The Profits of Infringement:

Richard Posner v. Learned Hand

Stephen E. Margolis*

March 8, 2006

Preliminary

* Professor of Economics, North Carolina State University.

This research was initiated during my sabbatical visit to George Mason University School of Law during the spring term of 2005.The author thanks the faculty and staff at GMU for their hospitality and collegiality. Thanks to Stan Liebowitz, Charles Knoeber, Tom Grennes, David Flath, Mark Walker, Bob Peace, Charles Joyner and Bruce Kobayashi for their comments. Thanks also to the participants at the economics workshop at Wake Forest University and the applied micro and industrial organization workshop at North Carolina State University.

CONTENTS

1. Introduction

The Federal Courts of Appeals do not agree on how awards should be computed in cases of copyright and trademark infringement. Even within circuits, courts differ on the rules that determine an infringer's monetary liability. The different rules can lead to order-of-magnitude differences in liability.

The Copyright Act specifies that a successful plaintiff in a copyright action is entitled to the "actual damages and any additional profits of the infringer."[1] Profits are further specified as "any profits of the infringer that are attributable to the infringement." The only additional elaboration on profits is this: "[T]he copyright owner is required to present proof only of the infringer's gross revenue, and the infringer is required to prove his or her deductible expenses and the elements of profit attributable to factors other than the copyrighted work."[2] Deductible expenses are not specified, leaving room for disagreement.

Similarly, the Lanham Act specifies that the owner of an infringed trademark is entitled to "(1) defendant's profits, (2) any damages sustained by the plaintiff, and (3) the costs of the action,"[3] Again, profits are not defined, and the burdens of proving costs are placed on the defendant: "In assessing profits the plaintiff shall be required to prove defendant's sales only; defendant must prove all elements of cost or deduction claimed."[4] And again, "elements of cost or deduction" is not further specified.

Case law has filled this definitional gap, but the Courts of Appeals disagree about which costs are deductible. The disagreements concern fixed costs: Some courts apply what is called a **full absorption rule**, which allows defendants to deduct an allocation of fixed costs. Other courts apply an **incremental rule**, which does not allow deduction of fixed costs.

This paper considers economic explanations and legal foundations for the two distinct rules that are present in the case law of copyright and trademark infringement. I will argue that the full absorption rule, as developed in the Second Circuit, particularly by Judge Learned Hand[5], comes closer to providing a measure of economic profits than the incremental rule, as applied in the Seventh Circuit and articulated particularly by Judge Richard Posner[6].

---

[1] 17 U.S.C.A. § 504 (2004). Alternatively, the copyright owner may be entitled to statutory damages, as discussed further below.
[2] *Id.*
[3] 15 U.S.C.A. § 1117 (2004). Here too, the defendant may elect statutory damages. Courts may award treble damages in case where the infringement is deemed willful.
[4] *Id.*
[5] Sheldon et al v. Metro Goldwyn, 106 F.2d 45 (2d Cir. 1939). For disagreement within a circuit *cf.* Hamil America, Inc. v. SGS Studio, Inc., 1998 WL 19991 (S.D.N.Y. Jan. 21, 1998) with Hamil America, Inc. v. GFI, 193 F.3d 92 (2d Cir. 1999). The district court applied the incremental rule, departing from *Sheldon*. The Court of Appeals for the Second Circuit reversed and reaffirmed that *Sheldon* establishes the rule for the circuit.
[6] Taylor v. Meirick, 712 F.2d 1112 (7th Cir. 1983).

2. Cost Categories and Why They Matter

Direct costs are the costs of materials and labor that are intimately associated with production of a unit of output—for example, for a hamburger restaurant, the cost of the beef patty, the bun, the pickle, and the wages of the cook. Businesses also have various kinds of **indirect costs**, which are also called **overhead costs.** Some overhead costs do vary with the level of activity in the business—in our restaurant example, the wages of the waiters, the bus boys, the dishwashers, and the cashiers. Accountants call these **variable overheads**. Economists group together both direct costs and variable overheads, referring to them as **variable costs**. Finally, there are indirect costs that may be deemed fixed with respect to output, at least under some restricting assumptions.[7] In our restaurant example, such costs are associated with the restaurant manager, the building, and the menus. Economists call such costs **fixed costs**; accountants call them **fixed overheads**.

Courts that apply a full absorption rule allow defendants to deduct an 'appropriate' share[8] of the firm's overhead. In that context, the distinction between fixed and variable overhead is of no consequence since both types are deductible. Courts that apply an incremental rule disallow deductions for some overheads. The logic of the incremental rule[9] implies that variable overheads, a component of what economists call variable costs, should be allowed, and that fixed overheads (fixed costs) should be disallowed. However, in practice overheads—fixed and variable—are sometimes lumped together and treated as if they are the same.

On the face of it, the incremental rule seems to embody the language and logic of economics. But I will argue that the incremental rule, as implemented, excludes relevant economic costs from the profits calculation. In contrast, the full absorption rule incorporates a defensible proxy for the infringer's opportunity costs of the use of fixed factors in the infringing activities.

The way we count these costs is no mere quibble. Overheads—fixed and variable—are often a large share of a firm's total cost, and typically are many times larger than a firm's net income. Consequently, a rule that prevents an infringer from deducting overheads can increase his liability for an infringing activity several fold.

---

[7] Such things are conveniently called fixed costs, but that label requires some restriction about the decision horizon. These costs are not fixed for restaurant operator who today is planning a restaurant that will open next year.

[8] What is "appropriate" is not entirely straightforward. Typically, courts that allow a deduction for overheads allow the defendant to allocate overheads in proportion to revenues. For example, if infringing sales constitute ten percent of the firm's sales, the firm is permitted to allocate ten percent of its total overhead to the infringing activity. For more, *see infra*.

[9] *See infra*, however the economic principle is that the benefits of an action are the incremental benefits of the action, less the incremental costs. Clearly deduction of additional overhead expenses that result from an infringement is consistent with this principle.

Let's look at the scale of what is at stake. A firm's operating statement typically reports the costs that the firm regards as its direct costs under **costs of goods sold**.[10] All other costs are reported under **expenses**, and for legal proceedings and many other purposes these expenses are usually called **overheads**. Revenue minus costs of goods sold is called **gross profit**; revenue minus costs-of-goods-sold and expenses is called **net operating income**. It is not at all unusual for a firm to have a very substantial gross profit, but a negligible or even negative net operating income. For example, it would not be unusual for a firm to show gross profits of 60 or 70 percent of sales revenue, but a net operating income of only 5 or 6 percent. Analogously, an infringer might easily show profits of infringement equal to 5 or 6 percent of infringing sales if all overheads were deductible, or equal to 60 or 70 percent of infringing sales if no deduction of overheads were permitted.

Aggregate IRS data on corporate income and expenses provide some corroboration of these claims. IRS data for 2002 for all firms that are classified in manufacturing (NAICS 31-33) show that total receipts less the costs of goods sold is 36 percent of total receipts. For manufacturing firms, accounting practices typically locate all of the direct materials and labor costs in costs of goods sold. Remaining costs are called expenses on a tax return[11] and are sometimes called overheads in other (non–tax accounting) contexts. Regardless of terminology, this margin—a gross profit—gives a rough indication of the magnitude of profits that a court might award if it disallows any deduction of overheads in determining an infringer's "profits."

In contrast, in the same IRS data, total receipts less total expenses is approximately 1.5 percent of total receipts.[12] This is a margin on all costs, which of course includes all overheads. The twenty-seven fold difference between these two margins, 36 percent and 1.5 percent, offers a very rough idea about the stakes involved in a court's decision regarding whether to allow the infringer to deduct overheads as a cost of the infringing production.

Why do the IRS data offer only a very rough idea? First, the IRS data for manufacturing reflect a massive aggregation—the sums of tax return entries for all corporations classified as manufacturing. Individual firms will differ enormously. Second, the costs of goods sold may imbed some fixed costs.[13] In litigation, a plaintiff's economics expert

---

[10] Or costs of sales. Costs of goods sold on statements of operations are not generally identical to direct costs. In manufacturing, for example, costs of goods sold typically includes allocated factory overheads.

[11] Tax accounting and cost or managerial accounting are distinct practices and the terms direct cost and overhead have no exact counterpart in the grouping that show up in a tax return. In manufacturing, costs of goods sold will often capture almost all of that can be associated with the factory floor. This typically will include direct materials and direct labor. It may also include an allocation of plant costs, which, for other purposes may be treated as fixed costs or overheads by economists and accountants.

[12] Internal Revenue Service, Sources of Income Statistics-Corporation Data by Sector or Industry. Tax Year 2002 Early Release Table-All Corporations, http://www.irs.gov/pub/irs-soi/02co01er.xls (last visited May 23, 2005).

[13] Further "book" and "tax" net income are known to differ, with book income often , but not always, exceeding tax income. See (add reference here). These different would affect the exact numbers used above, but not the implication of the order of magnitude comparisons shown.

may attempt to identify components of costs of goods sold that are fixed and claim, accordingly, that these costs should be excluded from the costs of infringement.

Finally, data on the manufacturing sector may account for much of the caseload in trademark infringement, but not in copyright. To find information on copyright infringers we might more appropriately look to the information sector (NAICS 51), which includes many of the industries in which copyright is particularly important: newspaper, periodical and book publishing, directory publishing, software publishing, broadcasting, sound recording, motion picture and video production, news syndicates, libraries and archives, broadcasting, and data processing, among others. For the aggregate of tax returns for corporations in the information sector, the margin on the cost of goods sold (receipts minus costs of goods sold as a percentage of receipts) is 77 percent in 2002. The margin on all costs, including overhead costs, is -4 percent for the same period.

It is easy enough to explain how firms with large margins on variable costs would operate at a loss overall: Their margins on variable cost, though perhaps very large as a percent of sales, were simply insufficient to cover their fixed costs. These relationships also show how dramatically the alternative legal rules can affect liabilities. For example, using the information industries data, we can see that an infringing firm that showed losses on its tax return of 4 percent of its revenues might still owe 77 percent of its total revenues for an act of infringement that affected all of its sales if the court applied a rule that did not allow overheads to be deducted (the incremental rule). Many would consider this result to be punitive.

On the other hand, this last example, though very simple, probably could not reflect an actual award. If a firm did produce only one product, then all of its costs could well be deemed incremental to the infringement, which could prompt a finding that all costs are deductible. So let's consider a more realistic example, illustrating the same general point, but based on a multi-product firm and the figures of the more-profitable manufacturing industries (NAICS 31-33). Suppose an infringing product is 5 percent of a firm's sales. Under a rule that allows no deduction of overhead costs, the legally determined profits of the infringement would constitute 120 percent of the entire net operating income of the firm.[14]

These illustrations do not make a case for crediting the infringer for his overheads. A firm can be losing money and nevertheless commit an act of infringement that is highly profitable. The point of these illustrations is merely to put the issue into perspective, to show that this issue, though perhaps obscure, is not trivial.

There are several advantages to settling this issue. First, the unsettled nature of the courts' treatment exposes commercial activity to unnecessary risk. Second, it makes

[14] In NAICS 31-33, firms earned gross margins of 36%. An award of 36% applied to 5% of total revenues would be 1.8 percent of total revenues (.05*.36=.018), Because the firm's net operating income is 1.5% of its total revenues, the award would constitute 120% of the firm's net operating income (1.8/1.5=1.2).

litigation outcomes more uncertain, thus reducing the likelihood of settlement.[15] Finally, if one of these rules is correct, then the continued use of the other in some courts results in either too much litigation or too little, and too much precaution against infringement or too little. If, for example, the courts were to decide systematically to credit overhead, awards to successful plaintiffs would be much smaller, which would reduce both the incentive to litigate and the incentive to take precautions against infringement.

