In considering how this principle might be implemented, it is useful to consider two types of situations: (1) when harm-based damages are generally accurate on average, though sometimes hard to prove, and (2) when harm-based damages are likely to be biased—that is, distorted relative to true harm.

If the actor faces uncertainty about the extent of harm her act will cause and harm-based damages are generally accurate on average, then the court or public enforcer should substitute disgorgement in such a way that the actor will not expect the chances of substitution to correlate with the extent of the realized harm.

> *Illustration—Patent Damages.* Consider again the patent dispute between Luce and M-Soft. Imagine now that M-Soft has not yet infringed, but is contemplating doing so. It is uncertain how many infringing units it can sell. It does know that in infringement litigation, the reasonable royalty may be hard for a court to determine. It expects that some courts will substitute disgorgement when faced with such a difficulty, while the remaining courts will award royalty rates that are correct on average.[102] If M-Soft estimates the chances that the court in its case will substitute disgorgement to be 1/3, no matter how many units of the software have been sold, then choice equivalence is possible. But choice equivalence fails if M-Soft expects courts to be more likely to use substitution if it has sold, say, 1,000 units than if it has sold 1,000,000 units.[103]

Note that this does not require the court or public enforcer to choose between the remedies randomly or haphazardly. What is important is that the actor does not perceive ex ante that the courts' criteria for substitution will be correlated with the realized harm. For obvious reasons, it may be quite difficult for a court or a public enforcer to actively impress upon future actors that it is following such a guideline. It may be more plausible for the nature of uncertainty on the actor's part to satisfy this independence condition.

In the second type of situation, in which actors face uncertainty about the extent of harm, and harm-based damages may be artificially distorted relative to the realized harm, courts or enforcers can *use* selection bias to counteract such potential distortions. For instance, they can substitute disgorgement instead of awarding the distorted harm-based awards. Again it is essential for the actor to perceive no correlation between the extent of realized harm and the likelihood of substitution,

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102. The right amount of profits to disgorge may also be hard to calculate, of course, such as when apportionment of the patent's contribution to the software's value is difficult.

103. This illustration assumes that M-Soft knows the true royalty rate. To offer a variation in which M-Soft faces uncertainty about the true royalty rate: If M-Soft estimates that the chance a court will substitute disgorgement is 1/3, regardless of whether the accurate royalty rate turns out to be $100 or $500, then choice equivalence is possible. But choice equivalence fails if M-Soft expects courts to be less (or more) likely to do the substitution when the royalty rate is $100.

even while the actor understands that disgorgement will replace the distorted harm-based damages. For example, in the M-Soft illustration, the approach may work if M-Soft understands that courts will substitute disgorgement whenever the calculation of reasonable royalties would be distorted by the application of pricing fictions, but also that the chances of such distortions (and hence the chances of substitution) turn on factors unrelated to the number of units sold.[104]

2. *Guidelines as to Gains.* — Next, recall the ideal condition that the court or enforcer should aim as closely as possible for true equipoise when assessing the disgorgement award.[105] That is, it should be sure to remove the actor's net gains as accurately and fully as possible—including offsetting the actor's full range of costs. This is what we have called the "no leftover incentives" condition.

Notably, the very fact of substitution amplifies the problem that departures from this condition create for choice equivalence: Because substitution dilutes the influence of harm-based damages, such extraneous costs (as well as any leftover favorable motives) will loom larger—and may at times overwhelm the remaining influence of the diluted incentives.

Meeting the "no leftover incentives" condition may be difficult or infeasible when some of the actor's costs or raw gains are intangible, idiosyncratic, or not yet apparent because they will accrue in the future.[106] Opportunity costs may also be hard to measure, even if courts are familiar with the need to account for them.[107] Part III will elaborate on particular difficulties with some such costs and touch on potential solutions.

C. *Public and Private Enforcement*

The substitution strategy may be both more feasible and more attractive in public enforcement actions than in private disputes. Certain public enforcers may have leeway to seek penalties based on gains in lieu of penalties based on harm. Unlike a court with private plaintiffs before it and a specific harm to remedy, such a public enforcer may have no

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104. As before, this version of the scenario assumes that M-Soft knows ex ante the true royalty rate (but not how many units it will sell). To extend the alternative version, in which M-Soft does not know the royalty rate: If M-Soft estimates that the chance a court will substitute disgorgement is 1/3, regardless of whether the accurate royalty rate turns out to be $100 or $500, then the approach may work. But the approach fails if M-Soft expects distortion (due to the pricing fiction), and hence the substitution of disgorgement, to be less (or more) likely when the royalty rate is $100.

105. See supra section I.D.3 (explaining the third ideal condition).

106. It is worth re-emphasizing here that assessing net gains entails information costs, just as quantifying harm does.

107. See, e.g., Gergen, supra note 69, at 846–47 (noting that if "disgorgement generally is limited to the gain attributable to a wrong" then "overhead, fixed costs, and opportunity costs" should be offset "if their value can be determined with a fair degree of certainty").

strong reason to tie penalties to harm except to set a desired level of deterrence.[108] And as we have seen, a substitution strategy may serve just as well, or better, for optimal deterrence.

