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# Calculating intellectual property infringement damages; AICPA practice aid series 06-1

Daniel L. L. Jackson

American Institute of Certified Public Accountants. Business Valuation and Forensic & Litigation Services Section

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# **PRACTICE AID 06-1**

# Business Valuation and Forensic & Litigation Services Section





AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

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The American Institute of Certified Public Accountants (AICPA) and its Forensic and Litigation Services Committee (formerly, the Litigation and Dispute Resolution Services Subcommittee) designed Business Valuation and Forensic & Litigation Services Practice Aid 06-1, *Calculating Intellectual Property Infringement Damages*, as educational and reference material for Certified Public Accountants (CPAs) and others who provide consulting services as defined in the AICPA's Statement on Standards for Consulting Services.

Practice Aid 06-1 does not establish standards, preferred practices, methods, or approaches, nor is it to be used as a substitute for professional judgment. Other approaches, methodologies, procedures, and presentations may be appropriate in a particular matter because of the widely varying nature of litigation services, as well as specific or unique facts about each client and engagement. Readers are encouraged to consult with counsel about laws and local court requirements that may affect the general guidance contained in this Practice Aid.

This Practice Aid supersedes AICPA Consulting Services Practice Aid 99-2, *Valuing Intellectual Property and Calculating Infringement Damages* (New York: AICPA, 1999) with the exception of Sections 7.01 to 8.09 and Sections 10.01 to 11.46 of Practice Aid 99-2.

The principal author of this Practice Aid is Daniel L. Jackson, CPA, CMC, CFE. Mr. Jackson was assisted in authoring and editing by Sandra Cable. Other contributors are, in alphabetical order, Scott Barnes, John Bednarski, Susan Budd, Randy Burch, William Choi, Philip Rantzer, Brian Reed, and Sam Rhodes.

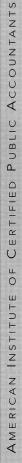
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The AICPA thanks those that have provided content and/or editorial assistance. The AICPA especially thanks AlixPartners, LLC, for allowing several of their professionals to work on the preparation of this Practice Aid.



# Calculating Intellectual Property Infringement Damages

Written by **Daniel L. Jackson, CPA, CMC, CFE** 





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# **1. INTRODUCTION**

#### **1.1. INTENT OF THE PRACTICE AID**

The objective of this Practice Aid is to provide guidance to practitioners with business and/or litigation experience concerning intellectual property rights and calculating damages for infringements thereof. This Practice Aid focuses on the theoretical, legal, economic, and accounting foundations of intellectual property and methodologies commonly employed in the calculation of damages.

The first section of this Practice Aid provides an overview of the patent, trademark, and copyright law in the United States. The second section of this Practice Aid addresses the calculation of damages arising from the infringement of intellectual property. There are also several appendices to this Practice Aid. Refer to Appendixes A, "Intellectual Property Print and Electronic Resources," and B, "Intellectual Property Professional Associations." Appendix C, "Summary of Intellectual Property Cases," provides a listing of relevant case law. These cases provide insight as to the methods and procedures accepted by United States courts in the calculation of damages. However, the practitioner is cautioned that these court cases provide only general guidance; the facts and circumstances of each engagement are controlling and may dictate the choice of appropriate methodology.<sup>1</sup>

#### **1.2. OVERVIEW OF ECONOMIC SIGNIFICANCE OF INTELLECTUAL PROPERTY**

The ability to manage, value, and exploit intellectual capital<sup>2</sup> has become a significant corporate objective. Investors and shareholders alike are investing more in intellectual capital today than in the past, because it tends to yield a higher return on investment than other corporate assets.<sup>3</sup> Currently, the innovation process—seeking new ways of meeting market demand—appears to be yielding the highest return on investment.<sup>4</sup> As a result, many companies are making huge investments into intellectual capital, in part as a means of spurring innovation.

<sup>&</sup>lt;sup>1</sup> In addition, the precedential value of intellectual property case law undergoes change as appellate and other courts publish new decisions. Because a new decision can affect the application of law immediately, current precedent should be carefully reviewed with counsel before a practitioner relies on the cases cited in Appendix C.

<sup>&</sup>lt;sup>2</sup> Intellectual capital must be distinguished from intellectual property. *Intellectual capital* consists of human capital (people) and structural capital (e.g., internal processes and structures, databases, customer relationships, patents, trademarks, trade secrets and copyrights).

<sup>&</sup>lt;sup>3</sup> http://www.juergendaum.com/mybook\_i.htm, (2004), "Interviews from Juergen Daum's book, *Intangible Assets and Value Creation*."

<sup>&</sup>lt;sup>4</sup> Ibid.

The World Intellectual Property Organization has addressed this trend:

IP assets are gaining ground as a measure of corporate viability and future performance. In 1982, some 62 percent of corporate assets in the United States of America were physical assets, but by 2000, that figure had shrunk to a mere 30 percent . . . A recent study shows that, on average, 40 percent of the value of a company is not shown in any way on its balance sheet. For this reason, IP is sometimes referred to as a "hidden value". Whether hidden or expressly valued, it is now clear that patents, copyrights, trademarks, geographical indications and trade secrets are significant contributors to enterprise value.<sup>5</sup>

Some historical examples of high-profile patent infringement cases demonstrate how intellectual property disputes can involve millions or even billions of dollars. For instance:

- In *Michelson v. Medtronic*, over \$1 billion changed hands when Medtronic was required to pay Michelson \$400 million in punitive damages for patent infringement, another \$159 million in unpaid royalties and other sums.<sup>6</sup>
- In *Honeywell v. Minolta*, a \$96 million judgment was entered against Minolta for its infringement of Honeywell's patented autofocus camera technology. Based on that judgment, Honeywell was able to license out its technology to other major camera manufacturers, netting it \$400 million in additional income.<sup>7</sup>

Given the magnitude of the dollars at stake, the development and protection of intellectual property has become a high priority among analysts and business leaders. This trend was addressed by Federal Reserve Chairman Alan Greenspan at the 2003 Financial Markets Conference of the Federal Reserve Bank of Atlanta, Sea Island, Georgia:

Before World War I, markets in this country were essentially uninhibited by government regulations, but they were supported by rights to property, which in those years largely meant physical property. Intellectual property—patents, copyrights, and trademarks—represented a far less important component of the economy, which was mainly agricultural ... Only in recent decades, as the economic product of the United States has become so predominantly conceptual, have issues related to the protection of intellectual property rights come to be seen as significant sources of legal and business uncertainty.<sup>8</sup>

In light of the critical role played by intellectual property in the current global economy, identifying, managing and protecting these assets are essential functions for many businesses. Certified Public Accountants (CPAs) with specialized training in consulting and valuation can provide

<sup>&</sup>lt;sup>5</sup> World Intellectual Property Organization, "Intellectual Property—A Powerful Tool for Economic Growth", Chapter 3. http://www.wipo.int/about-wipo/en/dgo/wipo\_pub\_888/index\_wipo\_pub\_888.html.

<sup>&</sup>lt;sup>6</sup> Kirkland and Ellis LLP, *Deals & Suits: Michelson v. Medtronic*, Jan. 1, 2005, www.kirkland.com.

<sup>&</sup>lt;sup>7</sup> Honeywell's Chief Financial Officer during this period, Christopher J. Steffen, believes that "[a]s our economy becomes less manufacturing oriented, intellectual property becomes a much more important asset and represents a great deal of what shareholders have given a company to invest." Myers, R. (March 1998). *Fighting Words: Growing ranks of litigants are putting price tags on ideas*, CFO.Com, CFO Publishing Corporation, New York (http://www.cfo.com/article.cfm/2989975/c\_3046551?f=insidecfo.)

<sup>&</sup>lt;sup>8</sup> http://www.federalreserve.gov/boarddocs/speeches/2004/200402272/default.htm (2004).

their clients with professional assistance in this area, helping them manage their intellectual property assets, supporting them in license negotiations, calculating damages, and performing other important functions.

# **1.3. OVERVIEW OF TRADITIONAL FORMS OF INTELLECTUAL PROPERTY**

A central premise of United States intellectual property law is to foster innovation by affording innovators certain rights in connection with their innovations. Article I, Section 8, Clause 8 of the United States Constitution specifically authorized Congress to enact patent and copyright laws. The federal trademark laws were authorized more generally in the Constitution, pursuant to Article I, Section 8, Clause 3, which states, "Congress shall have power . . . to regulate commerce with foreign Nations, and among the several States, and with Indian Tribes."<sup>9</sup>

The following sections of this Practice Aid present an overview of the patent, trademark, and copyright systems in the United States. Each section addresses the nature of the rights protected, property considerations, the formal registration processes, and enforcement considerations. A summary of trade secret law is also included.

Given the broad and ever-expanding nature of intellectual property law and practice, this Practice Aid is not intended to be exhaustive in nature. It is presented for information purposes and in the context of litigation services engagements performed by CPAs.

#### **1.3.1. Patent Overview**

Article I, Section 8, Clause 8 of the United States Constitution specifically authorized Congress to enact patent laws.<sup>10</sup> Patents provide an economic incentive for inventors to publish their inventions and discoveries. In order to qualify for patent protection, inventions and discoveries should represent a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof."<sup>11</sup> In addition to patents for utilitarian inventions (utility patents), patents are available for certain ornamental designs (design patents), and certain plants (plant patents). Utility patents may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof; design patents may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture; and plant patents may be granted to anyone who invents or discovers any new and useful design for an article of manufacture; and plant patents may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture; and plant patents may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.

<sup>&</sup>lt;sup>9</sup> Article I, Section 8, Clause 3 of the U.S. Constitution.

<sup>&</sup>lt;sup>10</sup> Article I, Section 8, Clause 8 of the U.S. Constitution also authorized Congress to enact copyright laws.

<sup>&</sup>lt;sup>11</sup> 35 USC § 101.

Damages for patent infringement are governed by Title 35, Section 284 of the U.S. Code, which states that "[u]pon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court."<sup>12</sup> This section provides for two distinct measures of damages in a patent infringement case, namely, (1) lost profits, but (2) in no event less than a reasonable royalty.

The focus of damage analysis in a patent infringement dispute typically starts with the lost profits suffered by the patent holder. The goal of lost profits, where appropriate, is to award the patent holder damages adequate to compensate for the infringement, but in no event less than a reasonable royalty. If, in all reasonable probability, the patent holder would have made the sales that the infringer made, the patent holder is entitled to recover the profits it would have earned from the sales denied it as a result of the infringement.<sup>13</sup>

A variety of special damage issues arise if the patent-in-suit is a design patent. As with utility patents, lost profits or a reasonable royalty are available in litigation concerning the infringement of a design patent. The Patent Act, however, also permits design patent owners to seek damages in an amount equal to the infringer's profit<sup>14</sup> as an alternative remedy. But a design patent owner may not recover both the infringer's profit and a reasonable royalty; it must elect one or the other. Additionally, a patent owner may not recover a reasonable royalty for infringement of a utility patent as well as profits for infringement of a design patent on the sale of a single product.

The goal of assessing reasonable royalties in patent infringement cases is to place the infringed party in the same position that it would have been had it hypothetically negotiated a license for the patent. "When actual damages cannot be proved, [the] patent owner is entitled to 'reasonable royalty,' which is an amount which a person desiring to manufacture and sell a patented article, as a business proposition, would be willing to pay as a royalty and yet be able to make and sell the patented article in the market at a reasonable profit."<sup>15</sup>

#### 1.3.1.1 The Patent Application Process

In support of a utility patent application, an inventor will attempt to demonstrate to the United States Patent and Trademark Office (USPTO) that his or her invention has each of the following attributes:

- 1. It is useful.
- 2. It is new.

<sup>&</sup>lt;sup>12</sup> 35 USC § 284.

<sup>&</sup>lt;sup>13</sup> Livesay Window Co. v. Livesay Industries, Inc., 251 F.2d 469 (Fifth Cir. 1958).

<sup>&</sup>lt;sup>14</sup> Under this alternative, the design patent owner is not only entitled to the profits of the infringer, but may also be entitled to the profits of other sellers in the chain of distribution.

<sup>&</sup>lt;sup>15</sup> Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (Sixth Cir. 1978).

#### 3. It is not obvious.

The applicant is required to file with the USPTO a set of formal papers, including a written patent application describing the invention, and pay a fee. The patent application description must include the specifications, the claims, and any necessary drawings.

Section 112 of the United States Patent Act states that "the specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention."<sup>16</sup> The claims of a patent are the numbered paragraphs found at the end of a patent application, usually preceded by the phrase "I (we) claim" or "What is claimed is." These claims define the boundaries of the patent right, as a deed stakes out the boundaries of real estate.<sup>17</sup>

Upon receiving a patent application, the USPTO assigns it to a patent examiner for review.<sup>18</sup> The examiner, who generally has expertise and/or training in the relevant technical field, reviews the patent application to determine whether the inventor has met the requirements for issuance of a patent. In addition to reviewing the application for indications of utility and form, the examiner ordinarily conducts a search for patents or other published literature (referred to as "prior art") that preceded the patent application. The objective of this search is to determine whether the claimed invention is new and nonobvious in view of the prior art.

In most cases, a patent application is pending within the USPTO between one and three years. This extended review period is the result of the large volume of patent applications filed and the labor-intensive examination process, which often involves extended communications between the USPTO, applicants, and their attorneys or agents.

Under United States patent law, a patent application can be based either on (1) an existing invention, or (2) an existing idea of an inventor, even if the inventor has not physically built or tested the idea to see whether it works. A patent is granted for a term beginning on the date on which the patent issues and ending 20 years from the date on which the application for the patent was filed in the United States or, if the application contains a specific reference to an earlier filed application or applications under Section 120, 121, or 365(c) of Title 35, from the date on which the earliest such application was filed.<sup>19</sup>

<sup>&</sup>lt;sup>16</sup> 35 USC § 112.

<sup>&</sup>lt;sup>17</sup> Corning Glass Works v. Sumitomo Electric USA, 868 F.2d 1251, 1257 (Fed. Cir. 1989).

<sup>&</sup>lt;sup>18</sup> The USPTO maintains the confidentiality of pending patent applications under Title 35, Section 122 of the U.S. Code. <sup>19</sup> 35 USC § 154.

#### 1.3.1.2. "Infringement" During the Patent Application Process

Title 35, Section 271 of the United States Code defines infringement of a patent as follows:

(a) [e]xcept as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefore, infringes the patent.

(b) [w]hoever actively induces infringement of a patent shall be liable as an infringer.