3. Law and Economics I: Statutes and Principles

A. Copyright

The Copyright Act of 1976 specifies that the owner of an infringed copyright "is entitled to recover the actual damages suffered by him or her as a result of the infringement, and any profits of the infringer that are attributable to the infringement and are not taken into account in computing the actual damages."[16] As an alternative, the plaintiff can elect to receive statutory damages of up to $30,000 "as the court considers just." Further, in cases where infringement is determined to be willful, the court can award statutory damages of up to $150,000 per infringement. In instances where the infringer can prove that he "was not aware and had no reason to believe that his or her acts constituted an infringement of copyright, the court in its discretion may reduce the award of statutory damages to a sum of not less than $200."[17]

The statute does not define profits. The only instruction it provides regarding computation of profits is this: "In establishing the infringer's profits, the copyright owner is required to present proof only of the infringer's gross revenue, and the infringer is required to prove his or her deductible expenses and the elements of profit attributable to factors other than the copyrighted work."[18]

The availability of statutory damages, over which judges have discretion, assures that remedies provide some deterrence and some incentive for litigation even in cases in which damages are absent or difficult to establish and profits are absent or very small. Where infringement is willful, greater discretion regarding statutory damages introduces a punitive element.[19] But the availability of statutory damages does not entirely decouple awards from damages and infringer's profits. In important instances, infringer's profits will exceed the limits on statutory damages. Furthermore, where infringement has not

---

[15] George L Priest and Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1-55 (1984).
[16] 17 U.S.C.A. § 504(b) (2004).
[17] 17 U.S.C.A. § 504(c).
[18] *Id.*
[19] 17 U.S.C.A. 504(c). Willfulness has particular meaning in this context, requiring more than merely conscious copying, but instead awareness that the copying is an infringement. *See* Fitzgerald Publ'g Co. v. Baylor Publ'g Co., 807 F.2d 1110, 1115 (2d. Cir 1986) (cited in Hamil America, Inc. v. GFI, 193 F.3d. 92 (2d. Cir 1999).

been found to be willful, courts sometimes will scale statutory damages with reference to actual damages and infringer's profits.[20]

The statute does allow the infringer to claim credit for "elements of profit attributable to factors other than the copyrighted work." That clause allows the infringer to claim, among other things, that a portion of the profits of the infringing product are due to the returns to other intellectual property. The standard example is a music album containing twelve songs, where one of them infringes. If the songs were understood to be equally important to the profitability of the entire album, the owner of the infringed copyright would be entitled to one twelfth of the profits.[21] This consideration, known as **apportionment**, is readily distinguishable, though not entirely unrelated, to the problem of overheads that is the focus of this article. I mention apportionment here solely to avoid possible confusion.

B. Trademark

The recovery provisions of the trademark act of 1946 (The Lanham Act) read in part:

> The plaintiff … shall be entitled … to recover (1) defendant's profits, (2) any damages sustained by the plaintiff, and (3) the costs of the action. The court shall assess such damages and profits or cause the same to be assessed under its direction. In assessing profits, the plaintiff shall be required to prove defendant's sales only; defendant must prove all elements of cost or deduction claimed.[22]

These provisions closely parallel the recovery provisions of the Copyright Act. Under either act, the plaintiff can recover damages and the defendant's profits in excess of, or in addition to damages[23]. The allocations of evidentiary burdens are identical.

There are differences, however. The recovery provisions of the Lanham Act give the court somewhat greater discretion. Under the act, where the court finds that the recovery based on profits is either inadequate or excessive, it can award any amount that it finds "to be just, according to he circumstances of the case."[24] The court also has discretion to award up to three times actual damages. The award arrived at through these measures "shall constitute compensation and not a penalty."[25]

---

[20] *See* Yurman Design, Inc. v Paj, Inc., 262 F. 3d. 101 (2d Cir. 2001)(rejecting the defendant's claim that the statutory damages found should bear some relationship to profits on the grounds that the infringement was willful); *see also* Boz Scaggs Music v KND Corporation 491 F.Supp 908, 914-915 (D.Conn. 1980) (linking statutory damages to information on defendant's gains from infringement).

[21] Cite Harrisonsongs, MGM cases

[22] 15 U.S.C.A. § 1117(a).

[23] Damages and Profits could overlap as they do where the plaintiff's damages are lost profits that have become, through infringement, the defendant's profits. In such a circumstance, the plaintiff doesn't collect twice. Where damages differ from profits that have been shifted to the infringer, the remedy is the sum.

[24] 15 U.S.C.A. § 1117(a).

[25] *Id.*

Punitive measures are nevertheless available. The Act provides for treble damages, "unless the court finds extenuating circumstances" for intentional use of a registered trademark or designation[26] Like the Copyright act, the Lanham Act provides for statutory damages. The owner of a registered trademark can elect statutory damages of up to $100,000 per infringed item, as the court considers just, or up to $1,000,000 where the infringement is found to be willful. [27]

C. Comparison with Patent

The Patent Act, in contrast to the copyright and trademark acts, does not allow the plaintiff to collect the defendant's profits. An infringed patent owner's recovery is "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer..."[28]

At the risk of obviousness, the difference matters only when the profits of the infringer are greater than the losses of the infringed party. Where damages are simply the patentee's lost profits, defendant's profits would exceed damages only where the defendant is more efficient at producing the infringing goods than the copyright owner. With important exceptions then[29], defendant's profits would exceed the plaintiff's losses only where the infringement was, in a narrow sense, efficient.

Although profits are not mentioned in the Patent Act remedies, they nevertheless come up in at least two ways in patent litigation. First, a patentee will often claim damages in the form of lost profits. Ordinarily, the lost profits calculation entails a calculation of the profits on the Plaintiff's sales that infringement displaced. As considered further in section XY below, calculating a plaintiff's lost profits is not equivalent to calculating the defendant's actual profits. In particular, the case for full absorption costing is less compelling in calculation of the plaintiff's lost profits.

Second, where the patent owner is not practicing the patent, or where it is difficult to establish a reasonable estimate of displaced sales, the patent owner will seek a reasonable royalty. A reasonable royalty, the result of a hypothetical negotiation between willing parties, will generally be closely related to the profits that the defendant could expect to earn from practicing a patent. But royalties that are deemed reasonable typically will tender only part of profits to the plaintiff, as a negotiation would be unlikely to convey all of the potential surplus to one party.

The distinction, then, between patent, on the one hand, and trademark and copyright on the other, is that trademark and copyright statutes allow the successful plaintiff to collect

---

[26] 15 U.S.C.A. section 1117(b). The statute actually refers to the "use of a counterfeit mark" where a counterfeit mark is defined elsewhere in the statute, as, essentially, a counterfeit of a mark that is registered with the Patent and Trademark Office. *Id.*

[27] *Id.*

[28] 35 U.S.C.A. § 281.

[29] The infringer might also be passing off lower quality goods as equivalent to the patent owner's or authorized products.

the defendant's profits, where profits are greater than damages, and the patent statute does not. The next section considers why copyright and trademark law provides for profits as one remedy, and in particular offers some economic rationale for treating patent infringement differently from trademark and trademark infringement.

D. Why Profits?

Before we can evaluate claims regarding accounting practices, we should first consider what economic rationale, if any, supports profits as the remedy for infringement. After all, if the remedy of disgorgement of defendant's profits is entirely arbitrary, then the legal rules for computing those profits might as well be arbitrary too. Or if the remedy is entirely based on noneconomic grounds, then economic considerations are unlikely to inform the discussion of the legal rules. Although it is hardly airtight, there is a persuasive argument for an award of profits in copyright and trademark infringements.

Even if all infringement were identified and successfully litigated, a rule that awarded anything less than profits would be inadequate to reliably deter infringement. For example, under a damages-only rule, infringing may be more attractive than taking a license. In intellectual property litigation, damages is usually taken to mean the plaintiffs lost profits or a reasonable royalty. The lower bound for a reasonable royalty (or a negotiated license) is the actual cost imposed on the licensor by the activities granted by the license; a license less remunerative than that would leave the licensor worse off for granting the license. A rule that awarded only the actual costs imposed on the plaintiff would thus offer little deterrent to infringement, since a would-be infringer would not expect to be liable for more than the lowest possible license cost.[30]

The upper bound for a negotiated license is the profits that are available from the use of the intellectual property that is granted by the license; a more costly license would leave the licensee worse off for taking the license. A reasonable royalty can be expected to lie somewhere between the two bounds. Consequently, under a rule that awarded plaintiffs only a reasonable royalty, potential users of intellectual property may find it attractive to infringe, and then either negotiate the royalty after the fact or let the courts divine it for them.[31]

---

[30] The prospect of the cost of presenting a defense would constitute some deterrent, of course. But if the actual remedy rule were actual costs only, an infringer might just concede, avoiding legal costs.

[31] In patent, where defendant's profits are not directly available as a remedy, courts have worried about just this problem, and have concluded that a reasonable royalty can't quite be the result of just a hypothetical negotiation. In Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2.d 1152,1158 (6th Cir. 1978) the courts notes, "The setting of a reasonable royalty after infringement cannot be treated, as it was here, as the equivalent of ordinary royalty negotiations among truly 'willing' patent owners and licensees. That view would constitute a pretense that the infringement never happened. It would also make an election to infringe a handy means for competitors to impose a 'compulsory license' policy upon every patent owner."

Even a rule that is more generous to plaintiffs than a reasonable royalty, but that falls short of defendant's profits, will leave the defendant with some benefit from infringement. Under such a rule, the potential infringer who was dealing with an unwilling licensor would be better off infringing than not.

Much less has been written about the economic rationale for intellectual property awards than for various other remedies, particularly those applying to contract[32] and accidents.[33] The most careful analysis of the economics of remedies in intellectual property is by Roger Blair and Thomas Cotter[34], although their primary emphasis is on patent. Under an array of assumptions, Blair and Cotter present models of infringement incentives. Their conclusion, grounded primarily but not entirely on these models, is that to preserve incentive for invention and creative efforts and to discourage infringement, the appropriate practice is to award the plaintiff the greater of his damages or the defendant's profits.[35] They note, as others have, that a remedy of actual damages alone is inadequate to deter infringement.

But why is it important to deter infringement? The question isn't quite as frivolous as it might seem. The tort of infringement is more like theft than it is like an accident that causes injury to person or property. The direct consequence of infringement, like theft, is a transfer of wealth. In contrast, physical injury to person or property is a loss of wealth. In either theft or infringement, of course, there may be collateral damage—for example, damage to property in the case of theft, damage to reputation in the case of infringement. But the value of the thing taken is not the social loss. Of course, theft does impose social costs. It prompts us to use locks and other means of prevention, and it discourages investment in worthwhile things that might be stolen. In short, unchecked theft both undermines and makes more costly the system of property rights. Infringement does something similar. If commonplace and uncompensated, infringement would diminish the incentive to create (for copyright) or invest in reputation and recognition (for trademark). Unchecked infringement would prompt costly efforts at secrecy or copy protection, or more extensive use of contracts (as a substitute for copyright), or costly measures to prevent counterfeiting (for trademarks).

Still, it may be asked, is there efficient infringement in copyright or trademark, and if there is, would it be deterred by awards that are greater than damages? After all, contract remedies that exceed actual damages can deter efficient breach, and recovery for accidents that exceeds actual damages can induce an inefficient level of precaution. Is there a similar effect in copyright and trademark infringement? The answer is that there

---

32 For an overview, *see* A. MITCHELL POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS Ch. 15 (2003); *see also* Steven Shavell, *Damage Measures for Breach of Contract*, 11 BELL J. ECON. 466 (1980)

33 Polinsky, Ch. 10.

34 Roger D. Blair and Thomas F. Cotter, *An Economic Analysis of Damages Rules in Intellectual Property*, 39 WM. & MARY L. REV. 1585.

35 I have simplified this considerably. Blair and Cotter acknowledge a number of bases for enhancing or diminishing awards: First, the fact that not all infringement will be discovered or successfully litigated is a basis for enhancements; second the possibility of over deterrence from restitution is a basis for diminishing awards.

can be, but it is not particularly important. Suppose that a would-be infringer has lower production costs than a copyright owner. In that case, it would be efficient for the would-be infringer, rather than the copyright owner, to produce the good. But that arrangement of production doesn't require infringement. The would-be infringer can negotiate a license. Of course, high transactions costs might preclude a license in principle, but the costs of an actual transaction are unlikely to be as large as the legal costs that would accompany a forced transaction.

Again the comparison with theft is useful. With a few interesting exceptions, we don't acknowledge efficient theft. If a good is more valuable to the thief than it is to his victim, a theft might be deemed efficient in some narrow sense. But even putting aside the collateral costs of theft, we wouldn't encourage theft as a means of increasing wealth. A voluntary transaction between the would-be thief and his would-be victim assures that the exchange is, in fact, wealth increasing. The exceptions are cases of duress, where transactions are not available or appropriately negotiated. In those cases, the taker isn't called a thief and is called upon to pay only damages. Such duress seems to be an unlikely cause of infringement[36].

All of this argues for infringement awards that are not less than the profits of infringement. But why not make the awards larger, perhaps even much larger, than profits? One argument in favor of making very large awards is that infringement, like theft, is not always detected, and not all detected infringement is successfully litigated. Consequently, a rule that awards only the infringer's profits may be insufficient to deter infringement. And infringement may be like theft in still another regard. Theft is a deliberate act. It is costly to commit, but it can be avoided at little or no cost. Consequently, harsh penalties will deter theft without prompting costly measures by potential thieves to avoid "accidental theft." On its face, infringement would seem to be similar; easily avoided and requiring deliberate action.