1. *Imperfect Private Enforcement.* — Public enforcers may be able to use choice equivalence to fill gaps in deterrence left by incomplete private enforcement, especially in cases with multiple victims.[109] For example, suppose that an act has affected a large group of consumers, and the public enforcer estimates that the harm-based damages being pursued by private plaintiffs will likely only cover a certain proportion (say 1/10) of the total harm. Rather than pursuing supplemental sanctions based on the harms suffered by the absent victims, the public enforcer may instead peg its sanctions to 9/10 of the actor's gains.[110] As explained above, this combination of private damages worth 1/10 of the harms and public sanctions worth 9/10 of the gains can emulate the incentive effect of a set of penalties worth the full amount of harm.[111]

> *Illustration—Food Safety.* Suppose an agricultural produce company sells spinach. For one full year, the company neglects to inspect the spinach for bacteria before sending it to market. The FDA estimates that one hundred people became seriously ill due to consuming the company's spinach that year. Only ten of those victims file suit, and they reach confidential settle-

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108. It should be noted that some public enforcers do use the fines or penalties they collect from wrongdoers to create compensation funds for victims. See SEC v. Cavanagh, 445 F.3d 105, 117 (2d Cir. 2006) ("Upon awarding disgorgement, a district court may exercise its discretion to direct the money toward victim compensation or to the United States Treasury."); Urska Velikonja, Public Compensation for Private Harm: Evidence from the SEC's Fair Fund Distributions, 67 Stan. L. Rev. 331, 332–34 (2015) ("Since 2002, the SEC has deposited $14.46 billion for defrauded investors into 243 distribution funds, usually called 'fair funds' after the statute that authorizes them."); see also FTC v. Cephalon, Inc., No. 08-cv-2141, at 4 (E.D. Pa. May 28, 2015) (statement of the Commission), http://www.ftc.gov/system/files/documents/public_statements/645491/150528cephalon statement.pdf [http://perma.cc/J25L-USZR] ("The proposed order requires Cephalon to pay $1.2 billion into a settlement fund that will provide redress to purchasers who overpaid for Provigil as a result of Cephalon's illegal conduct."); Cardinal Health, Inc., FTC File No. 101-0006, at 2 (F.T.C. Apr. 17, 2015) (statement of the Commission), http://www.ftc.gov/system/files/documents/public_statements/637781/150420cardinalhealthcommstmt.pdf [http://perma.cc/K247-2ZDK] (explaining that the settlement "requires [Cardinal] to disgorge its ill-gotten gains by paying $26.8 million into a fund that will be used to compensate affected customers").

109. For an argument similar in spirit, see Elhauge, supra note 2, at 84 ("[T]his trend [of limiting the availability of antitrust class actions] supports having our antitrust agencies take up the slack left by the increasing barriers to antitrust class actions by bringing more disgorgement suits.").

110. Cf. Policy Statement on Monetary Equitable Remedies in Competition Cases, 68 Fed. Reg. 45,820, 45,822 (Aug. 4, 2003) ("[W]hen practical or legal difficulties are likely to preclude compensation for those injured by a violation who in equity should be made whole, we may seek restitution for them.").

111. See supra section I.C (noting that the approach of matching partial internalization to partial self-interest emulates the incentive effect of full internalization).

ments. In setting regulatory sanctions against the company, the FDA aims to make up the gap in harm-internalizing incentives. The direct way to do so is to assess penalties that capture the harm suffered by the ninety missing victims. But if the agency does not have reliable measures of harm, it can nonetheless achieve choice-equivalent incentives by fining the company an amount based on 90% of the company's net gains (that is, its savings from neglecting inspections during that year).[112]

Likewise, if the public enforcer is solely responsible for setting deterrence for the actor, then it may choose to apply sanctions that combine a harm-based measure (covering the known victims) with a gain-based measure for the remaining share.

> *Illustration—Food Safety.* In the case of the bad spinach, suppose that none of the one hundred victims comes forth to seek compensation. The FDA is able to identify only ten specific victims to evaluate their actual harms. The agency might then set purely harm-based penalties by extrapolating from these known harms. Or instead, the agency could set choice-equivalent incentives by assessing penalties equal to those known harms (representing 10% of total harm) plus 90% of the company's net gains.[113]

The use of such fractional disgorgement is not inconceivable, especially in negotiated agreements such as consent decrees.[114] Even courts may be willing to use their equitable powers to award combination remedies that are partly based on harms and partly on gains. As the Supreme Court noted in the recent interstate water dispute, "disgorgement need not be all or nothing."[115] The majority further explained that "if partial disgorgement will serve to stabilize a compact by conveying an effective message to the breaching party that it must work hard to meet its future obligations, then the Court has discretion to order only that much."[116]

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112. As emphasized in sections I.D.2 and II.B.1, a key assumption here is that actors perceive that the average harm among the victims who sued is representative of the average harm among all victims.

113. This latter combination again results in total penalties worth 1/10 of the harm plus 9/10 of the gain, which is choice equivalent to total penalties worth the full amount of harm (again, assuming that the average harm among the ten identified victims is representative).

114. Although fractional remedies may seem artificial, they have appeared in some federal enforcement actions and moreover, have been approved by the courts. See, e.g., United States v. Morgan Stanley, 881 F. Supp. 2d 563, 567–68 (S.D.N.Y. 2012) (approving 22% disgorgement in an antitrust consent decree); United States v. Keyspan Corp., 763 F. Supp. 2d 633, 642 (S.D.N.Y. 2011) (approving 25% disgorgement in a related case).