(c) [w]hoever offers to sell or sells within the United States, or imports into the United States a component of a patented machine, manufacture, combination, or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.<sup>20</sup>

Patent applicants have limited recourse against those guilty of "infringing" conduct committed while the patent is pending but prior to its issuance. This is the case even if the "infringer" is on actual notice of the pending patent claim. "If the would-be infringer stops all activities once the patent issues, then the infringer would seem to be free from any liability, at least from patent theories. If the would-be infringer intends to continue his acts after the patent issues, then the knowing infringer may temper his pre-issuance actions in an effort to avoid potentially enhanced damages from post-issuance infringement."<sup>21</sup>

Addressing this issue in *Gustafson, Inc. v. Intersystems Industrial Products, Inc.*, Chief Judge Markey considered it:

obvious that a party cannot be held liable for 'infringement', and thus not for 'willful' infringement, of a *nonexistent* patent, i.e., no damages are payable on products manufactured and sold before the patent issued. Whether an act is 'willful' is by definition a question of the actor's *intent*, the answer to which must be inferred from all the circumstances. Hence a party cannot be found to have 'willfully' infringed a patent of which the party had no knowledge. Nor is there a universal rule that to avoid willfulness one must cease manufacture of a product immediately upon learning of a patent, or upon receipt of a patentee's charge of infringement, or upon the filing of suit.<sup>22</sup>

#### 1.3.1.3. Nature of Patent Rights

The essence of patent rights resides in the ability of the owner to exclude others from making, using, selling, offering to sell, or importing the patented invention into the United States. This right to exclude others is separate and distinct from the right of a patent owner to make, use, sell,

<sup>&</sup>lt;sup>20</sup> 35 USC § 271 (Effective December 8, 2003).

<sup>&</sup>lt;sup>21</sup> Shimokaji, M. (1997), Inducement and Contributory Infringement Theories to Regulate Pre-Patent Issuance Activity, http://www.lawtechjournal.com/archives/blt/i2-mas.html.

<sup>&</sup>lt;sup>22</sup> Gustafson, Inc. v. Intersystems Indus. Products, Inc., 897 F.2d 508 (Fifth Cir. 1990).

offer to sell, or import the patented invention. A patent is considered personal property and its rights can be sold pursuant to a written license agreement.

#### 1.3.1.4. First to Invent Versus First to File

In the United States, ownership of a patent is determined by the "first to invent" rather than the "first to file." According to Title 35, Section 101 of the U.S. Code, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

Notably, the United States is one of the few countries in the world to follow the "first to invent" rather than the "first to file" rule.

#### 1.3.1.5. Patents as Property

The United States Patent Act treats patents as personal property. As such, patent rights can be sold pursuant to a written agreement or licensed in a like manner. Licensing is a process by which a holder of patent rights (the licensor) grants permission to another party (the licensee) to commercially exploit the patented invention, usually in return for some form of payment or royalty.

Licenses can be exclusive or nonexclusive. Under an exclusive license, the licensor grants exploitation rights to the licensee, to the exclusion of others (including the licensor/patent holder). In contrast, a nonexclusive license permits multiple licensees, and may allow the licensor/patent holder to act as a competing manufacturer.

#### **1.3.2. Trademarks Overview**

Trademark law governs the use of a word, phrase, symbol, product shape, logo, or device by a manufacturer or merchant to identify the source of the goods or services and to distinguish them from those made or sold by another.

Trademarks for goods (or service marks for services) act to (1) identify and distinguish the goods (or services) of one company from the goods (or services) of another, and (2) indicate the source of the goods (or services), even if that source is unknown. Any of a number of symbols or designations can serve as a trademark or service mark, such as words, logos, product configurations, and sounds. A color or smell may also be entitled to trademark protection. A designation of *TM* (for trademarks), *SM* (for services marks), or ( (for registered marks) evidences a claim of protection by the owner of the mark.

In contrast to patents and copyrights, trademarks may be afforded protection both under federal law (whether federally registered or not) and state law. The federal statutes governing United States trademark law are found in the Lanham Act, Title 15 of the U.S. Code. State statutes and common law also provide trademark protection. Among other purposes, state trademark laws

are intended to prevent the deceptive and misleading use of marks in commerce and to protect persons engaged in such commerce against unfair competition. Additionally, certain state trademark laws can be used to exclude others from lessening the capacity of a famous mark to identify and distinguish goods or services, regardless of whether there is an absence of competition or a likelihood of confusion.

#### 1.3.2.1. Registration Process

To obtain a federal trademark registration, the trademark owner must file a formal registration application, together with specimens showing how the mark is used, and pay the required fee. The USPTO examines trademark registration applications through a process similar to that used for patent applications. After filing, the trademark application is assigned to a USPTO trademark attorney, who evaluates whether the requirements for registering a mark have been met. The USPTO attorney examines the registration for specifically enumerated categories of marks that cannot be registered (i.e., immoral, deceptive, scandalous, or merely descriptive marks). In addition, the USPTO attorney conducts a search of registered marks to determine whether prior registered marks exist that are likely to (1) cause confusion, (2) cause mistake, or (3) deceive with respect to the applicant's trademark.

After this examination, the USPTO attorney either accepts or rejects the trademark application. If the application is accepted, the public is notified in a government publication called the *Official Gazette*, which puts them on constructive notice of the acceptance. This notice is given so that members of the public have an opportunity to object to the grant of a registration within an opposition proceeding. Assuming the mark is not successfully opposed in such a proceeding, a registration ordinarily will issue. Conversely, if the USPTO attorney rejects the application, the applicant is afforded an opportunity to challenge that decision.

The USPTO registration process permits a person to pursue a trademark registration based simply on a "bona fide intent to use" a mark in commerce. This process affords an applicant certain priority rights when it does not currently use a mark but wants to preserve it for future use.

Among other purposes, a federal trademark registration can be used in a lawsuit as *prima-facie* evidence of the registered mark and of the registrant's exclusive right to use that mark in commerce. However, trademark rights and entitlement to relief for infringement are available whether or not a trademark registration is in place. In the absence of a federal registration, the trademark owner must prove that the mark is inherently distinctive to be entitled to relief.<sup>23</sup>

Provided certain conditions are met, a mark's registration can become incontestable after a prescribed time period. An *incontestable* registration generally serves as conclusive evidence of the

<sup>&</sup>lt;sup>23</sup> A mark that is inherently distinctive is commonly referred to as having acquired secondary meaning. *Secondary meaning* generally refers to a mark that is descriptive of the goods or services and which consumers recognize as synonymous with a function, such as IBM for computers and other business machines.

validity and registration of the mark, as well as the registrant's ownership of the mark and exclusive right to use it.

#### 1.3.2.2. Nature of Trademark Rights

Trademark rights arise by virtue of use. In general, the first to use a symbol as a mark in commerce to distinguish goods or services is entitled to exclude others from making a confusingly similar use of the mark in the same area of commerce. However, the failure to continue to use a mark appropriately can result in an abandonment of the mark, i.e., a forfeiture of the trademark rights.

#### 1.3.2.3. Trademarks as Property

The Lanham Act treats trademarks as personal property. As a result, trademark rights can be sold along with the goodwill of the business associated with the mark. Trademark rights can also be licensed, provided that certain requirements are imposed under the licensee to help preserve the "source indicating" nature of the mark.<sup>24</sup>

#### 1.3.2.4. Service Marks, Certification Marks, and Collective Marks

Trademark law also governs service marks, certification marks, and collective marks, which are used on services or businesses rather than products. An example of a service mark is McDonald's<sup>®</sup> for restaurant services. A certification mark refers to any word, name, symbol, device, or any combination thereof, used, or intended to be used, in commerce with the owner's permission by someone other than its owner, to certify regional or other geographic origin, material, mode of manufacture, quality, accuracy, or other characteristics of someone's goods or services, including work or labor performed on the goods or services by members of a union or other organization.<sup>25</sup>

Collective marks are a trademark or service mark used or intended to be used in commerce, by the members of a cooperative, an association, or other collective group or organization, including a mark that indicates membership in a union, an association, or other organization.<sup>26</sup>

#### 1.3.2.5. Trade Dress

Trade dress under the Lanham Act refers to the "design and appearance of the product together with all the elements making up the overall image that serves to identify the product presented to the consumer."<sup>27</sup> The elements in question should serve no purpose other than identification of

<sup>&</sup>lt;sup>24</sup> See generally *Stanfield v. Osborne Industries, Inc.*, 52 F.3d 867, 871-72 (Tenth Cir. 1995).

<sup>&</sup>lt;sup>25</sup> U.S. Patent and Trademark Office, http://www.uspto.gov/web/offices/tac/tmfaq.htm#DefineCertMark.

<sup>&</sup>lt;sup>26</sup> U.S. Patent and Trademark Office, http://www.uspto.gov/web/offices/tac/tmfaq.htm#DefineCertMark.

<sup>&</sup>lt;sup>27</sup> Best Cellars, Inc. v. Wine Made Simple, Inc., LJG Wines, Inc., 320 F.Supp.2d 60 (S.D.N.Y. 2003).

the source. In addition, the court will determine whether the purchasing public is likely to confuse the "dress" adopted and used by the alleged infringer.

In *Two Pesos, Inc. v. Taco Cabana*, the operator of a chain of Mexican restaurants sued an operator of a similar chain for trade dress infringement under the Lanham Act. The United States Supreme Court held that ". . . trade dress which is inherently distinctive is protectable under [the] Lanham Act without showing that it has acquired secondary meaning."<sup>28</sup> Generally, a "likelihood of confusion" must be proven in order to establish a trade dress infringement claim; it is not sufficient for confusion to be merely possible.

#### 1.3.2.6. Enforcement of Trademark Rights

Whether a trademark owner sues for infringement under a trademark registration, state statute, or common law, the test for infringement will ordinarily turn on the *likelihood of confusion*. That is, does the use of the mark by the alleged infringer result in a likelihood of confusion as to origin, sponsorship, or approval of the subject goods or services in question?

A mark is infringed under United States trademark law when another person uses the mark in a manner that causes confusion as to the source or sponsorship of the goods or services involved. The confusion can arise from the similarity in the nature of the products or services or other factors that cause the infringer's product or service to be associated, affiliated, connected, approved, authorized, or sponsored by the mark owner.

If a mark is protected only under common law (i.e., no trademark registration), different parties can permissibly use the same mark if there is no geographic overlap in their use of such mark. Federally registered marks have a nationwide geographic scope and cannot be used by multiple parties without a valid license.

With respect to damages, Section 1117 of the Lanham Act<sup>29</sup> states that a plaintiff shall be able

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 profits and damages 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. In assessing damages, the court may enter judgment, according to the circumstances of the case, for any sum above the amount found as actual damages, not exceeding three times such amount. If the court shall find that the amount of the recovery based on profits is either inadequate or excessive the court may in its discretion enter judgment for such sum as the court shall find to be just, according to the circumstances of the case. Such sum in either of the above circumstances shall constitute compensation and not a penalty. The court in exceptional cases may award reasonable attorney fees to the prevailing party.<sup>30</sup>

<sup>&</sup>lt;sup>28</sup> *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763 (1992).

<sup>&</sup>lt;sup>29</sup> Trademark damages were reclassified from Title 17 to Title 15 of the U.S. Code in 2003.

<sup>&</sup>lt;sup>30</sup> 15 USC § 1117.

Although the Lanham Act gives trademark owners the right to recover the defendant's profits as well as the owner's actual damages, the owner's recovery is "subject to the principles of equity."<sup>31</sup> In essence, this means that actual damage and disgorgement awards in a single case may not be duplicative. Further, if a new claimant seeks an award of damages against an infringing defendant based on the same act or course of conduct that gave rise to an earlier damage award against the same defendant, the court will address equitable considerations.

Trademarks may be subject to reverse confusion.<sup>32</sup> This type of confusion occurs when consumers are likely to mistakenly believe, usually as a result of widespread advertising or promotion by the infringer, that the trademarked products are actually those of the infringer.<sup>33</sup>

A suit for trademark dilution may be available under federal or state law. Dilution lawsuits often are between two parties that do not compete with each other. Nevertheless, the accused party is alleged to have (1) disparaged the mark, and/or (2) diminished the value of the mark. Remedies for state trademark dilution are similar to remedies under the Lanham Act for registered trademark infringement (15 USC § 1114) and unfair competition (15 USC §1125(a)). The incidence of dilution suits has increased with the advent of disputes over Internet domain names.

#### **1.3.3. Copyright Overview**

The United States Copyright Act protects original works of authorship fixed in any tangible medium of expression (subject to certain restrictions related to works for hire), including the following works:

- 1. Literary works.
- 2. Musical works, including any accompanying words.
- 3. Dramatic works, including any accompanying music.
- 4. Pantomimes and choreographic works.
- 5. Pictorial, graphic, and sculptural works.
- 6. Motion pictures and other audio/visual works.

<sup>&</sup>lt;sup>31</sup> Ibid.

 $<sup>^{32}</sup>$  "Any person who, on or in connection with any goods or services, or any container for goods, uses in commerce any word, term, name, symbol, or device, or any combination thereof, or any false designation of origin, false or misleading description of fact, or false or misleading representation of fact, which— (a) is likely to cause confusion, or to cause mistake, or to deceive as to the affiliation, connection, or association of such person with another person, or as to the origin, sponsorship, or approval of his or her goods, services, or commercial activities by another person, or (b) in commercial advertising or promotion, misrepresents the nature, characteristics, qualities, or geographic origin of his or her or another person's goods, services, or commercial activities, shall be liable in a civil action by any person who believes that he or she is or is likely to be damaged by such act." 15 USC § 1125.

<sup>&</sup>lt;sup>33</sup> Black's Law Dictionary, Eighth Edition. Bryan A. Garner, Editor in Chief. St. Paul, MN: West Publishing Co., p. 320, 2004.

- 7. Software programs and applications.
- 8. Sound recordings.
- 9. Architectural works.

Notice of copyright is shown as either (1) the symbol  $\mathbb{O}$ , or the words *Copyright* or *Copr*.; (2) the year of first publication; and (3) the name of the owner. Appending the notice of copyright is no longer legally required in order to establish copyright protection in a work. However, if a notice of copyright is present, it may afford certain benefits to the copyright owner, independent of the obvious deterrent effect on potential infringement.

#### 1.3.3.1. The Registration Process

The law of copyright is exclusively federal. The United States Copyright Office handles the registration of copyrights in this country. However, a copyright may exist automatically at the time of its creation.

An applicant for copyright registration must complete an application, submit one or more copies of the work, and pay a fee. The Copyright Office examines the application to determine whether (1) the subject matter can be copyrighted, and (2) all legal and formal requirements for a copyright have been met.