But the analogy of infringement to theft can be taken too far. First, most theft is done secretly, often literally in the dark, and with measures taken to conceal both the identity of the thief and the theft itself. In contrast, most infringements that involve measurable profits are inherently public acts. Publishing, performing, or using a trademark in commerce cannot be done profitably in secret. The upshot of this is that the problem of infringement that is undetected, yet profitable or harmful, may be relatively small.

Second, while inadvertent theft is unlikely, inadvertent infringement is a real risk. For example, inadvertent copying of music from memory does happen and is actionable.[37] Other inadvertent infringement can result from mistakes about whether a work was created as a work for hire, or whether a license agreement covers a particular use.[38] An

---

[36] For a closely related argument, *see* ROBERT P. MERGES AND JOHN F. DUFFY, PATENT LAW AND POLICY, CASES AND MATERIALS 1066-1068 (2002). Merges and Duffy, drawing on the work of Calebresi and Malamud, argue that property rules are suitable for intellectual property because transactions typically are feasible.

[37] *See* ABKCO Music, Inc. v. Harrisongs Music, Ltd., 944 F.2d 971, (2d Cir. 1991).

[38] *See* Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc., 772 F.2d 505 (9th Cir. 1985).

author might create a derivative work with the mistaken understanding that the original work is out of copyright[39] or that the use is permitted as parody or criticism.[40] A person or firm may make copies under the belief that the copying constitutes fair use.[41] A reseller may unknowingly purchase counterfeit goods. If unintentional infringement is possible, arbitrarily large awards to infringed parties can induce costly precautions by those whose creative or commercial activities might result in accidental infringement. In short, deterrence can be excessive.

Some precaution is desirable, of course, given that there are consequences of infringement beyond the simple transfer of wealth. However, if the expected award to the plaintiff exceeds the profits of the infringer by more than the social losses that result from the infringement, some wasteful precautions will be taken, and infringement is over deterred[42].

What are these undesirable precautions? Firms that are concerned that their products might be construed as infringing another firm's trade dress may expend resources to design around seemingly functional features that yield an appearance that is associated with a particular source.[43] Writers may refrain from borrowing elements of plot outlines that constitute ideas rather than expression out of concern that they may be accused of copying protected expression. Creators of literary or musical works may isolate themselves from creative works that are in copyright to defeat possible claims that they had access to these works. Retailers may refrain from dealing in secondary markets for brand-name goods if intermediaries sometimes pass off counterfeit goods. Apparel makers may avoid popular styles out of concern that some features may be protected, or may conduct costly search to ensure that they are not. All of these measures raise the cost of legitimate business activity. If potential liabilities are large enough, some forms of business may be avoided entirely because they are just too fraught with peril.
There is a further argument in favor of awarding defendant's profits (as opposed to actual damages) in infringement cases that involve passing off inferior goods.[44] Such cases involve two classes of victims, the trademark owner and the infringer's customers. Here, the excess of the defendant's profits over the plaintiff's damages can be the result not of greater efficiency but rather of producing lower quality goods. Limiting the trademark owner's recovery to damages alone would leave the infringer with a profit that rewards the fraud on consumers and additionally rewards quality reductions that cut costs. Requiring a defendant to disgorge any gains removes the incentive to cut costs, but it alone may be insufficient to fully compensate the trademark owner for damage to his

---

[39] Something.
[40] Rogers v. Koons, 960 F. 2d. 301 (2d Cir. 1992).
[41] Princeton Univ. Press v. Michigan Doc. Servs, 99 F. 3d 1381 (6th Cir. 1996).
[42] An award that is limited to an accurate assessment of the gains from infringement would not induce costly precaution. An accidental infringer would give back only what he had accidentally appropriated. But a rule that provided for awards that were greater than the actual gains from infringement would induce costly precaution.
[43] Unpatented but functional features, regardless of associations with particular sources, do not qualify as protected trade dress. TrafFix Devices v. Marketing Displays, Inc., 532 U.S. 23 (2001).
[44] Blair and Cotter make this argument. *See supra* note 34 at 1644.

reputation, and it provides no compensation to consumers who have been harmed by the defendant's fraudulent representation.

Another advantage of awarding profits, rather than actual damages, is that it can avoid a difficult measurement problem. Often, infringing derivative works are extensions of a creative work into uses that are not contemplated or at least not actively implemented by the copyright owner. Novels become action figures; songs become ring tones; slogans become T shirts. In such cases, damages to the copyright owner will often be difficult to establish, and may simply not exist. Nevertheless, the value of the original works in these reuses are a part of the value of the initial creative activity, and the incentive structure produced by copyright should not be disconnected from this value. When new technologies or new types of uses make creative works more valuable to society, the efficient amount of resources to devote to creating new works is larger. Where infringing derivative works open up new venues, royalties that are arrived at through litigation—the supposed outcome of a hypothetical negotiation occurring prior to the infringement—may be unacceptably speculative.

In such instances, awarding the defendant's profits does three things. First, it relieves the court of the speculative task of determining a reasonable royalty. Second, it deters infringement by removing the prospect of profitable substitution of litigation for licensing, consequently preserving for the copyright owner the right to manage the creation of derivative works.[45] Third, it preserves the connection between the social value of the creative work and the reward to the creator.

In summary, there is a rationale, albeit an imperfect one, for awarding an infringer's profits to the owner of the infringed property. Basing the remedy on profits both preserves the incentive to create and deters infringement. Furthermore, a restitution rule that is linked to an accurate estimate of the profits of infringement will not overdeter.[46] Although restitution may underdeter where infringers have some expectation that they will get away with it, for those cases statutory enhancements of the remedies exist. If no such enhancement existed, efficiency concerns might endorse systematic overestimation as an ad hoc means of correcting a deficiency in deterrence, but because correction of this

---

[45] On the economic rationale for rights in derivative works *see* WILLIAM LANDES AND RICHARD POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 108-115 (2003). They make a limited case for vesting the rights to create derivative rights with the author of the original work. Their arguments include the potential for congestion externalities in derivative works, and this; "The most compelling argue that the economic basis for vesting the right to create derivative works with the original author is to reduce transactions costs. *Id*. at 110. *See also* Stanley J. Liebowitz and Stephen E. Margolis, *Seventeen Famous Economists Weigh in on Copyright: Theory Empirics and Network Effects*, 18 HARV. J.L. AND TECH. 435 (2005).

[46] There are other factors that mitigate the problem of excess precaution. Inadvertent copying (presumably from memory) of a literary work of any significant length is extremely unlikely and in any event is unactionable. Independent recreation of a copyrighted work, however unlikely, dies not infringe. For trademark, the likelihood of inadvertent infringement is diminished somewhat by the availability of registration and the requirement that trademarks be in used in commerce or on items intended for commerce. Further, trademark owners may be precluded from monetary awards if they fail go provide notice that they are using names or symbols as trademarks,15 U.S.C.A. § 1111.

deficiency is available through explicit means, distortion of the profits measure is not helpful

Courts have taken the position that any doubt in the measurement of profits is resolved against the infringer. The case for using profits cannot be made with such force or certainty to argue against that presumption. However, awards that are many-fold greater than the actual gain from infringement will overdeter, inducing precautions that are worth less than they costs.

F. Profits under Full Absorption and Incremental Cost Rules

Court cases and textbook discussions refer to **full absorption methods** or **fully allocated costs**, contrasting that with an **incremental method** or **incremental costs.**[47] Fully allocated costs of an activity includes all of the direct costs of the activity, plus any other variable costs, plus (and this is the key) an appropriate allocation of the fixed costs of the enterprise in which the activity takes place. In contrast, the incremental cost of an activity includes only the additional costs that arise as a consequence of the activity. These can be called the **variable costs**, and in important instances, they are the very same cost items that we would normally identify as variable costs in economic analysis. That is, they are cost items that change readily with the level of output. In some instances, however, the incremental costs properly include expenditures on **fixed costs** that are incurred if and only if the activity is undertaken.[48] For example, special tools that are used only to make an infringing item might have costs that do not vary with the amount of infringing output, but that nevertheless constitute an additional cost that is a consequence of the infringement.

The distinction between full absorption and incremental cost becomes important when a definable activity is less than the whole of an enterprise. If, for example, an enterprise came into being for the sole purpose of selling hotdogs on the Fourth of July and then liquidated its assets, on July 5, fully allocated costs and incremental costs would be identical. Profits, under either definition, would equal all of the revenues from hotdog sales, less all of the expenditures, plus any revenues from liquidation. If this hypothetical holiday hotdog vendor were to have infringed the Snoopy's brand name in its short-lived business, choosing a profits definition would not present a problem. But a difficulty arises if the enterprise sells both infringing hotdogs and non-infringing hamburgers. Certain costs can be directly associated with the hotdogs—the hotdogs and buns themselves, the labor involved with cooking the hotdogs, the labor involved with serving them—but other costs are general costs of the enterprise that are not associated uniquely

[47] *See* Warner Brothers v. Gay Toys, 598 F. Supp. 424, 428 (S.D.N.Y 1984).

[48] SIDNEY DAVIDSON, MICHAEL W. MAYER, CLYDE P. STICKNEY, AND ROMAN L. WEIL, MANAGERIAL ACCOUNTING: AN INTRODUCTION TO CONCEPTS, METHODS, AND USES (2005). This leading managerial accounting text defines incremental cost as follows: "Incremental costs will be incurred (or saved) if a decision is made to go ahead (or stop) some activity, but not otherwise." *Id*. at 901. On the next page, fully absorbed costs are distinguished from variable costs as follows: "Fully absorbed costs refer to costs where fixed costs have been allocated to units or departments as required by generally accepted accounting principles. Variable costs, in contrast, may be more relevant for making decisions, such as setting prices." *Id*. at 902.

with either of the two products. An example of such a cost would be the rent on the handcart. The cart is not used up, or used in its entirety by either product. Expenditure on the handcart does not change with the sale of either product.

Each of the definitions of cost have some intuitive appeal as a basis for the remedy for infringement. The incremental profit of selling the hotdogs, as opposed to selling only the hamburgers (and thus keeping everything else the same) is the difference between the hotdog revenues and the costs that arise as a consequence of selling the hotdogs—the extra, or incremental cost of the hotdogs. It is probably safe to say that this is the concept of the cost of the infringement that comes to mind first for economists. It mimics the marginal revenue–marginal cost comparison that is inherent in so much of what economics teaches. The fixed costs, we would argue, are irrelevant to the choice of the number of hotdogs to sell and further would be irrelevant to the choice of whether to sell hotdogs or not, providing that the hamburger business was already in place.

Still, many laypersons, accountants, and business people are inclined to account for those other costs. One proffered defense of full cost allocation is that all costs have to be "accounted for somewhere." Even though business people will often be alert to their margins on variable costs, they also want to have some reading on whether a product line is profitable when "fully burdened."[49] After all, if each of the products of a multi-product firm shows positive margins on variable costs but the sum of all those margins is inadequate to cover fixed costs, the firm as a whole will be unprofitable, notwithstanding the consistently encouraging news that we get by computing profits on variable costs one product at a time.

A reasonable approach to profit, therefore, is to look at a product as a portion of an enterprise, allocating the costs that cannot be readily associated with individual products in proportion to the share of the business that each product represents. Although the "in proportion" is not uncontroversial,[50] a common allocation method is to allocate fixed costs to individual products in proportion to their shares of total sales.

Economists typically reject such reasoning about cost where the purpose of the cost calculation is to inform a decision about whether to undertake an additional activity or to determine the optimal level of activity. The economic dictum is that the activity is worth undertaking if the incremental gains are greater than the incremental costs, properly defined. Further, the gain from the undertaking (the profit) is the difference between the two. Economists are correct about this, and everyone else is wrong—but only when we confine the issue to the tidy problem in which the choice is simple—this activity or nothing—with all incremental costs and benefits readily understood and quantified.

Both the words of the copyright statute and standard teachings of economics would seem to come down on the side of an incremental approach to calculating profits. The statute speaks of "any profits of the infringer that are attributable to the infringement." The costs

[49]Fully burdened cost is another synonym for fully allocated cost. Allocated fixed cost is sometimes referred to as allocated burden.

that arise as a consequence of infringement—the incremental costs—are the costs that are "attributable to the infringement." The logic of efficient deterrence, as explored above, also imposes an incremental definition. The potential infringer will be deterred from infringement if the expected penalty is disgorgement of exactly what he gains from infringement. That gain would be the incremental revenues that he would receive from the infringement, less the incremental costs. A substantial body of economic thought and a substantial portion of instruction in economics make exactly this point.