115. Kansas v. Nebraska, 135 S. Ct. 1042, 1058 (2015).

116. Id.

Indeed, the Court ordered partial disgorgement in addition to a conceded award of full compensation.[117]

2. *Imperfect Public Enforcement.* — Suppose now that violators face only a 1/3 chance of being detected and sanctioned. Thus, they expect to pay for the harm done only 1/3 of the time. The usual multiplier solution is to assign total damages (in cases when the violation *is* detected) that are worth three times the amount of harm. For example, if the victims themselves collect full compensation, then a public enforcer may step in with supplemental sanctions that are double the compensation.[118]

Again, substitution is possible: Instead of supplementing the compensatory award with a further harm-based penalty, the public enforcer may seek a gain-based penalty—in this case, double disgorgement instead of double compensation. These combinations are choice equivalent; both generate optimal deterrence.

> *Illustration—Food Safety.* Consider again the case of the bad spinach. Suppose all one hundred injured victims sue for compensation. Yet the FDA also knows from experience that in similar cases, the originating source of tainted produce is discovered only 1/3 of the time and thus, only 1/3 of such incidents will result in compensation. The agency might make up for the deterrence gap by assessing further penalties amounting to twice the compensation that is won. But a choice-equivalent approach is to set penalties equal to twice the company's net gains instead.

The reason is familiar by now, even if the configuration of remedies is slightly different: Agricultural producers know they will face a 1/3 chance of paying double disgorgement—an expected penalty of 2/3 of gains—along with the existing 1/3 chance of paying compensatory damages.

Thus, a public enforcer wishing to apply supplemental sanctions can choose to seek either compensation or disgorgement as the basis for such sanctions, achieving the same deterrent effect either way.[119] And it is

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117. Id. at 1051 (describing the Special Master's recommended award as $3.7 million for loss as well as "another $1.8 million in partial disgorgement").

118. The usual multiplier approach becomes much more complicated when the likelihood of sanction is correlated with the extent of harm. See Craswell, Deterrence and Damages, supra note 31, at 2193–98 (illustrating complications undermining the conventional multiplier principle, such as when the probability of sanction is correlated with the magnitude of harm). Such complexities are bracketed here.

119. In theory, punitive damages may also be used this way if the act being punished is one that the law treats as a case for optimal deterrence rather than complete deterrence (though whether that is actually a null set is a debatable question). To elaborate: A court seeking to use punitive damages to make up for the deterrence gap that occurs (say, if only 1/3 of plaintiffs come forward to seek compensation) might normally calculate punitive damages by applying a multiplier to compensatory damages (in this case, ordering punitive damages that are worth double the compensation, in order to reach a total damages award of triple compensation). But choice equivalence allows the court to emulate

not hard to imagine that a public enforcer might be better able to establish the amount of the actor's gains than the victims' harms,[120] or that the agency may prefer one or the other approach for institutional reasons.

3. *Omitting Outliers.* — Public enforcers may also be more likely to have the informational resources needed to use substitution more strategically for replacing outlier harm-based awards. If a particular enforcement action may result in harm-based penalties that are unusually low or high (for idiosyncratic reasons), the enforcer may choose instead to substitute disgorgement in that case. This can avoid creating a misimpression for future actors about the typical harm that such conduct might entail or about the harm-based penalties that might follow.

> *Illustration—Oil Spill.* EP operates oil rigs in the Gulf of Mexico. While attempting to drill a new well, EP causes an oil spill.[121] An investigation finds that EP's failure to perform a number of customary safety checks, despite warning signs of abnormal pressure in the well, caused the spill. Any of these errors alone would have been enough to cause the spill. Yet due to fortuitous and unusual seismic conditions unknown to EP at the time, the well sealed itself off without further intervention. As a result, the amount of oil released into the water was minimal—but only due to a quirk of fate.

In such an outlier case, the public enforcer may prefer to seek disgorgement of EP's savings from underperforming its safety checks (or penalties reflecting that amount) rather than harm-based penalties. This will allow other cases, in which harm-based penalties reflect more typical levels of harm, to set the deterrence for future actors.[122]

D. *Judicial Gatekeeping*

A principal limitation of substitution remains that it may be unappealing in contexts where compensation is valued for reasons other than deterrence. The uses of substitution discussed in this Part, however, have focused on contexts where the aim of accurate compensation is already

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the incentive effect of that approach by instead assigning punitive damages that are worth double disgorgement.

120. For example, if the individual victims sued but settled confidentially, the FDA may not have good information about their actual harms.

121. This illustration is loosely adapted from the Deepwater Horizon oil spill. See In re Oil Spill by Oil Rig "Deepwater Horizon," 21 F. Supp. 3d 657, 747–48 (E.D. La. 2014) (discussing the cause of the oil spill).

122. It would be sensible to argue that the chance of an actor getting extremely lucky should be included in average harm (just as any other state of the world should be included). But the suggestion here is that the public enforcer would also omit outliers at the other extreme, at the unlucky end of the spectrum of potential realizations of harm; the overall strategy is to omit outliers from both tails of the distribution. (Alternatively, the enforcer can argue that its aim is to induce future actors *not* to take gambles hoping that such freakish luck is possible, even if it is; but then, the public enforcer would be engineering a slight distortion in incentives.)

compromised. It may thus be worth considering whether some of the judicial tools currently used to address such situations might be adapted to allow the use of substitution. This section briefly explores two such possibilities.