Demonstration of originality is essential for copyright registration. For example, in *Feist Publications v. Rural Telephone Service Co.*, the United States Supreme Court ruled that an alphabetical listing of names and addresses in a white pages telephone directory did not evidence the requisite degree of creativity required for originality and was not copyrightable. The Court held that (1) the names, towns, and telephone numbers of the utility's subscribers were not copyrightable facts, and (2) these bits of information had not been selected, coordinated, or arranged in an original way sufficient to meet the constitutional or statutory requirements for copyright protection.<sup>34</sup>

Assuming all registration requirements are met, the Copyright Office will ordinarily issue a formal certificate of copyright registration. The certificate is effective as of the date that the Copyright Office received all items required for registration. The certificate of registration, if issued within five years of the first publication of the work, constitutes *prima-facie* evidence of the copyright's validity and of the facts stated in the certificate.

In the event that the Copyright Office denies an application for registration, it affords the applicant an opportunity to respond.

<sup>&</sup>lt;sup>34</sup> Feist Publications, Inc. v. Rural Telephone Service Co., Inc., 499 U.S. 340 (1991).

#### 1.3.3.2. Nature of Rights From Copyrights

Subject to certain limitations, Section 106 of the Copyright Act enumerates the following six categories of exclusive rights conferred upon copyright owners:

- 1. To reproduce the copyrighted work in copies or phonorecords.
- 2. To prepare derivative works based upon the copyrighted work.
- 3. To distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending.
- 4. In the case of literary, musical, dramatic and choreographic works; pantomimes; and motion pictures and other audiovisual works, to perform the copyrighted work publicly.
- 5. In the case of literary, musical, dramatic and choreographic works; pantomimes; and pictorial, graphic or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly.
- 6. In the case of sound recordings, to perform the copyrighted work publicly by means of a digital audio transmission.

The bundle of rights granted a copyright owner does not include the right to exclude any and all kinds of copying. For instance, copying is legally permissible to the extent that the subject matter copied is not "fixed in a tangible medium of expression," or if the portion copied does not satisfy the originality requirement.<sup>35</sup> In addition, the Copyright Act does not protect "any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."<sup>36</sup>

Among the limitations on the copyright owner's exclusive rights is the doctrine of "fair use" codified in Title 17, Section 107 of the U.S. Code. Under the fair use doctrine, copying for "purposes such as criticism, comment, news reporting, teaching . . . scholarship, or research"<sup>37</sup> may not constitute infringement, based upon an analysis of factors including:

- 1. The purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.
- 2. The nature of the copyrighted work.
- 3. The amount and substantiality of the portion used in relation to the copyrighted work as a whole.
- 4. The effect of the use upon the potential market for or value of the copyrighted work.

<sup>&</sup>lt;sup>35</sup> 17 USC § 102.

<sup>&</sup>lt;sup>36</sup> Ibid.

<sup>&</sup>lt;sup>37</sup> 17 USC § 107.

#### 1.3.3.3. Ownership and Works for Hire

As patent rights vest in the inventor, the ownership of a copyright typically vests in the author of a work. Under the "work made for hire" doctrine, the author may be someone other than the person who actually performed the physical act of creating the work. The Copyright Act provides that this doctrine can apply in (1) employer-employee relationships (for example, if an employee creates a work within the scope of employment, the employer is the author), and (2) if works are commissioned. If the parties agree in writing that the work is a "work for hire," the employer or commissioning party owns the copyright.<sup>38</sup>

The Copyright Act treats copyrighted works as personal property. As a result, copyrights are transferable, in whole or in part, by written agreement. Rights under a copyright can be transferred under exclusive and nonexclusive licenses.

#### 1.3.3.4. Enforcement of Copyrights

The violation of any of the exclusive rights of a copyright owner under the Copyright Act can result in an action for copyright infringement. Proving infringement requires a demonstration that the infringer copied original elements of the copyrighted work, and copying can be proved by either direct or circumstantial evidence. Under the latter approach, the copyright owner must prove that (1) the defendant had access to the copyrighted work (such as if the accused infringer had an opportunity to review the copyrighted work), and (2) the alleged infringing work is substantially similar to the copyrighted work.

Section 504 of Title 17 to the U.S. Code is the primary copyright damage provision in the Copyright Act. Subsection (a) of Section 504 provides that "an infringer of copyright is liable for either (1) the copyright owner's actual damages and any additional profits of the infringer, as provided by subsection (b); or (2) statutory damages, as provided by subsection (c)."<sup>39</sup> Subsection (b) of Section 504 states that the copyright owner, when disgorging the infringer's profits, must present proof of the infringer's gross revenue; the infringer, however, is required to prove deductible expenses and elements of profit attributable to factors other than the copyrighted work.

Subsection (c) of Section 504 states that the statutory amount of damages must be:

in a sum of not less than \$750 or more than \$30,000 as the court considers just . . . . In a case where the copyright owner sustains the burden of proving, and the court finds, that infringement was committed willfully, the court in its discretion may increase the award of statutory damages to a sum of not more than \$150,000. In a case where the infringer sustains the burden of proving, and the court finds, that such infringer was not aware and had no rea-

<sup>&</sup>lt;sup>38</sup> Black's Law Dictionary, Eighth Edition. Bryan A. Garner, Editor in Chief. St. Paul, MN: West Publishing Co., p. 1637, 2004.

<sup>&</sup>lt;sup>39</sup> 17 USC § 504.

son 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.

Note, however, that the infringer's recovery cannot be duplicative. For example, the copyright owner may not recover both the profits the infringer made and the profits that the copyright owner would have made on the same sales.

Summing up, Section 504 of Title 17 authorizes courts to grant copyright owners actual damages suffered as a result of the infringement. In addition, any profits of the infringer attributable to the infringement are granted to the copyright owner in order to remedy the damage caused by the infringement, as long as these damages are not duplicative. Should the copyright owner be unable to prove actual damages or the defendant's profits, Section 504 alternatively grants the copyright owner the right to elect (at any time before final judgment is rendered) to recover an award of statutory damages instead of actual damages and profits.

As under patent law, various remedies beyond money damages are available to a copyright owner who prevails in an infringement action. These include injunctive relief under Title 17, Section 502, and impoundment and destruction of the subject infringing matter under Section 503. As discussed above, statutory damages may also be available under Section 504.

#### **1.3.4. Trade Secrets Overview**

In most states, a trade secret consists of a formula, pattern, physical device, idea, process, or compilation of information that (1) provides the owner of the information with a competitive advantage in the marketplace, and (2) is treated in a way that can reasonably be expected to prevent the public or competitors from learning about it, absent improper acquisition or theft.<sup>41</sup> Trade secret law can protect valuable technical information, such as the formula for Coca-Cola, that would otherwise be in the public domain.

In 1979, the National Conference of Commissioners on Uniform State Laws promulgated the highly influential Uniform Trade Secrets Act (UTSA), which was amended in 1985. This Act was intended to codify the basic principles of common law trade secret protection. Although the definition of a trade secret varies from jurisdiction to jurisdiction, the majority have adopted a hybrid of the following definition in the UTSA:

"Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.<sup>42</sup>

<sup>&</sup>lt;sup>40</sup> 17 USC § 504.

<sup>&</sup>lt;sup>41</sup> Uniform Trade Secrets Act with 1985 Amendments, p. 9.

<sup>&</sup>lt;sup>42</sup> Uniform Trade Secrets Act § 1 (4).

The UTSA has been enacted into law in a majority of states. In the states that have not adopted the UTSA, such as New York and Texas, the Restatement of Torts and/or Restatement of Unfair Competition remain influential. In general, the legal principles articulated in the Restatements are mirrored by the UTSA.

Sections 2 and 3 of the UTSA address damages. Section 2(a) states "[u]pon application to the court, an injunction shall be terminated when the trade secret has ceased to exist, but the injunction may be continued for an additional reasonable period of time in order to eliminate commercial advantage that otherwise would be derived from the misappropriation."<sup>43</sup> Section 3(a), governing the award of damages for misappropriation of a trade secret, states that:

[e]xcept to the extent that a material and prejudicial change of position prior to acquiring knowledge or reason to know of misappropriation renders a monetary recovery inequitable, a complainant is entitled to recover damages for misappropriation. Damages can include both the actual loss caused by misappropriation and the unjust enrichment caused by misappropriation that is not taken into account in computing actual loss. In lieu of damages measured by any other methods, the damages caused by misappropriation may be measured by imposition of liability for a reasonable royalty for a misappropriator's unauthorized disclosure or use of a trade secret.<sup>44</sup>

In most states, the essential elements of a claim alleging trade secret misappropriation are the following:

- 1. A trade secret.
- 2. Acquisition of the trade secret in confidence.
- 3. The unauthorized use of the trade secret.

In 1995, the Seventh Circuit Court of Appeals, in *PepsiCo, Inc. v. Redmon*, reinvigorated the "inevitable disclosure" doctrine applicable to trade secrets. Under this doctrine, the owner of the trade secret can prove trade secret misappropriation by demonstrating that the employee's new employment will inevitably lead them to divulge the secret, whether consciously or not, because of the type of work in which the employee will be involved with the new employer.<sup>45</sup> One of the complexities of the inevitable disclosure doctrine lies in differentiating between a protected trade secret, on the one hand, and the ex-employee's knowledge and skills retained in their memory, on the other.

"[I]n the case of a trade secret[,] appropriation is to be determined by reference to the analogous line of cases involving patent infringement, just as patent infringement cases are used by analogy to determine the damages for copyright infringement. Damages are allowed in trade secret cases, not upon the theory of the taking of property, but rather upon the theory of a breach of a confi-

<sup>&</sup>lt;sup>43</sup> Uniform Trade Secrets Act with 1985 Amendments, p. 8.

<sup>&</sup>lt;sup>44</sup> Uniform Trade Secrets Act with 1985 Amendments, p. 11.

<sup>&</sup>lt;sup>45</sup> PepsiCo, Inc. v. William E. Redmond, Jr., 1996 WL 3965 (N.D. Ill. 1996)

dential relationship."<sup>46</sup> "However, it often happens that defendants have utilized protected technology to their advantage with no obvious effect on the plaintiff, except for the relative differences in their competitive position."<sup>47</sup> Therefore, "[c]omputing damages in a trade secrets case is not cut and dry."<sup>48</sup>

For a trade secret misappropriation claim to prevail, the trade secret needs to contain elements that are unique and potentially unknown. Without this showing, the claim will be dismissed. For example, in *Midgard Corp. v. Todd*, the Tenth Circuit Court of Appeals was:

hard-pressed to understand what this secret information is. Midgard claims only generally that the secret is 'the compilation of information as to [its] customers, suppliers, pricing and practices.' As the bankruptcy court found, Midgard made no effort to keep any of this information confidential or to limit Todd's use of the information. Midgard admitted it told hundreds of people about its exclusivity agreement with its primary or sole customer, Medite. There is no indication that the names of Midgard's scrap suppliers were not easily ascertainable by observation or by reference to directories. Midgard complains that Todd bought the same piece of wood-grinding equipment that it was planning to buy, but this was an off-the-shelf machine advertised in trade publications . . . We see no error in the bankruptcy court's finding that Midgard did not prove the existence of a trade secret.<sup>49</sup>

Recent case law has expanded the protection of trade secrets under the United States Computer Fraud and Abuse Act (CFAA). In *Shurgard v. Safeguard*, an employer alleged that former employees had the employer's trade secrets stored on their computers and had given them to a competitor. The court held that (1) for purposes of stating a claim under the CFAA, the former employees had lost access to their computers when they allegedly became agents of the competitor; (2) the CFAA was not limited to situations in which the national economy was affected; (3) the fraud provision of the CFAA did not require showing of common law fraud elements; (4) the provision penalizing infliction of damage on protected computers was not limited to conduct of outsiders; and (5) the damage claim was stated, even though appropriation did not affect integrity of secrets within employers' computers.<sup>50</sup>

Trade secrets also include customer lists. For example, in *Ed Nowogroski Insurance, Inc. v. Rucker*, the Washington State Superior Court ruled that employees had misappropriated employer's trade secrets by retaining and using client lists and other documents. The court awarded damages, except withheld relief for one employee's solicitation of clients based on the misappropriation of memorized information.<sup>51</sup> On appeal, the Supreme Court of Washington, address-

<sup>&</sup>lt;sup>46</sup> International Indus., Inc. v. Warren Petroleum Corp., 248 F.2d 696, 699 (Third Cir. 1957).

<sup>&</sup>lt;sup>47</sup> Warden, D., Bratic, W., and Eggleston, C. (September 2000). *Trade Secrets and Patents: Comparison and Contrasts in Royalty Determination, les Nouvelles*, p. 143.

<sup>&</sup>lt;sup>48</sup> American Sales Corp. v. Adventure Travel, Inc., 862 F.Supp. 1476 (E.D. Va. 1994).

<sup>&</sup>lt;sup>49</sup> Midgard Corp. v. Todd, 107 F.3d 880 (Tenth Cir. 1997) unpublished opinion.

<sup>&</sup>lt;sup>50</sup> Shurgard Storage Centers, Inc. v. Safeguard Self Storage, 119 F.Supp.2d 1121 (W.D.Wash. 2000).

<sup>&</sup>lt;sup>51</sup> Ed Nowogroski Insurance, Inc. v. Rucker, 137 Wash.2d 427, 971 P.2d 936 (Wash. 1999).

ing the issue of first impression, "held that trade secret protection does not depend on whether a customer list is taken in written form or memorized."<sup>52</sup>

As can be seen from this discussion, the protection of trade secrets arises under a complex body of case law that makes the calculation of damages for their theft a challenge. As a result, an expert will benefit from being both flexible and analytic in developing an approach for measuring damages in trade secret cases.

# **1.3.5. Jurisdiction Summary**

The table below summarizes the jurisdictions in which civil actions for intellectual property disputes can be brought in the United States court system. Note that a federal court's diversity jurisdiction may provide for a federal forum even for disputes that are based exclusively on state law.

	Patent			Trademark	Copyright	Trade Secret
	Utility Patent	Plant Patent	Design Patent			
State Court				Х		Х
Federal Court (Appeal via Local Circuits to U.S. Supreme Court)				Х	Х	Х
Federal Court (Appeal via Federal Circuit to United States Supreme Court)	Х	Х	Х			

<sup>&</sup>lt;sup>52</sup> Ibid.

# **2. CALCULATING INFRINGEMENT DAMAGES**

# **2.1. INTRODUCTION**

Many intellectual property disputes arise from allegations that one party infringed another party's intellectual property rights. As such, the analyst is often confronted with the issue of assessing lost profits and/or economic damages resulting from the alleged infringement. There are significant differences between valuing intellectual property for transaction purposes, on the one hand, and estimating damages resulting from the infringement or misappropriation of intellectual property, on the other.

For example, the transaction analyst often assesses the value of the intellectual property for its potential *future* benefits and gains or for purchase price allocation purposes. In this context, the analyst may focus his or her analysis on (1) consumer demand for the product, and/or (2) the likelihood that an alternative substitute product will emerge. In contrast, the orientation of the damages expert in the context of litigation is more retrospective than prospective in nature. Damage experts often find themselves analyzing historical data for purposes of ascertaining what would have transpired "but for" the alleged infringement, with an assumption that the future sales of an infringing product will be enjoined at trial. There are exceptions to this assumption, however, such as when future sales or pricing will be adversely affected even after the issuance of an injunction against continued infringement.