Unfortunately, however, as is often the case for economic principles, what is very simple and clear in a world of useful but restrictive assumptions becomes complicated as when we move to actual practice. For the issue at hand, infringement litigation, the complication arises because of features of real business activities that are difficult or impossible for people outside the business to observe. Much of the burden of the rest of this paper is to establish that while the principle underpinning a correct profits measure is incremental revenues minus incremental costs, economic reasoning offers a compelling argument for using full absorption costs as the basis, or at least the starting point, for determining profits in infringement. At the heart of this argument is proper attention to opportunity cost, the concept of cost that underpins all of economics.

4. Case Law and Commentary

A. Cases

In case law on intellectual property infringement, there are actually two splits. First, there are circuits that allow defendants to allocate a share of their overheads to their costs in computing profits, and there are circuits that do not. Second, among the circuits that do allow defendants to allocate a share of overhead costs, some deny that credit to defendants whose infringement is willful. The concern of this article is almost entirely with the first of these splits, though the issue of willfulness will be considered briefly below. This second split is noted here to avoid potential confusion.

The leading circuit on the side of the incremental method—allowing only variable costs—is the Seventh Circuit.[51] The leading circuits on the side of full absorption—allowing deduction of fixed and variable overheads—are in the Second and Ninth Circuits.[52] This is an older line of cases than those that support the incremental method, originating in the Second Circuit and surviving review by the Supreme Court.[53] Full absorption is also favored in the leading copyright treatise, although more recent commentaries suggest that the weight of scholarship, if not legal precedent, favors an incremental approach.

---

[51] Joined by the Third, Fifth, and Eleventh Circuits (Parr, Barber, check cases).
[52] Joined by the Third (?) Fourth, Sixth and Eighth Circuits (Parr, Barber, check cases).
[53] Sheldon v Metro Goldwyn Pictures Corporation, 309 U.S. 390 (1940). *See supra* note 55 and accompanying text.

In *Sheldon et al. v Metro-Goldwyn Pictures*[54], the Second Circuit Court of Appeals confronts the issue of allocation of overheads:

> "Next is a challenge [by the plaintiff] to any allowance for 'overhead' at all on the theory that the defendants did not show that it had been increased by the production of the infringing picture."

In response to this challenge, Learned Hand writes what is often called the *Sheldon* rule[55]:

> "Overhead" which does not assist in the production of the infringement should not be credited to the infringer, that which does should be; it is a question of fact in all cases.[56]

For this, Hand draws directly *Levin Bros. v. Davis Manufacturing*, an Eighth Circuit patent case.[57] The preamble to Hand's statement of the rule makes it clear that the challenged overheads include fixed costs, that is, those that had not been shown to be "increased by the production of the infringing picture.[58]" Thus the rule is not limited to variable overhead, but also includes the costs of fixed assets, such as fixed facilities that can be said to "assist" in the infringing activity.

Sheldon reached the Supreme Court[59], which concerned itself primarily with the issue of apportionment and affirmed the Court of Appeals. The Supreme Court did not discuss overheads explicitly, but did explicitly affirm the lower court's finding of fact on this issue: "Petitioners [plaintiff] also complain of deductions in the computation of net profits. These contentions involve questions of fact which have been determined below upon the evidence and we find no ground for disturbing the court's conclusions."[60]

In *Neal v. Thomas Organ Co.*,[61] a Ninth Circuit case, the district court allows the defendant to deduct overheads, credited as a portion of infringing sales equal to the ratio of overheads to sales for the firm as a whole. The court's support for this action is along the lines of the "all costs must be accounted for somewhere" argument discussed above.[62] Without citing any authority, the court states, "It is common knowledge that any business has indirect costs and this per cent should apply in the selling and handling of the [infringing goods] by defendant the same as it would apply in the handling of any other

---

[54] 106 F.2d 45 (1939).
[55] For example, Warner Brothers v. Gay Toys, 598 F. Supp. 424 (S.D.N.Y 1984) refers to the "*Sheldon* rule," apparently the "Hand rule" was taken.
[56] Supra note 37 at 54 {and 54?}.
[57] 72 F. 2d 163. Prior to the 1952 act, the owner of an infringed patent could be awarded defendant's profits.
[58] *Id.*
[59] 309 U.S. 390
[60] *Id*. at 409
[61] 241 F. Supp. 1020, 1022 (C.D. Cal. 1965)
[62] *See supra* note XX (initially 33) and accompanying text.

items."[63] (In *Neal*, the court uses the term "indirect costs" rather than "overheads.") In essence, the court's argument is that overhead should be deducted (or applied) as a cost in calculating the profits of infringement because it is deducted in profit calculations for other purposes.

In *Kamar International v. Russ Berrie and Company*[64], a frequently cited Ninth Circuit case, the court of appeals offers the justification for allocating overheads in *Neal,* (as above) and then adopts the *Sheldon* rule.[65] The *Kamar* court thus allows a proportionate allocation of overheads, but only after confronting some of the controversies that are at issue in this paper. That court rejects a lower court position that overheads should be excluded if the infringing sales were only a small percentage of the infringer's total sales, arguing:

> The real question, as we see it, is whether any of the overhead expenses *were caused* by the production or sale of the infringing goods, not the proportionate amount of sales of the goods in relation to total sales. Because of the varying situations which may arise and the lack of needed flexibility in an arbitrary standard, we decline to adopt a legal rule disallowing all overhead deductions merely because the sales of the infringing goods constitute a small percentage of total sales.[66] (Emphasis added.)

That statement leans toward an incremental rule. The court leans just a bit further before offering a justification for the *Sheldon* rule:

> A different question is whether overhead expense should be allowed when they would be incurred regardless of the production and sale of the infringing goods. A rule disallowing such expenses has the advantage of not allowing and infringer to reduce damages by deducting fixed overhead costs the infringer would have borne even without his sales of the infringing goods. On the other hand, such a rule might create perverse incentives for a copyright owner to delay enforcing his rights and instead allow a diversified infringer to produce and sell infringing goods. If the copyright owner currently uses his fixed overhead to capacity, he would obtain by lawsuit net profits greater than he could have earned.[67]

In effect, absent allocation of the defendant's overheads, the copyright owner would be using the infringer's capacity rent free. The court's argument above is different from but closely related to the argument in favor of a full absorption approach presented in this paper.

The *Kamar* court acknowledges that the Seventh Circuit allows deduction of overheads only if they are increased with the infringing activity, and acknowledges that other courts

[63] Neal, 241 F. Supp. at 1022.
[64] 752 F.2d 1326 (9th Cir. 1984).
[65] Neal, 241 F. Supp. at 1022.
[66] Kamar, 752 F.2d at 1332.
[67] *Id.*

have adopted equivalent rules, but then concludes that the goals of deterrence and compensation "can best be achieved by allowing a deduction for overhead only when the infringer can demonstrate it was of actual assistance in the production, distribution, or sale of the infringing product."[68]

Kamar was followed shortly in the Ninth Circuit by *Frank Music Corporation v. Metro-Goldwyn-Mayer,*[69] which also adopts the *Sheldon* rule. In *Frank*, the issue related to allocation of overheads was evidentiary. The defendant had allocated overheads to various products by cost categories in proportion to revenues, and the District Court had approved this method of allocation. The Court of Appeals found that the lower court's finding was not clearly erroneous and also acknowledged that the practicalities of accounting will dictate that overheads will necessarily be addressed in broad categories rather than as individual items. However, the court ruled that the defendant is obligated to demonstrate, "at least in general terms," that the overhead items being allocated "contributed to the production of the infringing work." *Frank* is cited often for several issues, one of which is this further articulation of the assignment of the burden of proof.

One additional Second Circuit case of note is *Hamil America v. GFI*,[70] which explicitly rejects a lower court action that required the defendant to calculate profits using an incremental approach. Hamil draws on *Sheldon* in detail, arguing that *Sheldon* "contemplates a two step procedure for deducting overhead expenses from an infringer's profits." The steps identify the expense categories that are actually "implicated" in the infringing production, and then develop a "fair, accurate and practical method" of allocating the associated expenses.[71]

Thus we have the second and ninth circuits, followed by some others[72] adopting a rule that allocates overhead expenses, by category, and without regard to whether the expense varies with the level of output. The rule articulated in *Sheldon* is not exactly full absorption, since expenses in categories that did not "contribute to the production of the infringing work" are excluded from the cost of the infringement. There has been some wavering in applying *Sheldon* as an approximate full absorption rule,[73] as some courts have interpreted "contribute to the production" to mean that the expense category must vary with output. In economic terms, this is a clear error, and it is inconsistent with the application in *Sheldon* and other cases.[74] A productive asset can contribute to production

---

[68] *Id.*
[69] 772 F.2d 505 (9th Cir. 1985).
[70] 193 F.3d 92 (2d Cir. 1999).
[71] *Id*. at 104.
[72] *See supra* note XX (initially 46).
[73] In Banff Ltd, v. Express, Inc, 921 F. Supp. 1605 (S.D.N.Y. 1995), a jury accepted the plaintiffs' experts' calculations which excluded overheads that were not "sensitive" to output. The Second Circuit did not rule that the jury's finding was contrary to law, ruling "[t]he incremental approach is consistent with the Second Circuit's command that 'overhead which does not assist in the production of the inffrintement should not be credited to the infringer; that which does, should be.'" *Id*. at 1070 (quoting *Sheldon*). Other courts have been also confused by the language in Sheldon. For example, *see* In re Indep. Serv. Orgs. Antitrust Litig., 23 F. Supp. 2d 1242, 1251 (D. Kan. 1998), decided by a court in the Tenth Circuit.
[74] In *Sheldon*, Judge Hand addresses overheads broadly, with no attention to whether production of the infringing motion picture had any effect on expenditures. He specifically addresses "supervising staff and

without its cost changing. To take a simple example, if a knitting operation occupies space in a factory building, the building can readily be said to "contribute," yet the rent on the factory is unaffected by the use of the space. The treatment of the factory expense under *Sheldon* and an incremental rule are clearly distinct: *Sheldon* would allocate a portion of the factory expense; an incremental rule, as it is usually stated, would not.[75]

As noted above, courts applying either a simple full-absorption rule or the *Sheldon* "actual assistance" rule have sometimes made the deductibility of overhead contingent on a finding of willfulness.[76] Some courts have held that willful infringement precludes an allocation of overheads[77]; others have suggested that overheads should receive particularly careful scrutiny where the infringement is willful. In *Sheldon*, the court held that because the infringement was willful, only "bought and paid for" overhead items could be deducted.[78] Still other courts reject any link between willfulness and deductibility. In *ZZ Top v. Chrysler*, the court stated that there was nothing in the statute to support a rule disallowing deduction of overhead where infringement is willful. That court notes that because disallowing an overhead deduction would take away more than just profits from the defendant, the defendant would therefore suffer punishment. Noting that there are explicit punitive measures for willful infringement[79] in the copyright statute, the court refused to incorporate an additional punitive element by adjusting the profits measure.

The key opinion in support of an incremental approach is *Darrell Taylor v. Joseph B. Meirick*,[80] a copyright case in the Seventh Circuit. In ruling to disallow credit for certain fixed costs, Judge Richard Posner writes, (referring to the defendant) "[H]is 'gross

---

organization, which had to be maintained if the business was to go on at all" Sheldon, 106 F.2d at 54. Further, he specifically addresses, and allows deductions for "continuities scrapped" and for completed pictures never exhibited," treating such "breakage" as an inevitable cost of doing business. *Id*. *See also* Warner Bros. Inc. v. Gay Toys, 598 F. Supp. 424 (S.D.N.Y. 1984) (rejecting plaintiffs' claim, with discussion and citation, that Sheldon supports the incremental approach).

[75] *See supra* note XX.

[76] In copyright, willfulness requires more than just conscious copying. For infringement to be willful, the infringer must have known that the copied article was under copyright and that the copying infringed the copyright. Infringers have been found non-willful where they clearly copied but had reason to believe that their copying was covered by a license agreement. Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc., 772 F.2d 505 (9th Cir. 1985); or where they believed that their copying fell under fair use, Princeton Univ. Press v. Michigan Document Servs., 99 F. 3d 1381 (6th Cir. 1996); or where the defendant made a good faith claim that the copyright was invalid, Alfred Bell & Co. v Catalda, 191 F.2d. 99 (2nd Cir. 1951). In Trademark infringement, any monetary recovery requires either registration of the infringed mark (15 U.S.C.A. § 1117), a misrepresentation or use of any "word, term, name, or device," that is likely to cause confusion (U.S.C.A. § 1125 a.), bad faith (U.S.C.A. § 1125 d.) or willful dilution (U.S.C.A. § 1125 c). In short, any monetary recovery requires some awareness, willfulness, or bad faith.