1. *The "Inadequate Remedy at Law" Criterion.* — Common law courts play a gatekeeping role in the use of equitable remedies, such as injunctive relief or specific performance, and there is already some degree of acceptance of disgorgement as a further equitable option. It sometimes serves as a monetary substitute for injunctive relief, most familiarly as a substitute for specific performance in the contracts context.[123]

The traditional "inadequate remedy at law" criterion for equitable relief may thus be worth considering as a possible opening for the use of strategic substitution.[124] When compensatory or expectation damages are likely to fail to capture the full extent of harm, substitution can be useful for reducing underdeterrence. The problem is that this criterion would only seem available for use when harm-based damages would otherwise be too low, not too high,[125] unless courts are willing to read "inadequacy" broadly to include situations where damages are likely to be mismeasured in either direction.[126] It may also seem dissonant to use a criterion focused on the adequacy of compensation to enable the substitution of a remedy that is not pegged to compensation at all.

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123. See Steve Thel & Peter Siegelman, You *Do* Have to Keep Your Promises: A Disgorgement Theory of Contract Remedies, 52 Wm. & Mary L. Rev. 1181, 1200 (2011). As Professor Daniel Markovits explains:

> A typical example arises when a seller, breaching a land contract, conveys the land not to her buyer but rather to a third party who has made a higher offer. If the rights of the third party preclude specific performance, then courts, treating the seller as a trustee for the initial buyer, award the proceeds from the second sale to this buyer as restitution.

Daniel Markovits, Making and Keeping Contracts, 92 Va. L. Rev. 1325, 1346 (2006) (footnote omitted). This substitution is commonly known as monetary specific performance.

124. The analysis here focuses on the "inadequacy" criterion, but it may also be possible to adapt other criteria for equitable relief to permit strategic substitution. In *Ebay Inc. v. MercExchange, L.L.C.*, the Supreme Court recently articulated four criteria for federal courts to consider in issuing a permanent injunction, including the "inadequate remedy at law" criterion. 547 U.S. 388, 391 (2006). But traditional equitable practice embraces principles and concerns beyond those four factors. See Mark P. Gergen, John M. Golden & Henry E. Smith, The Supreme Court's Accidental Revolution? The Test for Permanent Injunctions, 112 Colum. L. Rev. 203, 205 (2012).

125. This analysis may seem a tad literal or formalistic for those who see equitable-relief criteria as more of a blank check than a real constraint on modern courts. But on that view, the proposed substitution strategies should be still easier to implement. The classic reference for the more realist view is Douglas Laycock, The Death of the Irreparable Injury Rule (1991).

126. Cf. Thel & Siegelman, supra note 123, at 1206 ("Specific performance is available not only when the subject of a contract cannot be obtained for *any* price, but also—and much more commonly—when it is impossible to know what the 'correct' price is.").

2. *The "Reasonable Certainty" Criterion.* — Another possible avenue is to adapt the existing "reasonable certainty" criterion to serve a strategy of substitution.[127] That is, rather than awarding no damages at all, courts could substitute disgorgement instead.[128]

Whether such a use seems consonant with the spirit of this criterion is probably in the eye of the beholder: It might seem dissonant if one viewed the test as a defendant's bulwark against ungrounded awards. But to the contrary, one might suggest that it is consonant to use this criterion to switch to a familiar measure of damages (disgorgement) that can be measured with more certainty in a given case—and all the more so if such substitution can displace the various distortive fictions for setting harm-based damages that might otherwise fill the vacuum.[129]

III. COMPLETING DETERRENCE?

Given the equipoise effect, if the law is aiming for *complete* deterrence through its use of disgorgement, then it must also rely on a variety of further costs to "complete" the deterrence. This Part addresses two sets of questions that arise from this reliance: First, how well do such costs guarantee complete deterrence? Second, how does the presence of such costs affect the theory of choice equivalence and the strategy of substitution?

A. *Litigation Costs and Opportunity Costs*

Litigation costs accompany all remedies. These include direct litigation expenditures, of course, which may be sizable but may also be limited if a case settles. One might also include in this category the informal sanctions or reputational losses that may result from the fact of litigation or the fact of liability.[130] Further costs related to litigation may include other economic or psychic costs; for example, the liable party may be

127. See supra note 91 and accompanying text (describing the "reasonable certainty" criterion).

128. Again, in accordance with the first and second ideal conditions articulated in sections I.D.1–.2, it remains necessary for choice equivalence that actors perceive some uncertainty about whether they will face harm-based damages (that are accurate on average) or disgorgement instead. For example, an actor may suspect that harm will be somewhat hard to measure in its case and yet also remain uncertain about whether the court will find that measurement to be so speculative as to fail the "reasonable certainty" criterion.

129. See supra note 100 (detailing court-created fictions used in awarding patent damages).

130. See, e.g., Cardinal Health, Inc., FTC File No. 101-0006, at 4 (F.T.C. Apr. 17, 2015) (Wright, Comm'r, dissenting), http://www.ftc.gov/system/files/documents/public_statements/637771/150420cardinalhealthwright.pdf [http://perma.cc/77SL-CJ83] ("Risk averse companies concerned about the financial and reputational effects associated with a disgorgement order from the FTC could respond . . . [ex ante] by not engaging in conduct that could plausibly benefit consumers.").

loath to confer what it sees to be a windfall on a despised opponent or a rival firm. These sorts of litigation-related costs are generally not offset in the calculation of monetary awards, including disgorgement.