Taxes, ordinarily a component of a transactional valuation analysis, are not ordinarily addressed in calculating damages arising from infringement or misappropriation. In the litigation context, damages are normally computed on a pretax basis, because damages from intellectual property disputes are taxable as ordinary income under United States law. Exceptions to this rule may arise, however, if profits would have been earned in one time period or tax jurisdiction, but are shifted to another as a result of the litigation. In such a case, an adjustment to the damage analysis may be necessary to make the injured party whole. The analyst should consult with counsel to determine the appropriate tax treatment in the relevant jurisdiction.

Intellectual property case law is often categorized by the nature of the property in dispute. For example, there is a distinct body of case law addressing patents, copyrights, trademarks, and trade secrets individually. However, these cases often address principles and/or concepts applicable to all forms of intellectual property. If unique differences exist in the intellectual property laws and case history, this Practice Aid will (1) distinguish those differences, and (2) provide corresponding case law references.

# 2.2. OVERVIEW OF CALCULATING DAMAGES

The chart below summarizes the nature of damages available for infringement of each type of intellectual property.

	Patent 53			Trademark	Copyright	Trade Secret 54
	Utility Patent	Plant Patent	Design Patent			
Lost Profits	Х	Х	Х	Х	Х	Х
Price Erosion	Х	Х	Х	Х	Х	Х
Corrective Advertising				Х		
Unjust Enrichment			Х	Х	Х	Х
Reasonable Royalty	Х	Х	Х	Х	Х	Х
Decrease in Value				Х	Х	Х
Statutory⁵⁵				Х	Х	

Availability of Damage Measures in Intellectual Property Disputes

#### **2.2.1. Compensatory Damages**

The fundamental purpose of a civil damages remedy is to make the plaintiff whole for its legally recognized injuries or losses.<sup>56</sup> Compensatory actual damages for intellectual property infringement or misappropriation, accordingly, are intended to compensate the plaintiff for economic loss caused by the infringement. Examples of compensatory damages include lost profits (i.e., profits lost on sales that would have been made "but for" the infringement) and reasonable royalty (i.e., royalty income that the plaintiff would have earned had it entered into an agreement to license the intellectual property in suit to defendant), among other measures.

#### 2.2.1.1. Market Value Measure

The market value measure is what courts most often refer to when they use the term *general* damages.<sup>57</sup> The market value measure determines the market value of the intellectual property

<sup>&</sup>lt;sup>53</sup> Statutory damages may be available for patent mismarking.

<sup>&</sup>lt;sup>54</sup> Specifics depend on individual state law.

<sup>&</sup>lt;sup>55</sup> Statutory damages for trademarks are only available in regards to trademark infringement involving counterfeiting.

<sup>&</sup>lt;sup>56</sup> Dobbs, D., *Dobbs Law of Remedies: Damages—Equity Restitution*, Second ed. 1993, p. 281.

<sup>&</sup>lt;sup>57</sup> Ibid., p. 288.

"as is" and the market value "as if it were not injured." The difference between these two values is the damage that the defendant's wrongful act inflicted on the owner of the intellectual property.

#### 2.2.1.2. Lost Opportunity Measure

The lost opportunity measure quantifies the decrease in market value or the impact on market value that the intellectual property owner is deprived of by reason of the infringement. This lost opportunity measure is often referred to by the courts as *special* or *consequential damages*.<sup>58</sup>

Although the market value measure and the lost opportunity measure may appear similar in nature, they are, in fact, distinct damage measures. The market value measure compensates a plaintiff for the diminished value of the intellectual property attributable to a civil wrong. The lost opportunity measure, on the other hand, compensates a plaintiff for the loss of income that would have been generated from the intellectual property's use or ownership. A plaintiff is normally permitted to seek one or the other of these two alternative measures of damages, but not both.<sup>59</sup>

#### **2.2.2. Unjust Enrichment and Prejudgment Interest**

Unjust enrichment is an alternative damages measure to compensatory damages. Although compensatory damages seek to restore the plaintiff to its financial position absent the defendant's wrongful act, an unjust enrichment award seeks to deprive the defendant of whatever gain or benefit was obtained from the wrongful act. In other words, unjust enrichment seeks to take from the defendant the fruits of its wrongful act and award them to the plaintiff.

In his book *Dobbs Law of Remedies: Damages—Equity Restitution*, Dan Dobbs identifies the following methods for measuring the gain obtained by a defendant for purposes of an unjust enrichment award:

- 1. The increased assets in the hands of the defendant from the receipt of the property;
- 2. The market value of services or intangibles provided to the defendant, without regard to whether the defendant's assets were actually increased; that is, the amount which it would cost to obtain similar services, whether those services prove to be useful or not;
- 3. The use value of any benefits received, as measured by (i) market indicators such as rental value or interest or (ii) actual gains to the defendant from using the benefits, such as the gains identified in item (5) below;
- 4. The gains realized by the defendant upon sale or transfer of the asset received from the plaintiff; and

<sup>&</sup>lt;sup>58</sup> Ibid., p. 302.

<sup>&</sup>lt;sup>59</sup> Dobbs, D., *Dobbs Law of Remedies: Damages—Equity Restitution*, Second ed. 1993, pp. 312-313.

5. Collateral or secondary profits earned by the defendant by use of an asset received from the plaintiff, or, similarly or comparably, the savings effected by the use of the asset.<sup>60</sup>

Unjust enrichment is a damage measure that is frequently employed in intellectual property litigation. For example, the Copyright Act expressly provides for the recovery by the copyright owner of "any profits of the infringer that are attributable to the infringement and are not taken into account in computing the actual damages."<sup>61</sup> Provided that an award does not include a double recovery, a copyright owner may recover both (1) actual damages, and (2) an infringer's profits. Accordingly, a copyright owner can receive both compensatory and unjust enrichment damages as a monetary award.

With respect to trademarks, the Lanham Act explicitly authorizes a trademark owner to recover both the infringer's profits and its own damages sustained "subject to the principles of equity and upon such terms as the court deems reasonable . . ."<sup>62</sup> Similarly, the UTSA expressly provides that, in addition to recovering its actual loss, a trade secret owner may recover the "unjust enrichment" caused by the misappropriation to the extent the enrichment is not taken into account in calculating the owner's actual loss.<sup>63</sup>

Notably, the Copyright Act, the Lanham Act and the UTSA each provide that the intellectual property owner shall recover only the net profits of the infringer that are *traceable to the in-fringement*. This constraint requires an expert attempting to quantify an appropriate unjust enrichment award to determine (1) the infringer's revenues and costs associated with the infringement, and (2) what portion of the net profits are attributable to the infringement (commonly referred to as the *apportionment problem*). These issues often present significant analytical challenges to the expert.<sup>64</sup>

Prejudgment interest may be awarded in addition to other damages. In *Allen Archery, Inc. v. Browning Manufacturing Co.*,<sup>65</sup> the Federal Circuit explained that an award of prejudgment interest is necessary to place the patent owner into the same position it would have been but for the infringement. If the court awards prejudgment interest, that interest ordinarily accrues from the date that damages began. However, that is not the case for trademarks; the Lanham Act provides that "[t]he court in its discretion may award prejudgment interest on relief recovered under this paragraph, at an annual interest rate established under Section 6621(a)(2) of Title 26, commencing on

<sup>&</sup>lt;sup>60</sup> Ibid., pp. 571-586.

<sup>&</sup>lt;sup>61</sup> 17 USC § 504 (2)(b).

<sup>&</sup>lt;sup>62</sup> 15 USC § 1125 (c)(1).

<sup>&</sup>lt;sup>63</sup> Uniform Trade Secrets Act with 1985 Amendments, §3 (a).

<sup>&</sup>lt;sup>64</sup> The fact that the burden is on the infringer to prove the expenses that should be deductible from gross revenues to derive net profits somewhat eases the expert's apportionment challenge. See Section 2.5.6.2 below.

<sup>&</sup>lt;sup>65</sup> Allen Archery, Inc. v. Browning Manufacturing Co., 898 F.2d 787 (Fed. Cir. 1990).

the date of service of the claimant's pleading setting forth the claim under this paragraph and ending on the date such recovery is granted, or for such shorter time as the court deems appropriate."<sup>66</sup>

#### **2.2.3. The Infringement Damage Calculation**

In general, if "the record permits the determination of actual damages, namely, the profits the patentee lost from the infringement, that determination accurately measures the patentee's loss. If actual damages cannot be ascertained, then a reasonable royalty must be determined."<sup>67</sup> The expert will ordinarily make certain preliminary findings before determining the most appropriate measure of infringement damages. One such finding is the dollar amount of sales. The units sold and incremental profits will also need to be determined, because incremental profits are central to the damage calculation. These determinations are discussed below in Sections 2.3.2, 2.3.3. and 2.4.

It appears that a number of courts demand somewhat less precision in the calculation of damages in the nonpatent context. For example, once a copyright owner establishes a causal link between the alleged infringement and some loss of anticipated revenue, a court may allow estimation as to the amount lost within a reasonable range of certainty. Uncertainty as to the precise amount of damages does not preclude recovery of damages if the causal relationship and the fact of damages are established. As neither the Copyright Act nor its legislative history specifically defines actual damages, the judicial system enjoys a large degree of latitude in determining actual damages. Similarly, in trademark litigation, courts typically have "wide discretion in assessing damages, which may be awarded even where they are not susceptible to precise calculations."<sup>68</sup>

# 2.3. LOST PROFITS

Although articulated in various ways, one consistent theme in calculating infringement damages is the entitlement of the owner to recover lost profits due to the infringer's conduct. The discussion in this section will address lost profits in the context of patents. However, lost profits can be calculated for infringement of copyrights, trademarks, and other forms of intellectual property as well.

Lost profits are calculated based on the profits that the intellectual property owner would have made from the sale of the units, "but for" the infringement, even if some of the components of the units were not covered by the intellectual property in suit. The measure of lost profit damages can be based on a combination of components, such as:

<sup>&</sup>lt;sup>66</sup> 15 USC § 1116 (d)(11).

<sup>&</sup>lt;sup>67</sup> Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075 (Fed. Cir. 1983).

<sup>&</sup>lt;sup>68</sup> Slater, Jr., T.G. (April 19, 2002). *Damages in Trademark Cases: Finding Them and Proving Them*, Presentation at AIPLA Spring Meeting, New York City.

http://www.hunton.com/files/tbl\_s47Details%5CFileUpload265%5C333%5 CDamages\_In\_Trademark\_Cases.pdf.

- 1. Lost unit sales.
- 2. Lower unit sales prices.
- 3. Higher costs (such as increased production and/or marketing costs).
- 4. Lost sales on ancillary (convoyed<sup>69</sup>) products that are typically sold with the infringed product.
- 5. Extra expenses, such as trademark advertising expense.

# 2.3.1. Availability of Lost Profits

To be entitled to lost profits, a plaintiff "... must demonstrate that there was reasonable probability that, but for the infringement, it would have made infringer's sales."<sup>70</sup> The patent owner must offer proof demonstrating, to a reasonable probability, entitlement to lost profits "but for" the infringement.<sup>71</sup> In *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, the Federal Circuit Court stated that once the intellectual property owner establishes the reasonableness of this inference, the burden shifts to the infringer to show that the inference is unreasonable for some or all of the lost profits.<sup>72</sup>

The *Panduit*<sup>73</sup> and two-supplier market test<sup>74</sup> are two recognized methods of showing "but for" causation. As discussed below, market definition is a critical factor under both tests.

#### 2.3.1.1. Patent Disputes: The Panduit Test

The Federal Circuit has made clear that there is no single method by which the patent owner must carry its burden of proving lost profits. A leading authority on the measurement of lost profits in a patent case is *Panduit Corp. v. Stahlin* Bros. *Fibre Works, Inc.* This case articulated a four-factor test that has been accepted by most courts as a useful, but nonexclusive, method for a patent holder to prove entitlement to lost profits.<sup>75</sup>

Under *Panduit*, the patent owner must prove each of the following facts to be entitled to lost profits:

- 1. Demand existed for the infringed product during the period of infringement.
- 2. Acceptable non-infringing substitute products were not available to satisfy demand during the period of infringement.

<sup>&</sup>lt;sup>69</sup> See Section 2.3.7 below discussing convoyed sales.

<sup>&</sup>lt;sup>70</sup> State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1577 (Fed.Cir.1989), cert. denied, 493 U.S. 1022 (1990).

<sup>&</sup>lt;sup>71</sup> King Instruments Corp. v. Perego, 65 F.3d 941, 952 (Fed. Cir. 1995), rehg. denied, 1165 S. Ct. 1675 (1996).

<sup>&</sup>lt;sup>72</sup> Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (Sixth Cir. 1978).

<sup>&</sup>lt;sup>73</sup> Ibid.

<sup>&</sup>lt;sup>74</sup> Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1065 (Fed. Cir. 1983).

<sup>&</sup>lt;sup>75</sup> State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1577 (Fed. Cir. 1989), cert. denied, 493 U.S. 1022 (1990).

- 3. The patent owner possessed the manufacturing and marketing capability to have supplied the patented product to the customers who bought the infringing product.
- 4. The amount of the profit the patent holder would have made.<sup>76</sup>

Historically, if any of the four prongs of the *Panduit* test was not proven, the patent holder was unable to recover lost profits. Subsequent cases have refined and in some respects relaxed these requirements. For instance, case law has refined the first *Panduit* factor to require demand for the patented features rather than just the product. With respect to the second *Panduit* factor, a patent holder need not negate each and every possibility that the purchaser would not have purchased a product other than its own, absent the infringement. Rather, the patent holder need only show that there was a "reasonable probability" that the sales would have been made by it "but for" the infringement. If the patent holder establishes the reasonableness of this inference by satisfying all four prongs of the *Panduit* test, the burden of proving entitlement to lost profits due to the infringing sales has been sustained.<sup>77</sup> Each of the four *Panduit* factors is discussed in the sections below.

**2.3.1.1.1** Demand Existed for the Infringed Product. If both the patent holder and the infringer have made sales of the product on a regular basis to informed customers, then demonstrating demand may be straightforward.<sup>78</sup> To show that demand exists for the patented product or feature of the product, the patent holder should attempt to establish a link between the patented feature and the commercial success of the product.