[77] *See* Saxon v Blann, 968 F. 2d. 676 at 681 (8th Cir. 1992) "Overhead may not be deducted from gross revenue when an infringement was deliberate or willful." In other places the rule is more nuanced, giving the court discretion where infringement is willful, *see* Kamar 752 F.2d at 1332, citing Sheldon.

[78] Sheldon, 106 F.2d at 51

[79] ZZ Top v. Chrysler Corp., 70 F. Supp. 2d 1167, 1168 (W.D. Wash. 1999) "Where Congress intended to punish willful infringement by authorizing different remedies depending on the infringer's culpability, it clearly knew how to do so. *See* 17 U.S.C. § 504(c) (authorizing a five fold increase in statutory damages if defendant's conduct was willful)."

[80] 712 F 2d 1112 (7th Cir. 1983).

profits' were his real profits in the only sense relevant to damages calculation—they were his residual income after all costs necessary to generate the income were subtracted. Costs that would be incurred anyway [in the absence of the infringement] should not be subtracted [from revenues to obtain defendant's profits] because by definition they cannot be avoided by curtailing the profit making [infringing] activity. This principle is well established in the treatment of overhead costs in calculating damages for breach of contract. *See* FARNSWORTH, CONTRACTS 854-55 (1982)."[81] Note that Posner does not cite any copyright or trademark case or any other authority in this ruling . Nevertheless, his ruling is a clear statement of the economic reasoning supporting an incremental rule, and it reflects accepted teaching in economics. Indeed, a fundamental teaching in economics is that the gain from an action is the incremental benefit less the incremental cost. This is always true. The hard part in theory is defining cost and benefit correctly. The hard part in practice is observing them.

In a subsequent Seventh Circuit case, *Ruolo v. Russ Berrie*[82], the court adopts an incremental rule without comment or citation: "[The defendant's witness] improperly deducted certain administrative expenses without demonstrating that they were variable costs. Fixed costs are not deducted from the profit calculation."

Taylor and *Roulo* have been cited the Tenth Circuit[83] on the way to adopting an explicit incremental rule. Elsewhere, however, at least one court has explicitly refused to adopt *Taylor*.[84]

B. Commentaries

Nimmer[85] covers overheads only briefly. He does not distinguish between the *Sheldon* rule, which allows credit for fixed overheads if they contribute to the infringing production, and the *Taylor* rule, which allows credit only for costs that are increased with the infringing activity. He cites the two-step process in *Hamil* ,[86] noting that the "defendant has the burden of proving that each item of general expense contributed to the production of the infringing items,"[87] which echoes *Sheldon* (although he cites *Taylor* for this).[88] As *Sheldon* notes, requiring that an input "assist[s] in the production of the infringement" is not the same requiring that an input constitute a cost that would not be incurred in the absence of the infringement (*Taylor*). The first requirement allows allocation of the costs of fixed factors; the second does not. In Nimmer's discussion, however, the two alternative rules seem to merge. On the other hand, in citing a recent

[81] *Id.* at 1121
[82] 886 F.2d 931 (7th Cir. 1989).
[83] In re Indep. Serv. Orgs., 23 F. Supp. 2d at 1251; *supra* note 73.
[84] Allen Myland, Inc. v. IBM, Corp. 770 F. Supp 1014 (E.D. Pa. 1991).
[85] MELVILLE B. NIMMER AND DAVID NIMMER, NIMMER ON COPYRIGHT § 14-03[C] (1977). This is the primary treatise on copyright.
[86] *See supra* note 51. {Check that you mean this}
[87] NIMMER 14-55. {I'm not sure whether these should be dashes or periods between the 14 and the second number. I just made it consistent, but if you have the book, check it.}
[88] *Id.* at § 14-55, note 152.

District Court ruling in the Second Circuit, Nimmer does report that “One court favors the full absorption method, which permits the defendant to deduct all overhead expenses in the same percentage as the sales of the infringing goods bears to its total sales.”[89]

Most commentators do not treat cost issues very thoroughly, but an exception is a paper on monetary relief in trademark by James Koelemay[90] He observes that “reported decisions rarely discuss the various methodologies available for guiding the allowance of deductions, or explain the courts’ reasons for choosing one methodology over another.”[91] Koelemay identifies three rules (rather than the two discussed here): a pure incremental rule as in *Taylor*, the assist-in-production rule as in *Sheldon*, and a pure full absorption rule.[92]

Koelemay offers support for an incremental rule, which he calls the “differential cost or marginal cost rule”: “This rule results in the largest recovery for trademark owners, and is consistent with modern business school management theory, which holds that transactions are profitable if they yield a positive contribution to overhead.” He is correct that management courses, particularly in managerial economics, teach that decisions should be based on a comparison of marginal (or incremental) benefits and marginal (ditto) costs. The problem is the applicability of this framework to litigation. The thrust of the argument that appears below is that the highly conditioned decisions that are considered in managerial economics textbooks, or for that matter that are made in actual business decisions, are quite different from the consideration of profit that must be undertaken in litigation.

And finally, in a *Practicing Law Institute Handbook* entry, Crittenden and Pak note that “Perhaps the most debated issue of deductibility is whether defendants cannot deduct various types of ‘overhead.”[93] Amen.

---

[89] *Id*. at 14-52, citing New Line Cinema Corp. v. Russ Berrie & Co., 161 F Supp 293, 303 (S.D.N.Y. 1958).
[90] James M. Koelemay, Jr., *A Practical Guide to Monetary relief in Trademark Infringement Cases*, 85 TRADEMARK REP. 263 (1995).
[91] *Id*. at 287-288.
[92] Even adopting Koelemay’s three rules, there are still two types, those that allocate some overheads and those that don’t. Moreover, *Sheldon* and its precursor *Levin,* 72 F. 2d 163, are cited by most courts that allow any allocation of overhead and are at all explicit about the foundations for that treatment. For example, in Wolfe v. National Lead Company, 272 F.2d 867 (9th Cir. 1959), a case Koelemay cites as a full absorption cases, all of the infringers production was paint production, some of which was infringing, some not, so there really could be no assisting and non-assisting overhead items. The court states no explicit explanation for a full absorption rule, other than a lack of detail in the infringer’s records. The Ninth Circuit rule appears to be captured in *Frank*, which explicitly state the actual-assistance rule, citing *Sheldon*. Koelemay also cites Schnadig v. Gaines, 620 F. 2d. 1166 (6th Cir. 1980) as applying a full absorption rule. *Schnadag* allocates only two-thirds of overhead, excluding one third on a basis that echoes the actual-assistance rule.
[93] John W. Crittenden and Eugene M. Pak, *Monetary Relief Under Lanham Act Section 35, Litigation Copyright, Trademark And Unfair Competition Cases for the Experienced Practitioner*, 537 PLI/Pat 391 (1998). {I’m not sure how to cite this, but no one else will either, I just followed the periodical rule}

5. Opportunity Cost, Accounting Cost, and Capacity

A. Incremental Opportunity Cost

The underlying economic principle articulated in *Taylor* is correct: The profits of infringement are the incremental revenues less the incremental costs.

The profits of any action are the incremental benefits to the less the incremental costs. For most business decision problems, for "benefits" we substitute the firm's revenues. This is not a completely innocent substitution, however, since a firm might enjoy additional benefits from infringement, such as enhanced reputation or reduced costs. Those benefits clearly are as legitimate a component of profits as revenues, and indeed if they can be demonstrated satisfactorily and quantified on some reasonable basis, they are properly incorporated in an award of profits. Most often, however, calculated benefits in infringement cases are limited to revenues; first because most business benefits are revenues, and second because nonmonetary benefits are often speculative and difficult to quantify. So reducing benefits to revenues is a simplification that captures the great majority of litigated claims and reflects a practical compromise in favor of observability.

That leaves us with the problem of cost. In economics, the fundamental concept of cost is **opportunity cost**. The opportunity cost of any action is the value of things foregone as a result of the action. Opportunity cost follows immediately from the basic economic concept of scarcity. There is no cost in economics that is not an opportunity cost. If nothing of value is foregone as a result of some action, that action does not have any cost.[94]

Given the economic definition of cost, the correct incremental rule is this:
Profits of an action are incremental revenues and other benefits, less incremental opportunity costs, where incremental opportunity costs are constructed to include all of the increases in explicit costs, plus any additional opportunity costs that are not reflected in the changes in explicit costs. These additional opportunity costs are the values of any actions that are forgone as a result of the chosen action, and commonly will be the values of activities that would otherwise occur in fixed facilities or be undertaken by an unchanging supervisory staff.

[94] Elementary treatments of the economics of decision making sometimes treat opportunity cost as a distinct category of cost. There's labor cost, materials costs, rent, phone, insurance, and, don't not forget opportunity cost. This treatment is incorrect. Each of these items is an opportunity cost. The opportunity cost of one hundred dollars spent on labor is one hundred dollars that can't be spend on something else. Because the cost of labor occurs as an expenditure, we recognize it as a cost directly without explicitly considering the value forgone. The "special" opportunity costs in the statement are merely the cost items that do not appear as explicit expenditures. But these costs are not differentiated, they are all opportunity costs.

The problem with implementing this incremental rule arises when the economists' concept of incremental opportunity cost encounters accountants' actual data. While incremental profit is what we are after, it will not, in general, be computed correctly by counting as costs only those accounting cost items that can be observed to change with the level of output, that is, only those accounting cost items that are changed as a result of an infringement.

Consider some simple examples. Suppose an infringement directly uses some labor and some materials, each of which is fully captured by changes in the total expenditures in these categories. Further, suppose the infringing activity uses a wing in a larger building that houses a number of unrelated activities. If the infringer does not expect to use this wing in any other way, then the explicit labor and materials costs capture the full costs of the infringement. But the assumption that there is "no expected alternative future use" is a severe restriction. While firms occasionally do find themselves with excess capacity, it is an error to make excess capacity a default assumption. To do so abandons the more fundamental assumption that firms maximize profits. Why would a firm acquire and maintain capacity that it does not expect to use? Undoubtedly firms do sometimes find themselves with excess capacity, but in those cases we expect that they will make efforts to develop new outlets for their products, find new products, or sell (rent) off their excess capacity. We should not expect that firms accept excess capacity for the long term.

Note in addition that in this instance, the simplified textbook economic model, though useful for establishing important general principles, is misleading. The standard textbook model of the firm typically specifies one product per firm.[95] Such a model does in fact yield an implication of excess capacity in equilibrium under certain assumed market structures. However, this implication does not survive generalization to multi-product firms, even where such firms have a degree of monopoly power. [96].

As elaborated above, there is no conflict between the incremental cost rule and the full absorption rule for a single-product infringer. The conflict between the rules only arises in the case of a multiproduct firm. For contemporary multiproduct firms, managing a regular turnover of products is an essential part of business. It is not reasonable to assume that the norm is for firms to be in a condition of chronic excess capacity that is manageable only by an episode of infringement. Yet ignoring the value of alternative uses of fixed facilities is to make precisely that assumption.

B. An Economic Defense of an Accounting Practice

One might well ask whether the allocated accounting costs of fixed facilities, or unchanging supervisory staff, or any other fixed factor might capture the opportunity costs of their use in infringing production. The answer, disappointingly but not surprisingly, is "only imperfectly." Although there is an economic basis for expecting that on average the accounting costs of fixed facilities will approximate opportunity

---

[95] HAROLD DEMSETZ, ECONOMIC, LEGAL AND POLITICAL DIMENSIONS OF COMPETITION (1982)
[96] *See* Stephen E. Margolis, *Monopolistic Competition and Multiproduct Brand Names*, 62 J. BUS. 199 (1989).

costs, the approximation is only that. It should hold on average, but need not be close at any particular moment. On the other hand, an apportionment of the accounting costs of these facilities[97] does provide a better approximation of the opportunity costs of their use than we get by assuming they are always equal to zero, which is what we do when we apply a variable-factors-only approach to calculating incremental cost.

A profit-maximizing firm will use each input at a level such that the value of the marginal product of the input is equal to its price. Use of inputs that are completely variable even in the short run should tend toward this level, even as demand or input prices fluctuate. After all, these variable inputs are variable precisely because they are purchased in the market period after period. For these inputs then, opportunity cost equals or at least closely approximates their prices at all times.