In practice, a so-called disgorgement award might also fail to properly offset opportunity costs or even the direct costs of the act.[131] Some such costs are more subtle than others: For example, consider an actor who uses an item of property without consent. This actor might have bargained for its use instead, leaving her sharing in the surplus. As some courts have acknowledged, an award that failed to account for that shared-surplus baseline would overshoot the true net gain attributable to the taking.[132] This sort of opportunity cost would be properly offset if the disgorgement award is valued at the actor's marginal net gain (or marginal net savings) relative to her best alternative noninfringing action.

Some courts have intentionally ignored opportunity costs, however, apparently as a way to pile on an arbitrary amount of extra disincentive.[133] Similarly, a refusal to offset even the more direct and tangible costs of taking the action is sometimes a deliberate part of the remedial scheme, intended as a way to add a quasi-punitive surcharge beyond the accurate disgorgement amount.[134]

B.   *A Fragile Deterrence*

Extraneous costs like these are what ensure complete deterrence in many cases. The fact that some such costs will always exist might thus seem to offer a way to justify our conventional shorthand equating gain-based damages with complete deterrence.[135] But this is a flimsy rationalization. The most obvious reason is that possible *favorable* motiva-

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131. See Gergen, supra note 69, at 864 (noting that some courts recognize the need to offset such costs but others fail to do so).

132. As Judge Richard Posner classically stated in a copyright case, "[B]y forcing the infringer to disgorge his profit should it exceed the copyright owner's loss the law discourages infringement and encourages the would-be infringer to transact with the copyright owner rather than 'steal' the copyrighted work." Bucklew v. Hawkins, Ash, Baptie & Co., 329 F.3d 923, 931 (7th Cir. 2003); see also Gergen, supra note 69, at 830 ("Disgorgement deters—i.e., it encourages people to bargain for the entitlements they use—by making someone who consciously uses an entitlement without obtaining consent predictably pay more in damages than he would have paid by bargaining.").

133. See Gergen, supra note 69, at 830 (noting that courts sometimes "fudge the factual issue to award more than the likely gain . . . in order to deter" by "determin[ing] the wealth attributable to a wrong without resolving . . . how the wrongdoer would have acted differently and how a change of conduct would have affected his wealth").

134. See, e.g., Restatement (Third) of Restitution and Unjust Enrichment § 40 (Am. Law Inst. 2011) (contrasting withholding certain costs for "conscious wrongdoers" with refunding those costs for "innocent" wrongdoers and citing cases for support).

135. See supra note 8 (noting this shorthand).

tions, also untouched by a disgorgement award, might outweigh such costs.[136]

> *Illustration—Hidden Benefits.* An advertising firm breaks a contract with Client One to take a higher-paying contract with Client Two. The firm jumped at the opportunity because it has been hoping for years to build a relationship with Client Two, whose fortunes are clearly on the rise. Even if the agency must disgorge the direct profits from its breach, the longer-term economic motivations would remain. Such favorable motivations may well outweigh the leftover costs that would otherwise have served as a deterrent.

Think also of intrinsic, intangible motivations such as enjoyment or a sense of purpose. Consider again the former CIA analyst, Frank Snepp.[137] The Supreme Court required him to disgorge all his profits from publication—noting that the harm to the government was "unquantifiable," that nominal damages would be "a hollow alternative, certain to deter no one," and that punitive damages would be "speculative and unusual."[138] The disgorgement solution, however, only goes so far. It does not defeat his nonfinancial motivations to write his whistleblowing book—a desire for recognition, say, or a sense of public duty. More to the point, he might still have written the book due to those motivations *even if* he knew that the so-called disgorgement remedy would be deliberately tweaked to fail to account for his time, effort, and opportunity costs.

It is hardly a satisfying answer, then, to say that deterrence is ensured by disgorgement because we can always assume that some further costs are sure to exist—especially as such costs might be uncalibrated and arbitrary in magnitude.[139]

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136. This failure to account for how favorable motivations can outweigh the leftover costs can be characterized as an error of underestimating the amount to be disgorged. See supra note 76 and accompanying text (noting the observation by Professors Polinsky and Shavell that the consequences of such an underestimation, in a remedial regime that relies solely on gain-based damages, may be a failure to deter acts for which the harm greatly outweighs the gain).

137. See supra notes 52–55 (explaining the facts underlying Snepp's case).

138. Snepp v. United States, 444 U.S. 507, 514–16 (1980).

139. Whether such arbitrariness raises a potential due process problem is bracketed here, but it is noteworthy that courts and commentators *have* forcefully raised due process concerns about other forms of unintended arbitrariness in remedies amounts. See, e.g., Sony BMG Music Entm't v. Tenenbaum, 721 F. Supp. 2d 85, 95–118 (D. Mass. 2010) (Gertner, J.) (drawing on due process jurisprudence as applied to punitive damages for application to statutory damages), aff'd in part, vacated in part, 660 F.3d 487 (1st Cir. 2011) (rejecting Judge Nancy Gertner's due process analysis). See generally Sheila B. Scheuerman, Due Process Forgotten: The Problem of Statutory Damages and Class Actions, 74 Mo. L. Rev. 103 (2009) (raising due process concerns related to statutory damages schemes that result in unchecked or arbitrary penalties).

C.   *Effects on Choice Equivalence*

Given that such costs *do* exist, however, how might they affect the theory of choice equivalence and the strategy of substitution? To address this question, it is useful to distinguish between two types of additional costs: those that are specific to the imposition of disgorgement and those that attend the imposition of any remedy.