For example, in *Gyromat Corp. v. Champion Spark Plug, Co.*,<sup>79</sup> the court observed that "the patented control features were advertised by Champion and while Champion has shown that painting systems could be made and sold without the patented features, the patented control system was obviously important enough to keep for 15 years on all of its short stroke reciprocating painting systems. If there was no demand for the patented system, Champion would not have run the risk of infringement."<sup>80</sup> The court also found that "[t]he substantial number of sales of infringing products containing patented features was compelling evidence of the demand for the product"<sup>81</sup> for the purpose of determining lost profits.

Analyses that may assist in establishing the commercial success of the patented feature include:

- 1. Showing the levels and growth of sales of the patented product for both the patent holder and the infringer.
- 2. Mapping the variations between the sales of the patented product and its predecessor product.

<sup>81</sup> Ibid.

<sup>&</sup>lt;sup>76</sup> Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (Sixth Cir. 1978).

<sup>&</sup>lt;sup>77</sup> Kaufman Co. v. Lantech, Inc., 926 F.2d 1136 (Fed. Cir. 1991).

<sup>&</sup>lt;sup>78</sup> Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549, 552 (Fed. Cir. 1984).

<sup>&</sup>lt;sup>79</sup> Ibid.

<sup>&</sup>lt;sup>80</sup> Ibid.

- 3. Reviewing the infringer's business plans and product literature, which may speak to the importance of the patented feature.
- 4. Demonstrating the infringer's sales prior and subsequent to infringement.
- 5. Showing the length of time the infringer has been infringing the patent.

In response to a patent holder's proof of demand for the patented product or feature, an infringer may claim that its entry into the market expanded that market beyond what it would have been absent the infringer's entry. Alternatively, if the infringer is able to show that (1) there is not demand for the patented feature, or (2) consumers who purchased the infringing product were either unaware of the patented feature or that the patented feature was not a material part of their buying decision,<sup>82</sup> then the patent holder will have a challenge meeting the first prong of the *Panduit* test.

**2.3.1.1.2.** Acceptable Non-Infringing Substitutes. A heavily litigated question is whether acceptable, non-infringing substitutes for the patented invention existed during the infringement period (i.e., the second *Panduit* factor). "The underlying rationale for imposing this requirement is that if acceptable noninfringing substitutes existed, consumers may have purchased the substitutes, rather than the patent owner's product, even if the infringer had not been in the marketplace."<sup>83</sup>

Addressing this factor in *Grain Processing Corporation v. American Maize-Products Company*, the court ruled that "[i]n reconstructing the market to determine what patentee would have made if infringement had not occurred, for purpose of claim of lost profits, patentee must project economic results that did not occur, and, to prevent the hypothetical from lapsing into pure speculation, there must be sound economic proof of the nature of the market and likely outcomes with infringement factored out of the economic picture."<sup>84</sup>

The patent holder—attempting to prove that there are no or few acceptable non-infringing substitutes under the second *Panduit* factor—tends to have a narrow interpretation of what a consumer finds to be an acceptable alternative. In particular, the patent holder may attempt to show that any alternatives in the marketplace are truly inferior and do not have the distinct features and benefits of the product with the patented feature. Conversely, the alleged infringer tends to have a more expansive view of the market. For example, the alleged infringer may attempt to prove that there are many acceptable alternatives in the market, making it impossible to demonstrate with any reasonable degree of certainty that the patent holder would have sold additional units if the infringer was absent from such market.

<sup>&</sup>lt;sup>82</sup> See, e.g., *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453 (Fed. Cir. 1991) (denying lost profits because the patentee failed to establish that the customer purchased the bifold doors because of a desire for the patented advantage); *GNB Battery Tech., Inc. v. Exide Corp.*, 886 F. Supp. 420 (D. Del. 1995).

<sup>&</sup>lt;sup>83</sup> Scripto-Tokai Corp. v. Gillette Co., 788 F. Supp. 439, 455 (C.D. Cal. 1992).

<sup>&</sup>lt;sup>84</sup> Grain Processing Corporation v. American Maize-Products Company, 185 F.3d 1341 (Fed. Cir. 1999).

2.3.1.1.2.1. Market Share Approach. The second prong of the Panduit test requires proof that acceptable non-infringing substitute products were not available to satisfy demand during the period of infringement. Early interpretations of this prong required the patent holder to prove that there was a two-supplier market—itself and the infringer—and that a customer would either have purchased the patent holder's product or the infringing product. If this burden was carried by the patent holder, customers would, by definition, have purchased the patent holder's product absent the infringement.

More recently, the courts have ruled that if multiple competitors exist in the marketplace, they may apply a percentage of market share approach in the context of the second *Panduit* factor. For example, in *State Indus., Inc. v. Mor-Flo Indus., Inc.*, the Federal Circuit allowed the patent owner to estimate sales that would have been made in the "but for" world by nonparty competitors on the basis of their proportionate market share of infringing sales. Under this approach, awarding lost profits based on market share is appropriate, even if acceptable non-infringing alternatives exist, if the patent owner is able to (1) demonstrate an established market share, and (2) meet its burden under the other three *Panduit* factors. In this regard, the Federal Circuit stated:

In the two-supplier market, it is reasonable to assume, provided the patent owner has the manufacturing and marketing capabilities, that it would have made the infringer's sales. In these instances, the Panduit test is usually straightforward and dispositive. ("[w]here a patent owner maintains that it lost sales equal in quantity to the infringing sales, our precedent has approved generally the [Panduit test] . . .")

Here we have multiple competitors and the patent owner contends that all the competitors infringed or sold a far less preferable alternative—fiberglass. The district court made the absence of acceptable substitutes, Panduit item (2), a neutral factor by crediting all the other competitors with their market shares as State requested. If the court is correct in its finding that the other competitors were likely infringers of one or the other of State's patents, State would have been entitled to their shares of the market on top of its own, and a correspondingly greater share of Mor-Flo's sales. If it is wrong in whole or in part, State would have been entitled to its current share or to a lesser increase in share.<sup>85</sup>

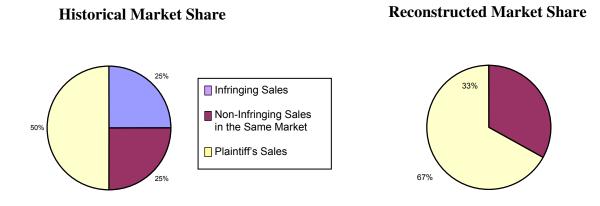
The patent holder in *State Indus., Inc. v. Mor-Flo Indus., Inc.*, was allowed to recover lost profits to the extent of its 40 percent national market share.<sup>86</sup> Additionally, the Federal Circuit determined that the lower court did not err in its determination of a reasonable royalty, which applied to the remaining 60 percent of infringing sales.<sup>87</sup>

In performing a market share analysis, the expert may consider recasting the market without the infringing product's sales, as depicted in the following pie charts.

<sup>&</sup>lt;sup>85</sup> State Industries, Inc. v. Mor-Flo Industries, Inc., 883 F.2d 1573 (Fed. Cir.1989), cert. denied, 493 U.S. 1022 (1990).

<sup>&</sup>lt;sup>86</sup> Ibid., p. 1579.

<sup>&</sup>lt;sup>87</sup> Ibid., p. 1575.



With the market defined as including the defendant's infringing sales, the plaintiff's market share is 50 percent (left pie chart). With the infringing sales excluded from the market, plaintiff's market share is 67 percent (right pie chart).

The plaintiff's ability to satisfy the second *Panduit* factor often hinges on (1) the interpretation of the relevant market, and (2) what the consumer was looking for when purchasing the infringing item. Although the relevant market might be argued as encompassing nearly all competing substitute products, the Federal Circuit has narrowed the scope of the patent holder's burden by ruling that substitute products which incorporate some, but not all, of the elements of the patented invention do not necessarily constitute an acceptable substitute. Specifically, in *Standard Havens Products, Inc, v. Gencor Industries, Inc, the Federal Circuit* ruled that

... the mere existence of a competing device does not necessarily make that device an acceptable substitute. A product on the market which lacks the advantages of the patented product can hardly be termed a substitute acceptable to the customer who wants those advantages. Accordingly, if purchasers are motivated to purchase because of particular features available only from the patented product, products without such features—even if otherwise competing in the market place—would not be acceptable noninfringing substitutes.<sup>88</sup>

The relevant market does include other devices or substitutes similar in physical and functional characteristics to the patented invention.<sup>89</sup> It excludes, however, alternatives "with disparately different prices or significantly different characteristics."<sup>90</sup> Once the market is defined, it generally becomes an easier task to determine how many suppliers operate in the defined relevant market. Market supplier inquiry focuses on the number of companies involved in the supply market, not the number of alternatives in the relevant market.

Market share was further addressed in *BIC Leisure Products, Inc. v. Windsurfing International, Inc.* On appeal, the Federal Circuit rejected the trial court's award of 'lost profits' because it found

<sup>&</sup>lt;sup>88</sup> Standard Havens Products, Inc, v. Gencor Industries, Inc., 953 F.2d 1360, 1373 (Fed. Cir. 1991).

<sup>&</sup>lt;sup>89</sup> Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc., 246 F.3d 1336 (Fed. Cir. 2001).

<sup>&</sup>lt;sup>90</sup> Crystal Semiconductor Corp v. TriTech, 246 F.3d 1336, 1356 (Fed. Cir. 2001).

that "[a]ssuming BIC [Leisure] had not been in the market, Windsurfing did not show that BIC [Leisure]'s customers would have purchased sailboards from Windsurfing and other manufacturers in proportion to their market shares."<sup>91</sup> The Federal Circuit found that the types and prices of boards sold by the plaintiff and defendant were different and would be purchased by distinct customers. In other words, absent infringement, purchasers of the infringing product would *not* purchase products from the patent holder, even in proportion to the patent holder's market share.

2.3.1.1.2.2. Available and Substitute. An accused infringer's ability to produce an acceptable non-infringing substitute during the damages period may also defeat the patent holder's recovery of lost profits. The infringer may attempt to show that it would have consummated some or all of the infringing product sales by selling another *available*, *non-infringing substitute* in the relevant market. In other words, customers would have selected the infringer's available, non-infringing alternative over the patented invention in the absence of infringement.

In *Grain Processing Corp. v. American Maize Products Co.*, the Federal Circuit held that if a patent holder offers proof of sales it would have made "but for" the infringement, "an accurate reconstruction of the hypothetical 'but for' market takes into account any alternatives available to the infringer."<sup>92</sup> The Federal Circuit explained that a product or process may qualify as an acceptable non-infringing substitute for purposes of defeating a lost profits claim, even if it was not "on the market" or "for sale" during the period of the infringement.<sup>93</sup> In that case, the accused infringer has the burden of showing that the alleged alternative would have been available during the damage period.

The defendant in the *Grain Processing* case supported its claim that its non-infringing process would have been available during the infringement period with specific proof that it had "the necessary equipment, know-how, and experience"<sup>94</sup> during such period to implement the non-infringing process. The alleged infringer was also able to demonstrate that its non-infringing process created a product acceptable to customers, based in part on market data obtained after converting to the non-infringing process, but prior to the damages portion of the trial.<sup>95</sup> Notably, neither party to this dispute had contended that the alternative process infringed the patent or that the alternative was not acceptable to customers. In light of *Grain Processing*, defendants may attempt to make arguments concerning "available alternatives" that may be less "available" than the option in that case.

In *Micro Chemical, Inc. v. Lextron, Inc.*, the Federal Circuit overruled the lower court's grant of summary judgment with regards to lost profits. In overruling the lower court, the Federal Circuit stated that "[t]he record shows that Lextron did not have the necessary equipment, know-how,

<sup>&</sup>lt;sup>91</sup> BIC Leisure Products, Inc. v. Windsurfing International, Inc., 850 F. Supp. 224 (S.D.N.Y. 1994).

<sup>&</sup>lt;sup>92</sup> Grain Processing Corp. v. American Maize Products Co., 185 F.3d 1341, 1351 (Fed. Cir. 1999).

<sup>&</sup>lt;sup>93</sup> Ibid., p. 1343.

<sup>&</sup>lt;sup>94</sup> Ibid., p. 1354.

<sup>&</sup>lt;sup>95</sup> Ibid., p. 1355.

and experience to make the Type 5 machine at the time of the infringement . . . [and] [t]he effects of the changes also were not well known or readily available."  $^{96}$ 

Acceptable non-infringing substitutes may also use the design-around concept. The *design-around* concept refers to "mak[ing] something that performs the same function or has the same physical properties as [a patented product or process] but in a way different enough from the original that it does not infringe the patent."<sup>97</sup> The design-around alternative should provide the same or comparable utility without infringing the patent.

**2.3.1.1.3.** *Manufacturing and Marketing Capability to Exploit Demand.* Manufacturing and marketing capacity and capability (i.e., the third *Panduit* factor) requires the patent holder to prove that the infringed sales could have been made by the patent holder within the relevant time period. This factor may be proven in a variety of ways. For example, the patent holder may demonstrate manufacturing capacity by showing that its facilities were capable (or could have been made capable of) producing the number of patented inventions demanded,<sup>98</sup> or that the manufacturing could have been subcontracted to another manufacturing facility.<sup>99</sup> The patent owner typically will attempt to demonstrate the financial capacity and management strength necessary to produce the additional units.

The Federal Circuit has stated that "[t]he demand which a patentee must have the capacity to meet is measured by the total sales, by the patentee and the infringer, of the patented product."<sup>100</sup> The following factors may assist in determining capacity to meet such demand:

- 1. The relative number of lost units compared to the historic sales of the patent holder. The larger the volume of lost sales claimed by the patent holder compared to the historic sales volume, the more difficult it may be to demonstrate capacity.
- 2. The size and effectiveness of the sales and distribution network that the patent holder has in place compared with what he would need in order to make the lost sales volume.
- 3. Channels of distribution for the actual historic sales may differ from those channels where the infringer made the infringing sales. The patent holder may need to demonstrate that he had the ability to make sales through these alternate channels of distribution in order to prove marketing capacity.
- 4. It may have been necessary for the patent holder to increase production capacity. The patent holder would need to demonstrate the ability (financial and technical) to increase production within the required time period. In addition, it may be necessary to adjust the calculation of the incremental profit margin to reflect the additional investment by the patent holder in increased capacity.

<sup>&</sup>lt;sup>96</sup> Micro Chemical, Inc. v. Lextron, Inc., 318 F.3d 1119 (Fed. Cir. 2003).

<sup>&</sup>lt;sup>97</sup> Black's Law Dictionary, Eighth Edition. Bryan A. Garner, Editor in Chief. West Publishing Co., St. Paul, MN, p. 478, 2004.

<sup>&</sup>lt;sup>98</sup> Bio-Rad Lab., Inc. v. Nicolet Instrument Corp., 739 F.2d 604, 616 (Fed. Cir. 1984).

<sup>&</sup>lt;sup>99</sup> Gyromat Corp. v. Champion Spark Plug Co., 735 F.2d 549, 554 (Fed. Cir. 1984).