But some factors are fixed in the short run, and those are the ones that concern us here. For example, some assets, like buildings or certain kinds of specialized equipment, simply cannot be acquired quickly or resold readily without substantial losses. Personnel who are specialized or who must acquire substantial firm-specific skills to perform their jobs may be costly to recruit and train and are therefore not hired or fired in response to short-run fluctuations. People and things may also have to be purchased in significant "lumps." Certain kinds of plants or equipment are efficient only on a large scale. Analogously, people may be ineffective, or at least inefficient, if they are employed for less than full time or less than a long time.

Nevertheless, these fixed factors of production are also subject to maximization principles. In times of high demand, they may have marginal products that are greater than their prices; and in times of low demand, they may have marginal products that are less than their prices. Yet, maximization principles dictate that that on average, such inputs yield products that, at the margin, are worth their cost.

If, in a particular firm, some fixed factor is systematically worth more than it costs, the firm will increase its profits by increasing its use of that factor. Alternatively—and this is what matters for our cost allocation problem—if a fixed factor regularly yields a marginal product that is less than the price of the factor, the firm will increase its profits by decreasing its employment of that factor. There are various avenues for adjustment, such as depreciation without replacement, personnel attrition, or sale or rental of properties. The required marginal equalities are not put right instantly or continuously, as might be approximately the case for freely variable inputs, but that doesn't mean that the use of so-called fixed inputs is tethered permanently away from optimal levels.

[97] The exact accounting cost of durable facilities is not a simple matter either. Where these facilities are leased, the accounting costs are simple enough, they will be an appropriate allocation of the periodic lease payment. Such payments are generally fixed, at least for some period of time, and are likely to be recognized as unvarying in litigation. For assets that are owned, the economic user cost of capital the firm's opportunity cost of capital and depreciation. Accounting practice will recognize the costs of durable fixed facilities (For example, buildings) as depreciation and, in some cases interest payments on associated debt.

What this means is the accountants are on to something.[98] The implication of the foregoing is that the opportunity cost of incremental uses of inputs that are fixed in the short run will be, on average, about equal to their market prices. Because we can rely on persistent profit maximizing behavior, the accounting costs of these inputs are a defensible proxy for the values forgone by their use. That is to say, their price is a proxy for the expected opportunity cost of their use in production. This is the economic defense for the full absorption rule.

But even if we accept that accounting cost is an appropriate proxy for opportunity cost, we are left with the question of why we would adopt a proxy at all, rather than the real thing. There are at least two answers. First, a proportional allocation of fixed overheads avoids the Herculean task of identifying each unit of each input that is used in the infringing activity and then determining the value of the forgone alternative use of that specific input on each specific occasion that it was used. Such a task is difficult enough, but necessary, for the actual decision makers at the time that decisions are made. It will be much more difficult for outsiders making an evaluation well after the fact. Several courts have commented on the use of proportional allocation rules or other approximations, endorsing them as necessary sacrifices of detail in favor of feasibility.[99]

Second, opportunity cost of a fixed factor is typically unobservable. Cost is the value of the thing forgone. It is not just unmeasured; it is unseen. For the courts to attempt to measure the value of specific forgone activities would move litigants into a world of stark speculation. The full absorption rule relies instead on the expectation that a firm's optimizing behavior adjusts the use of fixed inputs so that they are, at the margin, worth what they cost. That is to say, economic theory holds that a profit maximizing firm adjusts the presence of fixed factors so that the opportunity cost of using them (something that we cannot observe) is equal—only approximately and only on average—to the cost of these inputs (which is observable).

C. Reconciliation Full Absorption with Management Theory

As noted above, Koelemay reports that the incremental rule is "consistent with modern business school management theory." He is right that business schools teach incremental reasoning; it is taught in both managerial economics courses and in accounting as contribution analysis.[100] Further, Koelemay's suggestion that the incremental rule is in line with contemporary thinking is not off target. Explicit endorsement of the incremental rule in case law is a relatively recent phenomenon.

Furthermore, economists are not misguided in teaching students to make decisions by comparing the incremental costs of an action with the incremental benefits. The

---

[98] And you don't know how much it pains me to write that.
[99] Need something here.
[100] Evidence of incremental thinking can be found in virtually any economics textbook. For a clear exposition of the basic ideas, *see* STEVEN LANDSBURG, PRICE THEORY AND APPLICATIONS, Ch. 5 (2004). It is widely taught in managerial economics classes, including my own. My teaching on this is in an expository essay, *Cost Concepts for Decision Making*, (include a web link here).

difference between the two is the gain that is obtained as a consequence of the action being considered. That much is fundamental and correct. But there is a problem with drawing a legal rule from this decision-making principle in economics, namely, that the comparisons that are contemplated in teaching exercises are always highly conditioned—based on assumptions that would be specific to a situation at a particular firm and at a particular time. The basic logic of incrementalism remains correct as we consider a firm's profits from an infringement. But the problem with applying this logic in litigation is that the conditioning assumptions do not hold generally, seldom hold for long, and typically pertain to conditions that cannot be observed by outsiders.

A simple and representative teaching example illustrates the problem.[101]

> *Newton Electronics sells set-top boxes to cable television operators. Newton has been selling 350,000 boxes a year in transactions that do not involve any long term contracts. They expect that they would continue to sell to their regular customers at this rate. They sell these boxes for $80. Newton's costs of making 350,000 of these units are as follows.*

Fixed Overhead	*$7,350,000*
Variable Overhead	*1,750,000*
Direct Labor	*2,800,000*
Direct Materials	*4,200,000*

> *Variable costs are constant up to capacity, which is 500,000 units.*
>
> *A potential new customer, Minnowvision, has offered to buy $55.00 per box for 100,000 boxes. Should Newton take this offer?*

For the current output, the average total cost (that is the total of all the items shown divided by the current output) is $71.00. To get the correct answer, the student is required to consider the incremental costs, not the average cost, and to notice that the fixed overhead is not a variable cost. The average variable cost, equal to sum of the bottom three cost items divided by 350,000, is only $25. There is money to be made by selling these boxes at $55.

When examples like this are presented in class to MBA students, the most sophisticated ones recognize the game we are playing and come quickly to the answer that the question is designed to elicit. But other smart (and perhaps more experienced) students are unsettled by the assumptions implicit in the question. Would these "new" sales displace sales that the firm was already making? Why doesn't the firm try to solicit other business at $80.00 or something less before they accept $55.00? How does the firm know that their current customers won't want more boxes than they have been buying? Is there any

[101] This problem is a simplification of a question I have used on an examination in an MBA course in managerial economics. Its basic structure is common. For example *see generally* EVAN J. DOUGLAS, MANAGERIAL ECONOMICS: ANALYSIS AND STRATEGY 4TH ED. 303-306 (1992), but in particular question 7-3.

likelihood that some other cable television provider will come along with a better offer? And so on. These are reasonable questions, and they are the questions that should occur to real managers making real decisions. In fact, when students don't raise these objections to the question as stated, I usually prompt them with something like this. "Suppose you really were the manager facing this decision. What concerns would you have? What possibilities would you actually take into account?" Freed from the artifice of the problem, they come up with all of the appropriate additional concerns. Recognizing the necessarily contrived nature of teaching examples constructed to teach incremental comparison, our teaching examples usually include statement like this: "Assume that nothing else is affected by this decision."

This is not to say that basic incremental logic is incorrect or inappropriate for management courses. In fact, managers should consider specific situations in detail and compare incremental gains with incremental costs. The manager of our hypothetical electronics plant probably would understand that her average cost is $71.00 at the current output. But she would be ill served if that were the only cost number she kept in her head. If her only accounting information were based on the full absorption model—average total cost—she would turn down this business, which in important instances would be a mistake. But a real manager would also consider what options she would be giving up by accepting this business. That is a part of real business decision making, and one that will generally be invisible to the court.

In examples like the one shown above, with their explicit restrictions, incremental reasoning leads to profit maximizing and socially efficient decisions. But for managers to decide correctly, they must engage in hypothetical deductive reasoning: If I make these assumptions about my future opportunities, what is the consequence of a particular action? This reasoning is the discrete echo of what we do when we evaluate a partial derivative, or equivalently, when we consider marginal revenue and marginal cost. These are appropriate intellectual steps for making decisions, but the incremental profit that results is an intellectual construct, the result of particular assumptions that the manager chooses to make. It cannot be observed simply by looking at accounting data.

This argument would seem to deny the possibility of any reasonable measurement of incremental profits. Indeed it is one more argument against expecting an exact measure. But measurement in litigation will have to rely on some appropriate proxy for the opportunity cost of fixed factors, and a defendable approximation is available--allocation of fixed costs. While this proxy cannot perfectly recover the opportunity costs associated with the use of fixed factors in a particular instance, it provides a better approximation than ignoring them altogether.

D. A Brief Comment on Capacity

The economic argument for the use of full absorption rests on the understanding that where there are fixed factors of production, a commercial activity occurs at a cost of giving up other valuable activities. That understanding raises the issue of capacity.

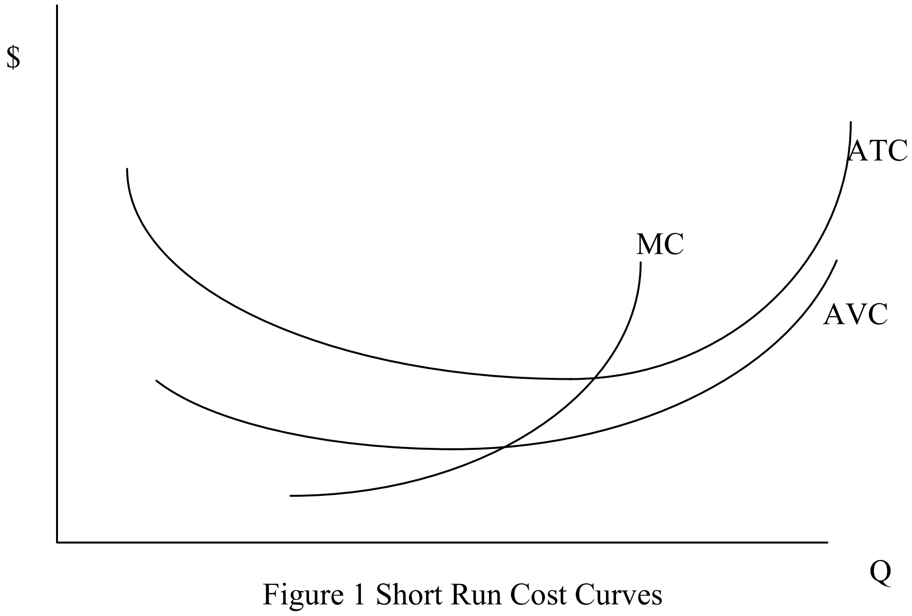

Figure 1 Short Run Cost Curves

Figure 1 is a completely conventional representation of a firm's short-run cost curves, as found in most any microeconomics textbook. In the diagram the upward-sloping marginal cost curve (MC) illustrates the influence of a fixed factor. At low outputs, additional units of output are available at low cost; that is, marginal cost is small. At some point, however, the capacity constraint begins to bind. Because the fixed factor or factors becomes crowded relative to the amount of productive activity, it becomes difficult to produce additional units of output, which is to say that marginal cost rises. At high levels of output, relative to the range shown, the marginal cost curve becomes quite steep, indicating that additional units of output are produced with considerable difficulty as the limitations imposed by fixed factors become severe.

The other two curves are average variable cost (AVC) and average total cost (ATC). These are "dragged around" by marginal cost. As marginal cost becomes high enough, the average cost of the entire output is increased by additional units of output.

One notion of capacity, and the common meaning of the word, is an absolute limit. The capacity of a pickle jar is reached when it is not possible to stuff another pickle into the jar no matter how hard you try. Similarly, we could consider the capacity of a manufacturing facility to be the level of output at which not a single additional unit of output could be produced at any cost. That notion of capacity, however, is not particularly useful, not because there isn't such a limit, but because expansion of output would be called off well before such a limit is reached. As that theoretical absolute limit is approached, the cost of additional output would become prohibitive.

A definition of capacity that economists use in many contexts is the quantity at which average total cost is minimized. Certainly it is possible to obtain more units beyond that point, but output beyond that point increases the average cost of output. This "capacity" of a facility is consistent with the idea of design capacity—the intended level of operation. Economists use the phrase "excess capacity" to describe the situation in which output is below the level of output that minimizes average total cost. And for outputs larger than that, we speak of insufficient capacity. In full competitive equilibrium, price is forced down to the minimum possible ATC. Producing units of output beyond the quantity that minimizes ATC will not be profitable. Thus the market confirms this meaning of capacity.