First, note that extraneous costs specific to disgorgement may be analyzed as a form of leftover incentives or errors in assessing net gains—that is, departures from the third ideal condition, as articulated in section I.D.3. The presence of such leftover costs leads to deviations from choice equivalence, which in the context of harm internalization may translate into deviations from optimal deterrence.[140] (To be clear, however, this does *not* mean that the result is complete deterrence.) The straightforward solution is for the disgorgement award to offset such leftover costs.

Next, consider the extraneous costs that are present no matter which remedy is awarded. For example, the actor's litigation costs will not be offset if the court awards compensatory damages or expectation damages any more than if the court awards disgorgement. (This is assuming that the so-called "American Rule" is in effect, whereby each side pays its own costs.)[141] Similarly, reputation costs may arise from the fact of liability, whether the remedy is disgorgement or compensation.

Even if the same such costs are present for either remedy, however, choice equivalence will be distorted. The intuition is that leftover incentives loom larger under a substitution strategy, which dilutes other relevant incentives, than under the usual harm-based damages regime. In the context of harm internalization, this asymmetry translates into a greater deviation from optimal deterrence. An actor expecting to pay harm-based damages plus such extra costs is already overdeterred.[142] But an

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140. For example, consider an actor who expects a 1/3 chance of paying accurate harm-based damages h, leaving her with $(g - h)$, and a 2/3 chance of disgorgement mismeasured as $(g + x)$, leaving her with $(-x)$. The incentives created are for her to act when $(g - h) > 2x$, which differs from the optimal deterrence condition $(g - h) > 0$. To generalize: If the actor expects to pay the harm-based damages with probability $p > 0$, and to pay disgorgement plus an extra cost x otherwise, then she will have incentive to act if $p(g - h) - (1 - p)x > 0$, or equivalently, $(g - h) > x(1 - p)/p$. Thus, assuming that the ideal decision threshold is $(g - h) > 0$, her incentives are distorted by the amount $x(1 - p)/p$. This implies that the greater the use of disgorgement relative to the harm-based damages, the larger the distortion.

141. See, e.g., Baker Botts L.L.P. v. Asarco LLC, 135 S. Ct. 2158, 2164 (2015) (defining "American Rule" and noting its strong influence). But the more general point holds even if there may be some fee shifting, as long as litigation costs are (or are not) offset in the same fashion and to the same extent whether courts award the primary remedy or disgorgement.

142. For example, consider the actor who expects to face litigation costs of x. If accurate harm-based damages were certain to be awarded, then she is overdeterred by that amount x: Her incentives are to act if $(g - h) > x$. She is overdeterred in the sense that these incentives deter her from some acts for which her gains are greater than the harm she causes, because acting entails litigation costs. That is, assuming that the ideal decision

actor facing the substitution strategy along with such costs will be over-deterred to a greater extent.[143]

The ideal solution here, of course, would be to adjust *both* remedies to offset such extraneous costs. But if litigation costs cannot be offset when awarding compensatory or expectation damages, due to existing practice, a partial solution might be to adjust the disgorgement amount to offset litigation costs whenever the substitution occurs—that is, to make sure that at least the disgorgement component of the remedial mix is properly set. Doing so would reduce the overdeterrence to the same level as would naturally occur under the harm-based damages regime.[144] This is not a coincidence, but rather a straightforward application of the logic of choice equivalence.

The preceding analysis has focused on harm-based damages, but it is worth noting that the same distortions—and the same solutions—apply to the use of a substitution strategy for emulating any other primary remedy.[145]

D. *The Plaintiff's Choice*

Ensuring complete deterrence can also be accomplished by allowing the plaintiff to choose between harm-based and gain-based damages. This is a familiar structure in some areas of law—most notably, in cases of conscious wrongdoing, certain fiduciary breaches, and copyright viola-

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threshold is $(g - h) > 0$, her incentives are distorted by the amount x. (If, however, one considers litigation costs to be a social loss, then one might say she is not overdeterred in the sense that she is internalizing all social gains and losses.)

143. Consider the same actor. Suppose that she expects a $1/3$ chance of paying harm-based damages along with litigation costs of x and a $2/3$ chance of paying disgorgement along with the same costs. Her incentives are to act when $(g - h) > 3x$. Notice that this implies a departure from both choice equivalence and optimal deterrence (even if one counts the litigation costs x as a social loss). To generalize: If the actor expects to pay harm-based damages and an extra cost x both with probability $p > 0$, and to pay disgorgement and the extra cost x otherwise, then she will have incentive to act if $p(g - h - x) - (1 - p)x > 0$, or equivalently, $(g - h) > (x/p)$. Thus, assuming that the ideal decision threshold is $(g - h) > 0$, her incentives are distorted by the amount (x/p). This also implies that the greater the use of disgorgement relative to the harm-based damages, the larger the distortion.

144. Continuing the same illustration, the actor now expects a $1/3$ chance of paying harm-based damages along with the litigation costs of x, and a $2/3$ chance of paying disgorgement with no litigation costs. Her incentives are to act when $(g - h) > x$. To generalize: If the actor expects to pay harm-based damages and an extra cost x both with probability $p > 0$, and to pay only disgorgement otherwise, then she will have incentive to act if $p(g - h - x) > 0$, or equivalently, $(g - h) > x$. Thus, assuming that the ideal decision threshold is $(g - h) > 0$, her incentives are distorted by the amount x. This is the same distortion as when harm-based damages along with an extra cost x are always awarded. See supra note 142 and accompanying text (describing such distortion).