<sup>&</sup>lt;sup>100</sup> Datascope Corp. v. SMEC, Inc., 879 F.2d 820, 825 (Fed. Cir. 1989).

- 5. In certain industry sectors, such as pharmaceuticals, increasing production capacity requires certification and approval from government agencies such as the Food and Drug Administration. These approvals may increase the cost or time required before the patent holder can increase production.
- 6. Analysis of the cost and availability of certain key raw materials may be necessary in order to demonstrate that the patent holder had the ability to manufacture the lost sales that are being claimed in the lost-profit calculation.<sup>101</sup>

The patent holder may be able to prove manufacturing capacity by demonstrating that sufficient capacity existed, and/or could have been contracted for, to manufacture the additional units that were infringed. The latter analysis would require the expert to quantify the costs of contract manufacturing of the patented product. Alternatively, the patent holder can demonstrate manufacturing capacity by showing that it was feasible to expand its existing production facilities to meet the growing demand. However, this approach will often be found unfeasible when expansion would require closing down the production of a more profitable product.<sup>102</sup> With respect to marketing capacity, the patent holder should attempt to demonstrate its ability to reach the marketplace in question, from a geographic and/or support perspective.

**2.3.1.1.4.** *Quantifying Lost Profits.* Lost profits do not have to be calculated with absolute precision, but rather with *reasonable probability*.<sup>103</sup> In other words, lost profits are neither unfounded speculation, nor complete precision, but rather an estimate. Since "... determination of a damage award is not an exact science[,] [t]he trial court must best approximate the amount to which the patent owner is entitled."<sup>104</sup> "When the amount of damages is not ascertainable with precision, reasonable doubt is appropriately resolved against the infringer."<sup>105</sup>

Typically, a patent holder may recover lost incremental profits, equal to the difference between (1) gross revenues resulting from regaining the sales lost due to infringement, and (2) the incremental cost of making those sales. This measure of profit loss is appropriate when the patentee's fixed costs do not rise, or only slightly increase, relative to the increases in production. The Federal Circuit addressed this damage measure in *Paper Converting Machinery Co. v. Magna-Graphics Corp.*, acknowledging that:

[t]he incremental income approach to the computation of lost profits is well established in the law relating to patent damages. The approach recognizes that it does not cost as much to produce unit N+1 if the first N (or fewer) units produced already have paid the fixed costs.

<sup>&</sup>lt;sup>101</sup> Parr, R. L. Intellectual Property Infringement Damages: a Litigation Support Handbook, Second ed. New York: John Wiley & Sons, pp. 64-65, 1999.

<sup>&</sup>lt;sup>102</sup> Polaroid Corp. v. Eastman Kodak Co., 16 U.S.P.Q.2d 1481, 1511 (D. Mass. 1990), typographical errors to opinion amended by 17 U.S.P.2d 1711 (D. Mass. 1991).

<sup>&</sup>lt;sup>103</sup> Bio-Rad Lab., Inc. v. Nicolet Instrument Corp., 739 F.2d 604, 616 (Fed. Cir. 1984).

<sup>&</sup>lt;sup>104</sup> King Instrument Corp. v. Otari Corp., 767 F.2d 853, 863 (Fed. Cir. 1985).

<sup>&</sup>lt;sup>105</sup> Del Mar Avionics, Inc. v. Quinton Instrument Co., 836 F.2d 1320 (Fed. Cir. 1987).

Thus fixed costs—those costs which do not vary with increases in production, such as management salaries, property taxes, and insurance—are excluded when determining profits.<sup>106</sup>

"Incremental costs are distinct from marginal costs in that marginal costs include only those costs that vary when producing one more unit, whereas incremental costs include any costs that increase as production expands over a relevant range . . ."<sup>107</sup> The incremental profit margin is typically defined as the profit left after the deduction of those costs necessary to make and sell the additional units within a relevant incremental range. For example, 5,000 products may be produced at a certain level of incremental cost, but if a quantity greater than 5,000 is produced, the incremental costs may be reduced. The cost reduction may arise, for example, from the producer's ability to obtain volume discounts for purchasing additional materials. The incremental profit margin may be expressed as a percentage of the unit price of the product.

Conceptually, lost profits can be separated into two parts, namely (1) the "but for" lost sales or revenues, and (2) the incremental profit margin on those "but for" sales. The courts have often followed the recommendations of accounting or economic experts in this area. For example, in *Lam, Inc. v. Johns-Manville Corp.*, the Federal Circuit awarded the patent holder incremental profits based on the following calculation:

- 1. Start with revenue derived from sales of the patented product and subtract the direct costs of material, labor, commissions, and freight for these sales.
- 2. Divide this difference by the number of units sold by the patent holder, yielding the incremental profits per unit.
- 3. Multiply this incremental profit figure by the number of infringing units sold, which equals the aggregate lost profits by the patent holder.<sup>108</sup>

In *Kalman v. Berlyn Corp.*, the Federal Circuit held that labor costs were fixed costs because no additional labor expense would have been required to produce the infringing devices.<sup>109</sup> In other circumstances, certain expenses included in "overhead" may be incremental and properly deductible in arriving at incremental profits. For example, fringe benefits may be a type of overhead cost to be deducted in calculating incremental profits. The facts of each case will dictate the nature of the costs associated with producing the infringing product.

#### 2.3.1.2. Lost Profits in Copyright, Trademark, Trade Secret, and Trade Dress Cases

In copyright, trademark, trade secret, and trade dress cases, lost profits represent those profits that the intellectual property owner failed to earn as a result of the infringement. The lost sales measure attempts to equate the intellectual property owner's damages with the profits that would

<sup>&</sup>lt;sup>106</sup> Paper Converting Machinery Co. v. Magna-Graphics Corp., 745 F.2d 11, 14 (Fed. Cir. 1984).

<sup>&</sup>lt;sup>107</sup> Micro Motion, Inc. v. Exac Corp., 761 F. Supp. 1420, 1429 (N.D. Cal. 1991).

<sup>&</sup>lt;sup>108</sup> Lam, Inc. v. Johns-Manville Corp., 718 F.2d 1056 (Tenth Cir. 1983).

<sup>&</sup>lt;sup>109</sup> Kalman v. Berlyn Corp., 914 F.2d 1473 (Fed. Cir. 1990).

have been earned from each lost sale due to the infringer's misconduct. The lost profit test typically applies only if the intellectual property owner and the infringer were actual or potential competitors; otherwise, the infringement is unlikely to have caused the intellectual property owner to lose sales.

The application of the concept of lost profits is similar in copyright, trademark, trade secret, and trade dress cases. The discussion of lost profits below applies to all types of intellectual property infringement unless otherwise noted.

# 2.3.2. Measuring Revenues

The beginning point in the estimation of lost profits is the measurement of revenues. The primary question to be answered is: *What additional revenues would have been generated by the plaintiff but for the actions of the defendants?* That is, if the infringing sales had not occurred, what would the purchasers have purchased from the plaintiff, and at what price?

The following issues are relevant to measuring the revenue on lost sales:

- 1. What is the appropriate period of damages?
- 2. Are lost profits recoverable for the entire apparatus in which the infringing sale is included, or only for the feature covered by the intellectual property in suit?
- 3. How is the number of units of the infringing product to be determined?
- 4. Can lost profits be recovered for products and services not covered by the intellectual property in suit?
- 5. Did the infringer cause an effect on the price that the intellectual property holder could have charged but for the infringer's actions?

These issues are discussed in the following sections.

#### 2.3.2.1. Damage Period

The damage period may begin at the onset of infringement of existing intellectual property. In the case of patent disputes in which the patent owner's products are marked as patented, the damage period begins when the infringing product is made, sold, imported, or offered for sale.<sup>110</sup> Conversely, if the patent owner's products are not marked as patented, the damage period begins only when the infringer receives actual notice of infringement and has made, sold, imported, or offered for sale an infringing product.

The damage period typically ends on the date of trial because an injunction ordinarily will issue if the infringer loses its case on liability. However, a patent owner may seek compensation for an infringer's impact on the patent owner's prospective sales if that impact emanates from

<sup>&</sup>lt;sup>110</sup> 35 USC § 287.

the market effect of the infringer's past infringement. (This issue is particularly relevant to a price erosion claim, which is discussed below in Section 2.3.2.3.) In addition, certain types of infringement may inherently continue beyond the trial date. For example, if the term of a contract to supply a particular service on patented goods extends beyond the trial date, damages may be awarded for sales made after that date. The pendency of an injunction may influence whether such damages are awarded. Damages cannot be awarded for infringement that occurred more than six years prior to the filing of the complaint for patent disputes.<sup>111</sup>

An issue that may affect damages is whether a defendant's infringement resulted in a market entry advantage that would not have existed but for the infringement. If the defendant, after issuance of an injunction, can enter the market again with a competing product sooner than would have been possible without the infringement, the plaintiff may suffer additional future lost sales and profits. This is most likely to occur if the patent is at or near expiration.

#### 2.3.2.2. Sales Price

Damages are often calculated based on the intellectual property owner's pre-infringement (actual) sales prices. The courts require documentation from the intellectual property owner to justify the method or basis for estimating these prices. If multiple models of the same product are involved, courts may use the average price of the number and type of model sold.

Several aspects of the infringed product's past pricing history may be scrutinized. The product's pricing history may be examined to determine the historical rate of price increases or decreases. Additionally, it may be appropriate to compare the historical rate of price increases to the historical inflation rate so that the impact of inflation is removed. The plaintiff's pricing models for quantity and early pay discounts may also be relevant.

#### 2.3.2.3. Price Erosion

A claim for price erosion may exist if (1) the patent holder<sup>112</sup> is not able to increase prices as much as he or she would have absent the infringement, or (2) the patent holder is forced to decrease price in the face of the competition due to the infringer's conduct. The earliest known case involving the issue of price erosion was *Yale Lock Mfg. Co. v. Sargent* in 1886.<sup>113</sup>

Price erosion was addressed by the Federal Circuit in *Lam, Inc. v. Johns-Manville Corp.*, which affirmed a damage award for products sold by the patent holder at a depressed price.<sup>114</sup> The patent holder projected sales through the infringement period based on the rate of pre-infringement

<sup>&</sup>lt;sup>111</sup> 35 USC § 286.

<sup>&</sup>lt;sup>112</sup> Price erosion claims are not limited to patent suits, although they are less common in other types of intellectual property disputes.

<sup>&</sup>lt;sup>113</sup> Yale Lock Mfg. Co. v. Sargent, 117 U.S. 536 (1886).

<sup>&</sup>lt;sup>114</sup> Lam Inc. v. Johns-Manville Corp., 718 F.2d 1056, 1067 (Fed. Cir. 1983).

growth for the patented product. The patent holder then calculated the damages by subtracting the actual sales from projected sales during the infringement period.<sup>115</sup> The projected sales excluded price reductions implemented to compete with the infringer's product.<sup>116</sup>

Courts have held that a claim for price erosion can be sustained if an infringer's actions prevented an intellectual property holder from raising prices or maintaining historical price increases. For example, in *Ziggity Systems, Inc. v. Val Watering Sys.*, the court held that "but for" the infringement, the patent holder would have raised the price for products covered by the patent.<sup>117</sup> The court applied this theory to both the sales made by the patent holder and those made by the infringer, which collectively represented 95 percent of the total market. However, the court did not consider the doctrine of price elasticity to be applicable to its analysis.<sup>118</sup> Price elasticity, which measures the responsiveness of quantity demanded to a change in price, <sup>119</sup> is discussed below in Section 2.3.2.5.

A careful analysis of the industry in which the infringed and infringing products operate is often central to assessing a potential price erosion claim. For example, in *Crystal Semiconductor vs. TriTech,* Crystal Semiconductor's expert witness attempted to measure price erosion by comparing the price performance of (1) the plaintiff's product covered by the patent-in-suit, and (2) a similar product manufactured by the plaintiff that served a different market.<sup>120</sup> The expert's approach compared the market for Crystal Semiconductor's computer audio chips in the Apple Computer market to the market for Crystal Semiconductor's computer audio chips in the IBM and IBM compatible personal computer (PC) market. This *benchmark approach* was designed to link the price performance of a non-infringed product to the price performance of the infringed product as a reasonable proxy. The Federal Circuit, however, found this benchmark approach unreliable because the "Apple CODEC market had characteristics of an oligopoly while the PC CODEC [IBM compatible] market was competitive."<sup>121</sup>

In *Crystal Semiconductor*, the Federal Circuit also addressed the necessity of examining the law of demand in the context of potential price erosion. In this regard, the court found that Crystal had failed "to show the reaction of the market if, 'but for' [the] infringement, Crystal would have tried to charge at least 89¢ more per CODEC. All markets must respect the law of demand."<sup>122</sup> In other words, if the patent holder claims it could have charged higher prices but for the in-

<sup>&</sup>lt;sup>115</sup> Ibid., p. 1068.

<sup>&</sup>lt;sup>116</sup> Ibid., p. 1067.

<sup>&</sup>lt;sup>117</sup> Ziggity Systems, Inc. v. Val Watering Systems, 769 F.Supp. 752, 824 (E.D. Pa. 1990).

<sup>&</sup>lt;sup>118</sup> Ibid., p. 824.

<sup>&</sup>lt;sup>119</sup> Katz, M.L. and Rosen, H.S. *Microeconomics*, Third Edition. McGraw-Hill, Boston, MA, p. 73, 1998.

<sup>&</sup>lt;sup>120</sup> Crystal Semiconductor vs. TriTech, 246 F. 3d 1336, 1357 (Fed. Cir. 2001).

<sup>&</sup>lt;sup>121</sup> Ibid., p. 1358.

<sup>&</sup>lt;sup>122</sup> Ibid., p. 1359.

fringement, the patent holder must show the impact of such higher prices on the units demanded in the marketplace.

Another case illustrating the importance of industry analysis in price erosion litigation is *Erics-son, Inc. v. Harris Corporation.*<sup>123</sup> Ericsson (the patent owner) had contended that it was entitled to "lost profits due to lost sales" and "lost profits due to price erosion." To prove lost profits due to lost sales, Ericsson divided the market between the broader "Harris market" and the narrower "Ericsson market." The Harris market included customers that designed the infringing Harris product into their products. But these Harris customers may not have designed the Ericsson patented product into their products, meaning that Harris had actually expanded the market. The narrower Ericsson market was limited to customers that had designed the Ericsson patented product into their products. The court upheld this market segmentation, finding that "Ericsson's market definitions and allocations were supported by substantial and economically sound evidence."