What all this shows is that while it is generally possible to produce additional output, there are nevertheless limitations imposed by fixed inputs. These limitations are experienced as elevated costs. The potential error here is that we might observe the possibility of squeezing out additional output and erroneously draw the conclusion that the capacity constraint does not bind and that there are no opportunity costs of using fixed facilities. Yes, it will be possible to produce one more unit of output, or perhaps many more units of output, but where the firm is at "capacity" as economists use the term, producing that unit will be costly, and probably unprofitable. In the diagram, notice that at capacity, as defined here, marginal cost is equal to the average of all costs (ATC) and not the average of variable costs. That is, we can calculate the *incremental cost* of output correctly only if we include fixed costs. Conversely, the tempting expedient of computing marginal cost as the average of variable costs is correct only where the firm is operating well below capacity, where again, capacity means output at which average cost is minimized, not the absolute theoretical maximum output.

E. Case Law: Another Look

The opportunity cost perspective is not always ignored in case law. The opinion of the Sixth Circuit Court of Appeals in *Schnadig v. Gaines*[102] articulates an incremental view with specific consideration of whether fixed facilities had alternative uses. This is a design patent case that reached the Court of Appeals on the issue, among other things, of allocating fixed costs in determining the infringer's profits.[103] The parties had agreed to the amount that they considered fixed cost, and the District Court had allowed approximately two-thirds of fixed costs to be counted in the profits calculation. The plaintiff objected to any deduction of fixed costs.

The *Schnadig* court, with enviable brevity, sums up the status of this controversy in both law and economics: "Neither the case law nor logic provides a clear rule for the proper

[102] 620 F.2d 1166 (6th Cir. 1980).
[103] Owners of design patents can be awarded the profits of an infringer. In this regard, design patents are like copyright and unlike utility patents. 35 U.S.C. § 289.

treatment of fixed costs."[104] The court then goes on to provide clear statements of the usual arguments in support of each of the two approaches.

> Because these expenses were neither caused nor increased by the infringing production, it may be argued that the infringer should not be permitted to avoid the expense by passing it on to the patentee. The response to this argument is that these expenses are necessary for each component of production. [The infringing product] could not have been produced without expenses for utilities, administrative salaries, building space and the like being incurred. Viewed in this light, the fixed expenses are as necessary to the variable expenses and should be similarly treated. The basic truth that no article of manufacture can be profitable in a real sense if it cannot bear its proportionate share of the fixed costs is hardly new.[105]

But then the court offers its resolution:

> The ideal approach to resolving the conflicting considerations present here would be to ascertain whether without the infringement the defendant could have employed the facilities which were devoted to the infringing production in a manner which would have covered the fixed costs at issue. If no alternative use were available, the fixed costs sought to be allocated against the profits from the infringement would have been borne by the defendant's non infringing production, and a recovery of these costs would in effect reduce the cost of his other production, resulting in a net gain from the infringement.

The court also recognizes the impracticality of implementing this "ideal" approach fully: "[W]e recognize that it will be difficult for the parties to show and the judge to determine what might have been." The parties in the case had not addressed the issue of alternatives, but the court ultimately finds support for the District Court's allocation of a substantial portion of the fixed costs in the fact that the defendant generally managed to keep its facilities busy: "[T]he record indicates that Gaines' business was quite successful and growing rapidly during the period in question."

The definition of "profit" in design patent infringement was a matter of first impression in the Sixth Circuit,[106] but the *Schnadig* court did draw on *Levin*,[107] a patent case in the Eighth Circuit, noting that prior to 1946 a patentee could recover infringer's profits. Against the plaintiff's appeal that all overhead be disallowed, the Levin court affirms the lower court in allowing an allocation of some overhead costs, those costs that "had a direct connection with the manufacture and sale of the infringing [goods]":

> "It often happens that overhead expenses are applicable to and should be spread over the entire business but where a business is established and in operation and

---

[104] Schnadag, 620 F.2d at 1172.
[105] *Id.*
[106] *Id.* at 1168.
[107] *See supra* note XX.

> another line is taken on without an increase in overhead expenses it is just to the patentee that the actual situation be applied and none of such overhead be charged as an expense of the added line except as it participated in manufacture or sale of the infringing article."[108]

After noting with approval that the statute has gone quite far to "take away from the infringer every vestige of gain through his wrongful act, the Levin court then cautions:

> On the other hand, this theory of not allowing overhead where it has not been increased is of narrow application and not to be extended for it is manifest that every item of expense which should be properly be included in the manufacture and sale of the infringing article should be so included in ascertaining the real profit thereon.[109]

Thus Levin sets the table for both the "assists in the production" rule in *Sheldon* and the opportunity cost-based rule in *Schnadig*.

By limiting deductibility to those overhead categories that "assist in production," Judge Hand's departure in *Sheldon* from a full absorption rule is a nod in the direction of an incremental opportunity cost rule. Where overhead items have no association with the production of the infringing goods, it is reasonable to think that there is no opportunity forgone with regard to limitations imposed by that fixed input. But that explanation can be pushed too far. Typically, the available accounting data presents cost information for broad aggregates of inputs, and the courts have generally stopped short of an input-by-input inquiry into the production process. Thus the accuracy contributed by the "assist in production" rule is limited by the aggregation imposed by the accounting practices of the infringer.

F. Patent Again

Although the patent statute does not provide for the owner of an infringed patent to receive the infringer's profits, profits calculations are often a part of patent infringement litigation. These calculations serve a different purpose in patent litigation, so the arguments about accounting rules relating to copyright and trademark remedies do not transfer entirely or simply to patent.

While defendant's profits are not an available award, the plaintiff's lost profits are. Plaintiff's lost profits, however, are not a mirror image of the defendant's profits, differing in several regards including the appropriate construction of incremental costs. In short, infringing production will typically only reduce the scale of the patent owner's production, not eliminate it all together. In that circumstance, the infringing activity may not free up any facilities that can be used for something else, in which case the variable-cost-only construction of cost may be appropriate. In this circumstance, the economist's

[108] Levin, 72 F.2d at 166.
[109] *Id*.

marginal cost construction may be a good fit to the actual circumstance—variable factors of production are adjusted (marginally) to reduce output[110]. The plaintiff asking for lost profits has made an incremental adjustment of an existing program to accommodate the infringement, whereas the infringing defendant creates an entire program in order to infringe. The plaintiff's adjustment is less likely to release facilities and supervisory personnel than the defendant's infringement is to require them. This difference argues against a presumption in favor of full absorption in computing lost profits.

The legal premise of a reasonable royalty favors a full absorption rule. Here, where profits enter at all, it is the profit available from entering the patented line of business, as it would be recognized at the time of entry. Reasonableness suggests that such profit would be considered taking account all of the costs of initiating and undertaking such a business, including the costs of managerial oversight, marketing, facilities and other indirect costs, whether fixed or not once production has begun.

Finally, Judge Easterbrook's arguments in Grains Processing Corporation v. American Maize-Products[111], a patent case, offer an interesting analogue to the opportunity cost argument in this paper. In *Grains Processing*, Judge Easterbrook held that an alternative process that the defendant had available at the time of infringement substantially limited the defendant's liability. First, the plaintiff's claim of lost profits was precluded by the fact that the defendant had available an alternative process that produced a perfect substitute for the infringing product (it simply cost more to produce). The availability of the alternative process rebutted a claim that but for the infringing production, the plaintiff would have satisfied the equivalent demand. Further, the reasonable royalty that the plaintiff could be awarded was limited to the cost advantage that the infringing process provided. Equivalently, the reasonable royalty available to the defendant was diminished to reflect the profits available to the defendant from practicing the alternative process—that is to say the opportunity cost of the infringing production.

There is a similarity between this treatment of profits and the argument presented above in favor of full absorption. Easterbrook writes, "Lost profits damages are designed to give the patent holder the economic benefits it would have enjoyed had its intellectual property been respected. [citations omitted] This rule calls for a reconstruction of the way the market would have developed in the absence of infringement." And later he writes, "A product that is within a firm's existing production abilities, but not on the market…effectively constrains the patent holder's profits." The similarity is that in both treatments, the infringer's alternative opportunities limit the claims that can be made against them. In the construction of the defendant's profits considered above, a "reconstruction of the way the market would have developed" includes the presumption that the defendants facilities, supervisory personnel, and other fixed assets would have alternative value that is equal to their cost.

[110] Some courts have required the plaintiff to establish that they had the capacity to replace the infringing production. Among the so-called Panduit factors is that the plaintiff has the "marketing and manufacturing capability to exploit the demand" *Panduit* 575 F.2d.1152.
[111] 979 F.Supp. 1233 (N.D. Ind. 1997).

6. Law and Economics II: *Sheldon* as an Incremental Opportunity Cost Rule

The claim of the previous section is that the full absorption rule articulated in *Sheldon*, which calls for allocation of the costs of overheads that are involved in infringing production, is grounded as an incremental rule that uses the accounting costs of fixed inputs as a proxy for the opportunity cost of those inputs in an infringing activity. Thus, the full absorption rule (or near full absorption rule) more properly reflects the economic logic of an incremental rule than the variable-costs-only incremental alternative. Moreover, this understanding of the *Sheldon* rule is anticipated in *Levin*, its precursor, and further developed in *Schnadig*.

This understanding of *Sheldon* prompts several questions. First, what does this rule actually do? That is, in what sense does it capture the defendant's gain from infringement? Second, if we are to understand the *Sheldon* rule as a satisfactory proxy for profit, how does it fall short of an exact measure and why should we be satisfied with it? And third, are there further implications for the treatment of overheads that follow from this understanding?

A. What Does Sheldon Do?

It's tempting to jump to the supposition that a full absorption rule necessarily yields a profit rate (profits/revenues) for the infringing activity that is identical to the profit rate for the business unit as a whole. After all, if all costs are allocated to products in proportion to sales, then costs as a percentage of sales will be uniform across products, and therefore so will profits. This will not be the case, however, so long as the direct costs of a product can be determined (as is often the case) and the infringed copyright or trademark actually protects something that is valuable.

Where the creative contribution that is protected by copyright actually adds something to the value of the product, the direct costs that are associated with the product will typically be a smaller share of the price of the product than the corresponding share for the firm's generic production. That is, the contribution of intellectual property will be manifest as an increased willingness to pay for the protected item as compared to the firm's unprotected or generic goods of equivalent cost. An additional use of the intellectual property itself does not add to direct costs. Therefore goods that embody valuable intellectual property will have margins on variable costs that are greater than the margins on variable cost of unprotected goods. Thus, even when the overhead "loads" are added to cost, protected goods will show greater profit margins.

Taking a very simple example, suppose that in a particular firm, overheads are 40 percent of sales (revenues). Further, suppose that for unprotected goods that the firm produces, direct costs constitute 50 percent of sales, while the equivalent figure for protected goods is 25 percent. (Equivalently, the price of unprotected goods is twice the direct cost per unit, while the price of protected goods is four times the direct cost per unit. In such a case, the accounting profit for unprotected goods will be 10 percent, while the profit rate for protected goods will be 35 percent. In this example, the recovery available to the plaintiff, absent any specific punitive measures, would be 35 percent of the revenues from the infringing product.

Notice that in this simple illustration, the apparent contribution of the intellectual property is only 25 percent of costs, which is the difference between the profitability of generic production (10 percent) and the protected production (35 percent). What happens then, even with the full absorption rule, which I have argued is approximately an opportunity cost rule, is that the plaintiff captures both the contribution of the intellectual property and the margin ordinarily offered by the firm's unprotected or generic production.

Is the 35 percent profit? By one definition, it would certainly be accounting profit—profits under a full absorption rule. Notice, however, that even this measure, which reduces profits in comparison to the incremental method by allowing a deduction for overheads, is greater than the stipulated contribution of the intellectual property. Is there any foundation, either in law or in economics, for using this measure of profits as the basis for a monetary award?

And what is the difference between this profit, as measured under a full absorption rule, and the contribution of the intellectual property? It is, of course (and becoming almost completely circular), the margin that the firm earns on its generic production. But why do these profits appear in the accounting after all of the overheads have been "absorbed"?

The answer is that these are returns to attributes of the firm that are valuable and that are not recognized in the firm's accounting. These could be common assets that the firm owns—equity in buildings or equipment, for example—that add value to the firm's output. Even in competition, the returns to these assets are not forced to zero, since other firms must also acquire the services of these types of assets. We would not consider the returns to these assets to be economic profits, but they are accounting profits. In full competitive equilibrium, these are the normal returns to investment.