145. This can be seen by replacing h with r in the expressions above, where r generically represents the value of any primary remedy. Cf. supra section I.A. (demonstrating the logic of choice equivalence in the context of any primary remedy, generically labeled r).

tions.[146] It is well understood how allowing plaintiffs the choice can lead to complete deterrence, but the mechanism is worth reviewing briefly here as a preface to analyzing how it affects the choice-equivalence analysis and the strategy of substitution.

1. *Extreme Selection Bias.* — Consider the classic case of the egg-washing machine, *Olwell v. Nye & Nissen Co.*[147] At the height of World War II, when labor was in short supply, a man named Olwell discovered that the packing company next door had surreptitiously used his "Eggsact" egg-washing machine. Orwell had sold his own packing business to the company—except for this particular machine. They had used his machine without permission for three years (and rebuffed his offers to sell or rent it to them).[148]

But it so happened that Olwell had no intention of using the machine himself during that time; nor had he sought to rent it or sell it to others.[149] In short, he had suffered no actual harm. Even more fortunately for him, the Washington Supreme Court used his case to make a strong statement about the plaintiff's freedom to choose between a harm-based torts remedy and a gain-based restitutionary remedy.[150] Not surprisingly, he chose to pursue an award based on disgorging his neighbor's gains.[151]

What sorts of incentives does such a remedial structure produce for a potential tortfeasor or contract breacher? Consider an actor who does not know whether harm will exceed gains or vice versa. What she *can* predict is that if the harms exceed her gains, the plaintiff will choose

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146. See Bucklew v. Hawkins, Ash, Baptie & Co., 329 F.3d 923, 931 (7th Cir. 2003) (including classic statement by Judge Posner explaining why an infringer may be forced to disgorge profits if such profit exceeds the amount of harm to the copyright holder); Omri Ben-Shahar, Damages for Unlicensed Use, 78 U. Chi. L. Rev. 7, 13–16 (2011) (analyzing the incentive effects of several variations of such "greater of" regimes in intellectual property); Robert H. Sitkoff, The Economic Structure of Fiduciary Law, 91 B.U. L. Rev. 1039, 1048 (2011) ("In the event of the fiduciary's breach of duty, the principal is entitled to an election among remedies that include compensatory damages to offset any losses or to makeup any gains . . . or to disgorgement by the fiduciary of any profit accru[ed] [from] breach.").

147. 173 P.2d 652 (Wash. 1946).

148. Id. at 652–53.

149. Id. at 653–54.

150. Id. at 653 ("[I]n cases where the defendant *tort feasor* has benefited by his wrong, the plaintiff may elect to 'waive the tort' and bring an action in assumpsit for restitution. Such an action arises out of a [legal] duty . . . upon the defendant to repay an unjust and unmerited enrichment.").

151. Id. And still more fortunately for Olwell, the measure of gains that the court adopted was remarkably high; it has received much academic criticism as being overkill. See, e.g., Farnsworth, Your Loss or My Gain?, supra note 20, at 1348–49 (criticizing the court's measure and proposing several more plausible alternative measures).

compensatory damages, and the rest of the time the plaintiff will choose disgorgement.[152]

> *Illustration—Copyright Damages.* The Hawk publishing company is considering copying and selling a booklet of income tax worksheets that is extremely similar to a booklet an author named Buck has created and copyrighted. Hawk does not know whether its profits from the infringement will exceed Buck's lost profits, but it knows that copyright law will allow Buck the option of seeking either disgorgement or compensation.[153]

Looking ahead, the company sees no chance of a net gain, but only some chance of breaking even and otherwise a net loss. Expecting a net loss on average, the company is completely deterred—as copyright law apparently intended.[154]

This complete deterrence effect is quite familiar.[155] But seeing it from the perspective of the equipoise effect does leave us with a somewhat unusual conclusion: In a sense, it is the *harm-based* damages that are responsible for complete deterrence.[156] The reason is that an extreme form of selection bias is at work.[157] And this selectivity, combined with the

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152. If the harm happens to equal the gains, whether the plaintiff chooses to call it compensatory damages or disgorgement does not matter for the analysis (because the actor does not know this fact beforehand); for convenience, the exposition here will call it disgorgement.

153. This illustration is based loosely on Bucklew v. Hawkins, Ash, Baptie & Co., 329 F.3d 923, 931 (7th Cir. 2003) (Posner, J.) ("A copyright owner can sue for his losses or for the infringer's profits, but not for the sum of the two amounts . . . . The copyright owner is allowed to waive damages (lost profits) and sue for the infringer's gain."). The possibility of statutory damages is bracketed here. See Huang, supra note 8, at 748–50 (describing and analyzing statutory damages for copyright infringement); Pamela Samuelson & Tara Wheatland, Statutory Damages in Copyright Law: A Remedy in Need of Reform, 51 Wm. & Mary L. Rev. 439, 471–73 (2009) (noting pathologies of statutory damages in copyright).

154. See *Bucklew*, 329 F.3d at 931 ("[B]y forcing the infringer to disgorge his profit should it exceed the copyright owner's loss the law discourages infringement . . . .").

155. See, e.g., id. (recognizing how the plaintiff's election of remedies can serve complete deterrence); Ben-Shahar, supra note 146, at 13–16 (same); Sitkoff, supra note 146, at 1048 (same); see also Eisenberg, supra note 96, at 577 ("Generally speaking . . . a promisee will seek disgorgement damages only when they exceed expectation damages. Therefore, protection of the disgorgement interest would provide the promisor with excessive incentives for performance and precaution."). For a behavioral economics analysis of the incentive effects of such election of remedies, see Oren Bar-Gill, Pricing Legal Options: A Behavioral Perspective, 1 Rev. L. & Econ. 204, 229–31 (2005).