To prove lost profits due to price erosion, Ericsson sought to identify factors that precluded competition, including costs to redesign the competing devices as well as the contested patent itself. Ericsson also contended that the uniqueness of the market would have enabled it to increase volumes at a higher price. The court acknowledged that Ericsson had "presented evidence of the high switching costs associated with redesigning a line card, the relatively low costs of SLICs, . . . [and] substantial evidence of the similarities between the two products and their markets."<sup>125</sup>

The *Crystal Semiconductor* and *Ericsson* decisions demonstrate two important principles that should be addressed in analyzing price erosion claims, namely (1) the possibility that the infringer has expanded the market over what it would have been but for the infringement; and (2) the care that should be used in attempting to identify benchmarks.

### 2.3.2.4. Considerations in the Calculation of Price Erosion

In a price erosion calculation, several factors should be examined for their potential effect on the non-infringed price. These include the price elasticity of the intellectual property owner's product that competes with the infringing product, and other factors that may influence the prices of the two competing products.

### 2.3.2.5. Price Elasticity

The price elasticity of supply and demand is often central to the calculation of damages based on alleged price erosion. The price elasticity of demand measures the sensitivity of the quantity demanded to price changes of the product.<sup>126</sup> Under basic economic principles of supply and de-

<sup>&</sup>lt;sup>123</sup> Ericsson, Inc. v. Harris Corp., 352 F. 3d 1369 (Fed. Cir. 2003).

<sup>&</sup>lt;sup>124</sup> Ibid., 352 F. 3d 1369 (Fed. Cir. 2003).

<sup>&</sup>lt;sup>125</sup> Ibid.

<sup>&</sup>lt;sup>126</sup> Pindyck, R. & Rubinfeld, D. *Microeconomics,* Fifth Edition. Prentice Hall, Upper Saddle River, New Jersey, p. 30, 1998.

mand, an increase in the price of a product usually results in a decrease in the amount of the product demanded.<sup>127</sup> Conversely, a decrease in price usually results in an increase in the quantity demanded. A product's price elasticity of demand is the percentage change in quantity demanded divided by the percentage change in price.<sup>128</sup> In other words, elasticity reveals how much the quantity demanded for a product varies with a change in price.

The interrelationship between price elasticity and price erosion is apparent in 3M vs. Johnson and Johnson. In that case, the Special Master ruled that the "vigorous price competition" between 3M and Johnson & Johnson had caused a reduction in the price of the infringed product during the infringement period, and that absent the competition, 3M would have been able to raise the price of the product. However, the court found that 3M would have contracted the size of the market as a result of the price increases.<sup>129</sup>

In its *Crystal Semiconductor v. TriTech* decision, the court addressed the law of demand and price elasticity, quoting the following excerpt from Paul Samuelson's text, *Economics* (eleventh edition, 1980, pp. 53-55):

According to the law of demand, consumers will almost always purchase fewer units of a product at a higher price than at a lower price, possibly substituting other products. For example, if substitution of a product was impossible and the product was a necessity, elasticity of demand would be zero—meaning consumers would purchase the product at identical rates even when the price increases. This very rare type of market is called inelastic. On the other side of the spectrum, if any price increase would eradicate demand, elasticity of demand would be infinite—meaning consumers would decline to purchase another single product if the price increases by any amount. This very rare type of market is called perfectly elastic.<sup>130</sup>

The analyst can use a variety of tools from both statistics and economics to determine the price elasticity of demand for a product.

#### 2.3.2.6. Market Analysis of Infringing Product

An examination of the market that the plaintiff's product serves is required to assess the merits of a price erosion claim. The number of competitors in a given market influences the prices established in that market, with price erosion easier to measure in two-supplier markets than in multisupplier markets. However, an intellectual property owner cannot assume that it would capture the entire market absent the infringement simply because it operates in a two-supplier market. Further, market size can be affected by a number of issues. For example, the defendant may con-

<sup>&</sup>lt;sup>127</sup> Ibid., p. 30.

<sup>&</sup>lt;sup>128</sup> Ibid., p. 30.

<sup>&</sup>lt;sup>129</sup> 3M vs. Johnson and Johnson, 976 F.2d 1559, 1579 (Fed. Cir. 1992).

<sup>&</sup>lt;sup>130</sup> *Crystal Semiconductor vs. TriTech*, 246 F. 3d 1336, 1359 (Fed. Cir. 2001). In *Crystal*, the Federal Circuit indicated that the "patentee's price erosion theory must account for the nature, or definition, of the market . . . and the effect of the hypothetical increased price on the likely number of sales at that price in the market."

tend that it had expanded the market by entering it with a lower-priced infringing product, negating any price erosion claim.<sup>131</sup>

The intellectual property owner also cannot assume that the infringer would be absent from the market absent the infringement, especially if the infringer sells multiple products, only one of which infringes. In such a case, the infringer may affect the size of the market through (1) discounting similar model products, (2) adding features to existing products to entice customers, or (3) designing around the patent and offering a new product.

In a market in which the intellectual property holder and infringer are two competitors among many, price erosion may be much more difficult to prove and/or measure. In a market with a large number of competing products, price is much less influenced by the actions of a single competitor; rather, the entire market acts to set the price. As more and more firms compete in a market, each may find it harder to raise prices and avoid losing sales to other firms.<sup>132</sup>

Price erosion may also be claimed on products that are serving two different markets. Identifying differences in the markets served by the infringing product and the intellectual property owner's product can reveal the factors that influence price in each of those markets.

#### 2.3.2.7. Substitutes and New Product Entrants

Potential substitutes for the infringed product from its own segment and competing industries should be examined with regards to price erosion. Substitutes that limit the potential returns of an industry by placing a ceiling on the prices that firms in that industry can profitably charge<sup>133</sup> can diminish or invalidate a price erosion claim.

The threat of new entrants into the infringed product's industry should also be examined. "New entrants to an industry bring new capacity, the desire to gain market share and often substantial resources. Prices can be bid down or incumbents' costs inflated as a result, reducing profitability."<sup>134</sup> The likelihood of new entrants into an industry which may have an effect on the price for an infringed product should be considered in assessing potential price erosion. Conversely, barriers to entry into an industry or a market may simplify an argument for price erosion.

#### 2.3.2.8. Power of Suppliers and Buyers

Suppliers and buyers may influence the price of an infringed product. With respect to buyers, factors that may influence price include (1) the percentage of total sales an individual buyer

<sup>133</sup> M. Porter. *Competitive Strategy*. New York: Macmillan Publishing, p.23, 1980.

<sup>&</sup>lt;sup>131</sup> Litigation Services Handbook, Third Edition. Edited by R. Weil, M. Wagner, and P. Frank. New York: John Wiley and Sons, Inc., p. 30, 2001.

<sup>&</sup>lt;sup>132</sup> Pindyck, R & Rubinfeld, D. *Microeconomics*, Fifth Edition. Upper Saddle River, NJ: Prentice Hall, p. 345, 1998.

<sup>&</sup>lt;sup>134</sup> Ibid., p. 7.

represents to a seller, and (2) the ability of buyers to easily switch to another product.<sup>135</sup> If buyers of the product which suffered price erosion have significant market power, their impact on the market and price of the infringed product should be considered; the lower price may have come from buyer power, not additional competition. Similarly, the power of suppliers in the creation of the infringed product should be examined.<sup>136</sup>

The switching costs of the buyer should also be considered. If the buyer's costs of switching from the patented technology to a different technology are significant, the intellectual property holder may have a captive market and prices could be substantially increased without affecting demand.

#### 2.3.2.9. Entire Market Value Rule

Lost revenues in intellectual property disputes may be calculated based on the selling price of the component of a system that is covered by the intellectual property in suit, or, alternatively, the lost revenue may be that lost on the sale of the entire unit, product or system of which the component piece was a part. This latter approach is referred to as the *entire market value rule*, which allows for the recovery of damages based on the value of an entire apparatus containing several features, even though only one feature is covered by the intellectual property-in-suit.<sup>137</sup> The entire market value rule ordinarily applies when the nonpatented and patented components are physically part of the same machine, as in the *Rite-Hite Corp. v. Kelley Co.* case.<sup>138</sup> However, some courts have extended the rule's application to physically separate nonpatented components, so long as they are considered part of one complete machine or constitute a functional unit.<sup>139</sup>

The entire market value rule has been applied to both lost profits and a reasonable royalty, as well as to patent and other types of intellectual property disputes. The rule recognizes that, in some cases, the economic value of intellectual property may be greater than the value of the sales of the covered part alone.<sup>140</sup> Essentially, the entire market value rule applies if the patent holder would have sold the complete device (rather than just the patented component) if there had been no infringement.

<sup>&</sup>lt;sup>135</sup> Ibid., p. 25.

<sup>&</sup>lt;sup>136</sup> M. Porter. *Competitive Strategy*. New York: Macmillan Publishing, p.28, 1980.

<sup>&</sup>lt;sup>137</sup> Lessona Corp. v. U. S., 599 F.2d 958, 974 (Ct. Cl. 1981).

<sup>&</sup>lt;sup>138</sup> *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995).

<sup>&</sup>lt;sup>139</sup> Ibid; see also, Kalman v. Berlyn Corp., 914 F.2d 1473, 1485 (Fed. Cir. 1990) (affirming an award of damages for filter screens used with a patented filtering device); *TWM Mfg. Co. v. Dura Corp.*, 789 F.2d 895, 901 (Fed. Cir. 1986) (affirming award of damages for nonpatented wheels and axles sold with patented vehicle suspension); *Kori Corp. v. Wilco Marsh Buggies & Draglines, Inc.*, 761 F.2d 649, 656 (Fed. Cir. 1985) (affirming an award of damages for nonpatented uppers of an improved amphibious vehicle having a patented pontoon structure).

<sup>&</sup>lt;sup>140</sup> Brunswick v. United States, 36 Fed. Cl. 204 (Fed. Cir. 1996), *aff*'d, 182 F.3d 946 (Fed. Cir. 1998); *see also, Gargoyles, Inc. v. United States*, 37 Fed. Cl. 95 (Fed. Cir. 1997) (using the Entire Market Value Rule to calculate the royalty base), *aff*'d, 113 F.3d 1572 (Fed. Cir. 1997); *Fonar Corp. v. General Elec. Co.*, 107 F.3d 1543 (Fed. Cir. 1997), *cert. denied*, 522 U.S. 908 (1997). *But see, In re Dahlgren Int'l, Inc.*, 811 F. Supp. 1180 (N.D. Texas 1992) (calculating a royalty base without including nonpatented goods or services, even though lost profit calculations account for such items).

For example, in *King Instruments Corp. v. Perego*, the Federal Circuit awarded the patent holder lost profits on sales made by the infringer of nonpatented parts for a video tape splicing machine that used the patented invention.<sup>141</sup> Similarly, in *State Indus., Inc. v. Mor-Flo Indus., Inc.*, the Federal Circuit awarded damages based on the patent holder's profit margin on the sales of an entire water-heating unit. This case concerned the infringement of a patented method for adding foam insulation to the water heaters during the manufacturing process.<sup>142</sup>

In contrast, in *Hughes Aircraft Co. v. United States*, the Federal Circuit declined to award damages based upon the entire market value rule. Hughes argued that the government had infringed its patent controlling the altitude of a spacecraft and that the damage award should include the value of the patented device plus the value of the payload. The payload was the non-infringing satellite that was attached to the spacecraft with the patented device. The court, however, found that Hughes could not reasonably have anticipated the sale of the satellite if it had been granted the contract to build the infringing spacecraft.<sup>143</sup> As the satellite and the spacecraft did not constitute a functional unit, application of the entire market value rule was unwarranted.

The entire market value rule may also apply to the determination of a reasonable royalty if the patented component is included in a larger device. In that context, the reasonable royalty rate may be applied to the sales of the larger device, not just the patented component. However, care should be taken to develop a royalty rate consistent with the underlying facts. If an analysis of comparable licenses suggests a royalty rate of, for example, five percent applied to sales of the patented component, it may be improper to conclude that the five percent should be applied to sales of the larger device containing the patented element. Rather, it may be appropriate to reduce the royalty rate to compensate for the increased royalty base.

#### 2.3.2.10. Convoyed or Collateral Sales

Lost profits can be awarded for the lost sales of ancillary or accessory products (i.e., convoyed or collateral sales). Convoyed sales generally include sales of products not covered by the intellectual property in suit but that are caused by the sale or use of that intellectual property.

When determining whether a patent holder may recover damages for convoyed sales, the analyst should be careful to distinguish that issue from the application of the entire market value rule. The entire market value rule allows for the recovery of damages based on the value of an entire apparatus containing several features, even though only one feature is patented.<sup>144</sup> In contrast,

<sup>&</sup>lt;sup>141</sup> King Instruments Corp. v. Perego, 65 F.3d 941 (Fed. Cir. 1995) (Nies, J., dissenting), rehearing denied, petition for rehearing en banc declined, 72 F.3d 855 (Fed. Cir. 1995) (Nies, J., dissenting).

<sup>&</sup>lt;sup>142</sup> State Industries, Inc. v. Mor-Flo Industries, Inc., 883 F.2d 1573 (Fed. Cir. 1989).

<sup>&</sup>lt;sup>143</sup> Hughes Aircraft Co. v. U. S., 31 Fed. Cl. 464 (Fed. Cir. 1994).

<sup>&</sup>lt;sup>144</sup> Paper Converting Machine Co. v. Magna-Graphics Corp., 745 F.2d 11, 22 (Fed. Cir. 1984).

convoyed sales are of items that are not typically a physical part of the original device but which are sold as a result of the sale of the patented item.

The Federal Circuit has stated that "[t]he expression 'convoyed sales' should preferably be limited to sales made simultaneously with a basic item; the spare parts here should best be called 'derivative sales.'"<sup>145</sup> "[I]t is not the physical joinder or separation of the contested items that determine their inclusion in or exclusion from the compensation base for computing a royalty . . . so much as their financial and marketing dependence on the patented item under standard marketing procedures for the goods in question."<sup>146</sup>

Regardless of the terminology used, the test for damages remains the same. That is, the intellectual property holder may recover damages for convoyed sales if the intellectual property owner can prove that it would have made those sales "but for" the infringement.