But these accounting profits can also reflect other things about the firm that allow it to earn accounting profits. The firm could own other intellectual property, or enjoy some degree of monopoly power by virtue of unique capabilities that are not readily imitated. The firm might have simply assembled a group of employees that are particularly effective at working together, or have developed ways of doing business that provide cost advantages. These are all attributes of the firm that are advantages in the obvious sense that the firm is better off with them than without them. If it were possible to identify each of these attributes and to account for their contributions to profits as the returns to those assets, we would account for all of the firm's accounting profits as returns to assets, not as "profits.[112]" It is in this sense that Harold Demsetz, in another context, argues that what we calculate as profits is result of what we exclude, either by choice, necessity, or omission, from explicit accounting.[113]

This perspective would lead us to interpret profits due to the infringement as the contribution of the intellectual property (the 25 percent in the numerical example above, and not the 35 percent). Everything else that the plaintiff would claim (the additional 10 percent) is really a return to other assets that the defendant owns.

So if we are taking full account of opportunity costs, why not make the additional assumption that in the absence of the infringement, the defendant would undertake some alternative activity in its place that was of similar scale and just as profitable as his other non-infringing production? That assumption would recognize that there are assets of the firm that are not explicitly accounted that also have opportunity costs. The defendant would keep the 10 percent.

But this is not what the law does. Consider the simple case where an enterprise comes into existence for the sole purpose of infringement, produces as its only output an infringing good, leases all its capital goods, and then goes out of business, so that all costs are incremental to the infringement and no issues of overhead are raised. In that case, an "accounting of the profits" would yield all of the accounting profits to the plaintiff. The entire existence of the firm is the infringement, and the entire proceeds of the firm would likely be awarded to the intellectual property owner. The defendant would not be allowed to retain the earnings that might have been available in some similar but non-infringing entrepreneurial activity. Further, the law distinguishes, in places, between damages, which are often treated as the reasonable royalty that is unpaid as a result of the infringement, and the profits of infringement. Can the claim that *Sheldon* is an incremental opportunity cost rule be reconciled with the exclusion of some opportunity costs?

B. Russ Berrie's[114] Sense of Style

[112] Interestingly, in the standard pedagogy of perfect competition in introductory economics classes, accounting profits are explained as normal returns on investment. Further, if a firm in competition differs from the marginal firm in ways that yield greater accounting profit, the extra profits are explained as returns on the firm's unique assets, so that the zero-profit result can be maintained. But typically this reasoning is not usually extended to apply outside perfect competition, although it applies just as well. An important exception is Demsetz, see below.

[113] Harold Demsetz, *Two Systems of Belief About Monopoly*, in INDUSTRIAL CONCENTRATION: THE NEW LEARNING 164-184 (Harvey Goldschmid, H. Michael Mann, & J. Fred Weston eds., 1974). Demsetz discusses profits across industries in this paper, arguing that our election to interpret differences in profits as differences in monopoly power is essentially arbitrary.

[114] It might have been Willie, and Waylon and Russ. For those who may be unfamiliar with Mr. Berrie, he is something of an intellectual property outlaw, a modern day Robin Hood bringing low priced toys, gift items and greeting cards to the frugal and less advantaged. Unfortunately, several of Mr. Berrie's well-intended efforts trespassed on others' trademarks and copyrights. *See Kamar supra* note XX and Ruolo v Russ Berrie & Co. 886 F.2d 931.

Suppose a firm produces a variety of goods, each involving some creative element, and that for most of its production, the firm applies its own creative capability. Perhaps by tradition and experience, the firm can produce goods that reflect a style or feel or tone or sense of humor that the public recognizes and values. Such a capability would be an asset that could earn revenues that are consistently above the sum of all of its accounting costs. Now suppose the firm infringes, copying a good produced by another firm, or at least appropriating a creative vision developed elsewhere. Is there any basis for assuming that the firm's customary contribution to its products is present in the infringed products? Or in other words, is there any basis for splitting the profits between the contribution of the infringed property and the contribution of the firms own special attributes? Perhaps the firm brought its usual sense of style, or entrepreneurial insight, or market savvy, to the infringing activity, or perhaps not. Perhaps instead the firm infringed because it was fresh out of ideas, tired and jetlagged from a trip to China.[115] There is no reliable way to separate the two components. The intangible contributions of the firm and the contribution of the intellectual property have been mixed and can now not be reliably separated.

Once again, an applicable legal principle can be found in *Sheldon*:

> "Indeed a constructive trustee, who consciously misappropriates the property of another, is often refused allowance even of his actual expenses (Restatement of Restitution Sec. 158d) and although this harsh rule, which would charge the defendants with the whole gross receipts, has been softened, a plagiarist may not charge for his labor in exploiting what he has taken. A fortiori he should not be allowed for the currency which his reputation may have given to the combined product. "[116]

A key phrase here is "A plagiarist may not charge for his labor." The ordinary returns to the unpriced attributes of the firm—the missing 10 percent in the numerical example—are the normal earnings of the plagiarizing firm. While we don't think of these returns as a charge for the firm's labor, they are the returns to what the firm owns, the returns to the property that the firm constitutes. These are the earnings of the plagiarist, returns to the "property" that has been mixed, by the action of the infringer, with the property of the copyright owner.

Other aspects of the quoted passage are also germane. The infringer becomes a constructive trustee, who has, by mixing his property with that of an unwilling copyright owner, placed his own property at risk. The value of the contribution of the property of the infringer is not explicitly accounted for, and is perhaps unmeasurable. Awarding the entire margin to the infringed party—the 35 percent in the example above—is consistent

---

[115] In New Line Cinema Corp. v. Russ Berrie & Co., 166 F.Supp. 2d. 293 (2d Cir. 2001) Mr. Berrie's account of his shopping trips to China are entertaining and quoted at length. Although his account conveys an atmosphere of some rush and chaos on these trips, there is nothing in the record about being jetlagged or tired.

[116] 106 F.2d at 51. This passage is cited frequently, *see* Kamar, 752 F.2d at 1331; ZZ Top, 70 F. Supp. 2d at 1169.

with the general principle that one who carelessly or deliberately mixes his property with another's will give up the benefit of the doubt when the property is separated. Again in *Sheldon*: "the defendants must be content to accept much of the embarrassment resulting from mingling the plaintiffs' property with their own."

Just before the passage cited above, Judge Hand writes: "On the other hand, the defendants may not count the effect of their standing and reputation in the industry; perhaps the most important factor of all, after the [movie] stars." And then, regarding deductible costs he writes, "It follows that they [the defendants] can be credited only such factors as they bought and paid for; the actors, the scenery, the producers, the directors and the general overhead." Clearly, the court is distinguishing between the costs that can be accounted for as expenditures—including expenditures on overheads—and those that cannot.

The *Sheldon* rule does award the plaintiff a slice of the defendant's profits; the contribution of the intellectual property and a proportionate share of the overall profit of the firm. In that regard, it does manage to provide for the multiproduct, multiperiod enterprise, a measure of profits that is congruent to the measured profits of a single-product single-period enterprise that comes into existence to produce the infringing goods and leases any necessary capital goods. There is no reason to think that the former should be treated more harshly than the latter in an infringement action.

C. Exceptions

This paper does not propose a new rule, but rather offers an economic explanation of the *Sheldon* rule, a rule that on the surface might seem to run contrary to economic reasoning. But the opportunity cost justification for allocating overheads does suggest certain exceptions to a full absorption rule. Interestingly, most of these exceptions will conform to *Sheldon*'s instruction that "'Overhead' which does not assist in the production of the infringement should not be credited to the infringer, that which does should be; it is a question of fact in all cases."

Some firms that deal primarily in goods that embody intellectual property will have employees and even entire divisions that produce intellectual properties. For example, a firm that produces software products will have employees who develop the software. The wages and support expenses for these employees is likely to appear research and development expense, which is treated as overhead. Where a software firm copies software that another firm has developed, and consequently avoids using its own development staff, there are no lost opportunities in software development. In this circumstance, it would not be proper to allocate the costs of the software development staff, and the "does not assist" provision of the *Sheldon* rule would appropriately exclude any allocation of the cost of the development staff.

Of course, in real cases, the facts may not be so tidy. The software staff, which customarily designs entire products, might be involved with the infringing production, but only to integrate it with the infringer's other products. In such a case, the *Sheldon* rule might lead the court to allow a full allocation of the cost of software development, yet the contributions (and hence the opportunity costs) of the software development staff would be disproportionately small. Similar examples can be constructed: An infringing movie production company might employ scriptwriters for its non-infringing movies; an infringing toy manufacturer might employ toy designers to make non-infringing toys; an infringing map publisher might employ cartographers; or an infringing newspaper publisher might employ reporters. In short, the costs of the "creative works department" of a firm that has infringed a creative work should be subject to particular scrutiny.

As noted above, some courts disallow the allocation of overheads where the infringement is found to be willful. But there is nothing inherent in generally accepted accounting principles that would suggest that profits should be defined differently when the principals are behaving badly. Accordingly, it would seem that the practice of many courts of disallowing overheads in the presence of willfulness can only be interpreted as punitive. Given that the profits measure is not supposed to constitute punishment, and that there are explicit punitive measures available to the court, the linking of willfulness and overheads seems to sneak in an extra layer of punishment.

In contrast, the opportunity cost explanation does provide some justification for not allowing willful infringers to deduct overhead. As discussed above[117] willfulness is not merely consciously copying, but copying in the face of clear and credible notification that the copying is infringement. That an infringer would infringe even in the face of clear notice suggests that the returns to the infringement are significantly different from the returns available in the firm's next best alternative. In such a case, willfulness suggests that the firm had no feasible alternative that would make use of its fixed facilities. Or, to view this from the opposite side, a firm that has good alternative opportunities, so that the infringing production does not offer significantly larger returns, would be quick to switch to non-infringing production in the face of clear evidence that their production will lead to legal liability. By this argument, we would expect that a conventional accounting of profits, which would allocate all overheads, might understate the actual advantages of infringement. This provides some justification for excluding overheads, or at least subjecting them to greater scrutiny, where infringement has been decidedly willful.

In *Sheldon*, the court does find willfulness, but nevertheless allows a fairly extensive allocation of overheads. Still, the *Sheldon* court does limit deductions to "only such factors that were bought and paid for" in light of its finding of willfulness.

Finally, the opportunity cost explanation suggests that the issue of capacity is a factual matter. The opportunity cost justification of the *Sheldon* rule imbeds a presumption that use of a firm's facilities has an opportunity cost. This is a credible presumption. If a firm is chronically operating below capacity, the court might properly decline to allocate overheads. If, for example, the infringement is the basis for reopening long-shuttered facilities, the costs associated with those facilities might well be excluded.

[117] *See supra* note xx (initially 56).

Still, the capacity argument should not be taken too far. The exception should not prompt an item by item examination of actual opportunity cost. This paper argues for a presumption that the use of fixed facilities has opportunity costs. That presumption places a burden on the plaintiff to establish that the infringer's facilities would have gone unused in the absence of the infringement. This may be a heavy burden, but the court has a hard enough time assessing things that happened. It will not do well if burdened with the job of determining what might have happened, but didn't.

7. Conclusion

In a successful infringement action, the owner of an infringed trademark or copyright is entitled to the defendant's profits. Profits are not defined in the corresponding statutes, but a reasonable interpretation of the language of the law as well as economic reasoning supports the view that profits should be defined and computed to be the gain from infringing.

The gain from infringing is the incremental revenue less the incremental cost. That language has, in some courts, been taken to support a rule that allows deductions only for costs associated with variable inputs. The argument presented here is that such a legal rule is a misconstruction of the economic notion of incremental cost. Infringing production that uses fixed facilities will typically impose costs in the form of lost opportunities for other profitable production. While explicit consideration of the values of those lost opportunities would be highly speculative and ultimately infeasible, profit seeking behavior will imply that, on average, the marginal values of fixed facilities will be equal to their costs. This creates a presumption in favor of allocating the costs of fixed facilities.

This reasoning supports a full absorption rule for computing profits. This reasoning is also anticipated in some of the cases that are the precedents for a full absorption, most notably in *Sheldon* and *Levin*, and most explicitly in *Schnadig*.

The treatment of overheads matters. Overheads are large. Disallowing overheads can easily increase calculated profits by an order of magnitude. An incremental rule therefore may routinely result in much larger awards to infringed parties than a full absorption rule. The possibility of larger awards will result in more litigation, more precaution against inadvertent infringement, and greater business risk. Risk-averse fair-users may be deterred by even a very remote possibility that their use would be deemed unfair. Absent a common view on the allocation of overheads, the unsettled nature of the legal rules also increases the uncertainty of outcomes in litigation, discouraging settlement.