156. But what about an actor who knows whether the harms will be higher than the gains? The situation looks even stranger: This actor is deterred when the harms exceed the gains; the rest of the time, the actor faces equipoise (and so achieving complete deterrence must rely again on nonremedial costs). Cf. Sitkoff, supra note 146, at 1048 ("But compensatory damages deter breach only when the gains to the breaching party are less than the nonbreaching party's loss.").

157. One qualification: If, for whatever reason, the actor does *not* expect that the future plaintiff will always choose the higher amount, this will temper the selection bias and complete deterrence will not be so sure. One might also imagine reasons why a plaintiff

equipoise effect, is what guarantees the overall net loss. In essence, the resulting incentives are choice equivalent with harm-based damages that are sure to be greater than the actor's gain.

2. *Consequences for Legal Design.* — Simply allowing the plaintiff to choose between disgorgement and compensation can thus create complete deterrence. The actor does not even need to have a good guess of how often the harms might exceed her gains. As long as she expects *some* chance that the harms will exceed gains, then she will be completely deterred. This is rather convenient if the law's aim is complete deterrence.[158]

This effect may be troubling, though, if the law's aim is harm internalization. Is there any way to return to optimal deterrence? This question circles back to the ideal conditions articulated in section I.D. The second condition, the accuracy of the primary remedy, has failed in a spectacular way. Here the issue is not just missing the target of true harm. Now the problem is overshooting the actor's *gains.*

Recognizing this distinctive mechanism introduces some conceptual clarity—but also some pessimism—in crafting workarounds. One approach is to limit the option of disgorgement to public enforcers, rather than private plaintiffs. One might sensibly assume that private plaintiffs will naturally choose whichever form of damages offers a higher amount.[159] While this motivation might also be true of public enforcers in some contexts, in others it might not. When public enforcers value optimal deterrence, they may instead pursue substitution in a way that emulates harm internalization. A second approach is to set boundaries on when the plaintiff should be allowed the choice—for example, by setting a liability threshold,[160] or by establishing prerequisites such as a finding of bad intent. This confines complete deterrence to unacceptable

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might prefer (or end up) seeking one remedy or the other, even if it is not necessarily the higher-value remedy. See Farnsworth, Restitution, supra note 28, at 62 (noting "restitution may be preferable . . . if the defendants' gains are easier to prove than the plaintiff's losses").

158. "Convenient" is the word of choice. If complete deterrence is really the aim, why not just take a more direct approach—say, through punitive damages, civil penalties, or criminal liability? One plausible answer might be that there are contexts in which complete deterrence is thought to be the aim but "punishment" is not. See generally Doug Rendleman, Measurement of Restitution: Coordinating Restitution with Compensatory Damages and Punitive Damages, 68 Wash. & Lee L. Rev. 973, 998–1005 (2011) (analyzing the mystifying relationship between disgorgement and punitive damages in the law of restitution).

159. It is worth a reminder here that a private plaintiff may have various reasons for not choosing the higher amount. For clarity's sake, the exposition here assumes that she will.

160. Recall that the basic logic of choice equivalence does *not* require any initial weighing of harms and gains at the liability stage. But if allowing the plaintiff a free choice of remedies entails complete deterrence, then adding a liability threshold may become necessary for optimal deterrence.

versions of the act, while keeping harm internalization for the more tolerable sorts.[161]

CONCLUSION

One further observation emerges from this exploration of the equipoise effect. Recall the tech start-up founder, whom we met in the Introduction. Imagine that she anticipates having to disgorge her profits, should she infringe the patent. If that were all, she would be in equipoise. But what if she also expected some chance that the court might substitute harm-based damages instead?[162] This would introduce a new incentive—one requiring her to weigh gains against harms.

This shift of perspective in how we see our familiar mix of remedies also prepares us to revisit how we see harm-based damages operating alone. We can think of an award of harm-based damages as being the sum of two parts: an amount that is equal to gains, and an amount that is equal to the difference between harms and gains.[163] The first piece puts the actor in equipoise, and the second piece introduces a further incentive requiring her to weigh gains against harms. Look familiar? We thus arrive at another way of appreciating how harm-based damages work: They introduce a desired incentive—after first finding equipoise.

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161. See, e.g., Restatement (Third) of Restitution and Unjust Enrichment § 40 cmt. b (Am. Law Inst. 2011) (distinguishing an "innocent" violator from a "conscious wrongdoer"); cf. Richard Craswell, When Is a Willful Breach "Willful"? The Link Between Definitions and Damages, 107 Mich. L. Rev. 1501 (2009) (analyzing how the scope of the meaning of "willful" should influence the setting of limitations on damages); Alex Raskolnikov, Irredeemably Inefficient Acts: A Threat to Markets, Firms, and the Fisc, 102 Geo. L.J. 1133, 1136–37 (2014) (distinguishing between contingently and irredeemably inefficient acts and emphasizing the role of the actor's intent).

162. Note that this is also how the illustration based on the *Snepp* case was initially framed, in section I.B, with future whistleblowers anticipating disgorgement as the default remedy, while also anticipating some chance of paying harm-based damages instead.

163. That is, $h = g + (h - g)$. Note that the same shift in perspective can also be applied to any other primary remedy—that is, $r = g + (r - g)$.