Under the entire market value rule and convoyed sales doctrine, an intellectual property owner is not permitted to recover losses for products that are sold with the patented item merely for a business or marketing advantage. In *Rite-Hite*, the Federal Circuit stated that it would not extend liability "to include items that have essentially no functional relationship to the patented invention and that may have been sold with an infringing device only as a matter of convenience or business advantage."<sup>147</sup> Further, there should be a reasonable probability that the sale of the patented item would have caused the sale of the nonpatented accessory. But all facts and circumstances should be carefully analyzed. For example, in *King Instrument Corporation v. Otari Corporation*, the court stated that the "infringer had acquired implied license to sell unpatented repair parts through payment of damages as to past infringing machine sales and could not be enjoined from selling any spare parts."<sup>148</sup>

An intellectual property holder may recover damages for lost sales of services related to the patented invention. In *Ristvedt-Johnson, Inc. v. Brandt, Inc.*, the court awarded the patent holder lost profits on machine sales, repair services, preventive maintenance inspection agreements, and supplies. The plaintiff was able to demonstrate that the one-year maintenance agreements were normally purchased when a customer bought the patented coin sorter. However, the court restricted the award for the contracts to the period during which the infringement occurred.<sup>149</sup>

#### 2.3.2.11. Lost Revenues in Copyright Cases

To perform a lost profits calculation in a copyright case, the copyright owner can (1) analyze sales for a period before the infringement and compare that to the sales subsequent to the in-

<sup>&</sup>lt;sup>145</sup> Carborundum Co. v. Molten Metal Equip. Innovations, 72 F.3d 872, 881 n. 8 (Fed. Cir. 1995).

<sup>&</sup>lt;sup>146</sup> Leesona Corp. v. U.S., 599 F.2d 958, 974, cert. denied, 444 U.S. 991 (1979).

<sup>&</sup>lt;sup>147</sup> *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1550 (Fed. Cir. 1995).

<sup>&</sup>lt;sup>148</sup> King Instrument Corporation v. Otari Corporation, 814 F.2d 1560 (Fed. Cir. 1995)

<sup>&</sup>lt;sup>149</sup> Ristvedt-Johnson, Inc. v. Brandt, Inc., 805 F. Supp. 557, 565 (N.D. III. 1992)

fringement, or (2) use the infringer's sales as a base. These techniques are merely a means to an end, namely a determination of the magnitude of sales the copyright holder would have made absent the infringement.

If the infringing work and the copyrighted work compete at the same price in the same market, the infringer's sales may be used as a measure of sales lost by the copyright owner. Under this measure, the court will ordinarily multiply the copyright owner's profit on one sale by the number of sales made by the defendant to arrive at the copyright owner's actual damages. However, it is rare that the copyrighted work price and infringer's price are the same. Differences between the copyright owner and the infringer on matters such as pricing, packaging, advertising, efficiency, cost, production techniques, and goodwill may preclude use of the infringer's sales as a measure of the copyright owner's lost sales.<sup>150</sup> In essence, to justify a one-to-one substitution of the infringer's sales for the copyright owner's lost sales, the copyright owner should attempt to show that all of the infringer's customers would have bought the copyrighted work but for the availability of the infringing product.<sup>151</sup>

Even if the copyright owner is not able to use the infringer's sales as a measure of its own lost profits, the owner still may be able to recover the infringer's profits. For example, in *Stevens Linen Associates, Inc. v. Mastercraft Corp.*, the court allowed the copyright owner the choice between (1) lost profits based on all of defendant's sales made to customers which had purchased from the copyright owner in the past, or (2) lost profits determined by the percentage difference in sales of the infringed product compared with the percentage difference in sales of all other non-infringed products of the copyright owner.<sup>152</sup>

Courts will ordinarily reject projections made by copyright owners that cannot be supported by reasonably probable evidence.<sup>153</sup> However, courts may accept probable estimates in the form of opinion testimony. If the copyrighted product is sold at a price significantly higher than the defendant's infringing product, the courts are likely to assume that less than all of the defendant's sales were sales lost by the copyright owner, as the lower price likely caused at least some of the defendant's sales.

Although many courts have limited the copyright owner to the profits of the infringer as compensation for lost profits, other courts have found this remedy to be insufficient. In *F.W. Woolworth Co. v. Contemporary Arts*, the United States Supreme Court determined that "a rule of liability which merely takes away the profits from an infringement would offer little dis-

<sup>&</sup>lt;sup>150</sup> Mary Ellen Enterprises, Inc. v. Camex, Inc., 68 F.3d 1065, 1070 (Eighth Cir. 1995).

<sup>&</sup>lt;sup>151</sup> Glick, M. A., Reymann, L. A. and Hoffman R. (2003). *Intellectual Property Damages: Guidelines and Analysis*. John Wiley & Sons, Inc. Hoboken, N. J.: p. 318, 2003.

<sup>&</sup>lt;sup>152</sup> Stevens Linen Associates, Inc. v. Mastercraft Corp., 656 F.2d 11 (Second Cir. 1981)

<sup>&</sup>lt;sup>153</sup> Ibid., p. 15.

couragement to infringers. It would fall short of an effective sanction for enforcement of the copyright policy."<sup>154</sup>

In determining the copyright owner's lost profits, it is necessary to deduct the incremental overhead expenses that the copyright owner would have incurred if, in fact, those extra sales had been made.<sup>155</sup> If overhead expenses would not increase as a result of additional sales, there is no need to include overhead costs as a component of the damage measure.

### **2.3.3. Measuring Incremental Costs**

As discussed previously, when calculating lost profits, the appropriate benefit stream to measure is the incremental profit margin. Determining incremental costs is challenging and often a significant source of contention. It is not unusual for the infringer to claim that the intellectual property owner would need to increase its costs proportionately with the production of additional units or additional revenues. These costs may include increased general and administrative costs or other nondirect product related costs. Increasing these types of costs would lower the profits on the infringing units, as well as the related damages. In response, the intellectual property owner often argues that (1) the gross margin more closely reflects incremental profitability, and (2) it would not have been necessary to add equipment, overhead, or infrastructure to produce and sell the infringed units. This position, of course, tends to increase profitability from the lost sales, as well as related damages. The truth could fall anywhere within the range of these two polar positions, depending on the specific facts and circumstances of the case.<sup>156</sup>

A careful examination of costs is essential to determining the profitability of the lost sales. An examination of each specific cost line item may be necessary. This effort often involves reviewing the costs reflected within detailed financial statements, standard accounting records, and other financial documents. In lieu of a determination by line item, a statistical analysis of the relationship between cost and volume may provide the required cost estimates. Such analysis can identify, on average, how much costs have in fact increased for each unit increase in sales volume.<sup>157</sup>

One of the initial determinations for each cost item is whether the cost is variable or fixed over the range of actual and anticipated incremental production. A comparison of the intellectual property owner's output to the claimed incremental sales can help determine the amount of incremental costs that would need to be incurred to make the incremental sales. For example, a doubling in sales may call for an investment in additional manufacturing facilities and manage-

<sup>&</sup>lt;sup>154</sup> F.W. Woolworth Co. v. Contemporary Arts, 344 U.S. 228, 234 (1952).

<sup>&</sup>lt;sup>155</sup> Taylor v. Meirick, 712 F.2d 1112, 1121 (Seventh Cir. 1983).

<sup>&</sup>lt;sup>156</sup> Glick, A.G., Reymann, L.A. and Hoffman, R. *Intellectual Property Damages: Guidelines and Analysis.* John Wiley & Sons, Inc. Hoboken, N.J.: p. 147, 2003.

<sup>&</sup>lt;sup>157</sup> "Cost Analysis," J. Kinrich, R. Mangum and A. Meister, in *Intellectual Property Damages, Guidelines and Analysis*, 2004 supplement, M. Glick, L. Reymann, and R. Hoffman, eds., Chapter 14a, New York: Wiley.

ment personnel, while an increase of only five percent of a plaintiff's sales may not require such an investment.

# 2.3.4. Fixed Costs

*Fixed costs* remain constant in total dollar amount as the level of sales activity changes.<sup>158</sup> These costs typically do not respond to changes in the volume of sales activity within (1) a set period of time, or (2) a set production level. Examples of fixed-cost items may include factory and manufacturing equipment and buildings, property taxes and certain insurance, charitable contributions, research and development, and depreciation.

Capacity is often an important issue when evaluating fixed costs. If a company has excess capacity, it may well have been able to produce and sell the infringed units with little, if any, additional fixed costs. Conversely, if the company is operating at or close to full capacity, then additional units of production may require additional investments in equipment or other typically fixed costs.

### 2.3.5. Variable Costs

*Variable costs* are those that change in direct proportion to changes in volume of activity. A variable cost is one in which the per-unit cost remains relatively constant as volume changes.<sup>159</sup> In other words, total variable costs vary as the level of unit sales changes. Although, in theory, variable costs are relatively constant as volume changes, this is not always true in economic reality. The analyst should closely examine variable costs that may increase or decrease as volume changes.

Direct materials and direct labor costs are usually variable costs, since the total of these expenses varies directly with the number of units produced. In addition, sales commissions may vary with total sales and, therefore, are typically variable. Other variable costs may include factory overhead items such as utilities, production supplies, and lubricants. Total variable costs change in direct proportion to changes in production volume, which equates to zero dollars when the activity level is zero.

### **2.3.6. Semi-Variable Costs or Mixed Costs**

A number of costs have both fixed and variable characteristics.<sup>160</sup> *Semi-variable* or *mixed* costs are expenses that can be separated into fixed and variable components. The variable component increases or decreases with sales or production volume, while the fixed component does not vary. For example, sales personnel may be paid both a base salary and a commission based on

<sup>&</sup>lt;sup>158</sup> P. E. Fess and C. S. Warren, *Accounting Principles*, Sixteenth Edition. Cincinnati, OH: South-Western Publishing Co., p. 810, 1990.

<sup>&</sup>lt;sup>159</sup> Gray, J. and Ricketts, D. *Cost and Managerial Accounting*. New York: McGraw-Hill Book Co., p. 28, 1983.

<sup>&</sup>lt;sup>160</sup> P. E. Fess and C. S. Warren, *Accounting Principles*, Sixteenth Edition. Cincinnati, OH: South-Western Publishing Co., p. 11, 1990.

sales. Although the base salary component represents a fixed cost, sales commissions fluctuate with the amount of sales and represent a variable cost.

Some costs are considered step variable costs. *Step variable costs* increase or decrease only in response to fairly wide changes in activity level. For example, the cost of an additional maintenance worker may represent a step-variable cost.

# 2.3.7. Cost of Goods Sold or Manufacturing Costs

*Cost of goods sold* refers to the costs of the manufactured products sold. Typically, these costs reflect the raw materials and manufacturing costs used to convert the raw materials into finished goods and can include such expenses as storage costs, import taxes, and shipping expenses.

### 2.3.8. Gross Profits

*Gross profits* refer to the excess of net sales revenue over the cost of goods sold. These profits are referred to as "gross" because the operating expenses have not been deducted. The gross profit margin is computed by dividing gross profits by net revenues.

### 2.3.9. Operating Expenses

*Operating expenses* include those expenses incurred in the buying, selling, and administrative functions of the business. These activities may be divided so that the selling expenses and the general and administrative expenses appear separately.

#### 2.3.9.1. Selling and Marketing Expenses

*Selling and marketing expenses* are costs incurred to promote the sales of the product and generate revenues. These costs should be directly related to the sale of merchandise. Selling and marketing expenses include salaries for sales and marketing personnel, sales office expenses, travel funds, promotions, advertising, and other costs associated with the direct efforts aimed at getting products or services from the company to the consumer. These expenses may include marketing development costs associated with new products as well as existing products.

Expenses are often characterized as cost of goods sold, selling and marketing, and general and administrative. However, the character of the expenses depends on the nature of the industry. Fixed expenses in one industry or one business can be variable in another.

#### 2.3.9.2. General and Administrative Expenses

General and administrative expenses include expenses associated with general expenditures on the administrative side of the business. These expenses can include accounting services, payroll and human resources, management information services, cash management (accounts payable and accounts receivable), as well as other support activities. The costs of these services typically do not vary with the company's production output. However, the facts and circumstances in each case vary and need to be analyzed.

### 2.3.9.3. Incremental Profit Margin

The calculation of the incremental profit margin requires a determination of which costs are fixed and which costs are variable over a known increase to various levels of sales volume. In general, firms with historically high variable and low fixed costs (such as consulting firms) will have lower incremental profits relative to firms with historically low variable costs and high fixed costs (such as software firms).

After assessing the historical movement of the cost relative to volume and considering the type of cost, the cost is classified as either fixed or variable. A review and analysis of the income statement may be necessary to obtain the incremental profit margin on additional units sold. Generally, an income statement categorizes costs into cost of goods sold, operating expenses, and general and administrative expenses. Income statement items that are often ignored in a damage calculation include gains or losses from discontinued operations, extraordinary income, and/or extraordinary expenses.<sup>161</sup> Generally, lost profits are calculated on a pretax basis.

To measure the incremental costs associated with the increased units sold, the courts have typically adopted two approaches, namely (1) account analysis, and (2) regression analysis. Account analysis "involves examining accounts at the general ledger level and determining whether that cost is fixed or variable."<sup>162</sup> Regression analysis "is a statistical technique for determining the relationship between two variables"<sup>163</sup> and is applied to cost and volume data. Before relying upon a regression analysis, the analyst should have a thorough understanding of regression modeling.

Although regression analysis can generate an unbiased estimate of, for example, the average cost incurred in manufacturing each unit, the quality or value of that estimate depends on the precision of the estimate. Regression analysis generates not only estimates of model parameters, but also estimates of the precision of the analysis, often referred to as the standard error. Standard tools of statistics allow a determination of whether a level of precision is acceptable, a condition referred to as statistical significance. The analyst should evaluate whether the results of a regression analysis are "statistically significant."

Courts have considered the relative reliability of account and regression analyses. For example, in *Micro Motion, Inc. v. Exac Corp.*, the court weighed the reliability of an account analysis against a

<sup>&</sup>lt;sup>161</sup> M. A. Glick, L. A. Reymann, and R. Hoffman. *Intellectual Property Damages: Guidelines and Analysis*, Hoboken, NJ: John Wiley & Sons, Inc., pp.77-78, 2002.

<sup>&</sup>lt;sup>162</sup> Polaroid Corp. v. Eastman Kodak Co., 16 U.S.P.Q.2d 1481, 1526 (N.D. Mass. 1990).

<sup>&</sup>lt;sup>163</sup> Ibid.

regression and historical analysis in an effort to determine the costs that the patent holder would have incurred had it produced the units that were sold by the infringer.<sup>164</sup> The court determined that the regression analysis was of little probative value and declined to follow it, because it found that the regression analysis was more applicable to cases involving well-established firms with regular sales, not one that had substantial nonrecurring costs. Instead, the court adopted the account analysis that classified each cost as a variable, semivariable, or a fixed cost.<sup>165</sup>

In contrast, the court in *Polaroid Corp. v. Eastman Kodak Co.* rejected an account analysis in favor of a regression analysis.<sup>166</sup> The court found that the account analysis relied too heavily on the subjective assessments of the parties and was subject to undue bias.<sup>167</sup> The court also rejected the account analysis because it lacked supporting documentation, including an absence of working papers, notes, or the names of personnel contacted.<sup>168</sup> Additionally, the court found problematic that the account analysis was performed for only one year, although the infringement had occurred over multiple years.

In addition to the analyses discussed above, the expert analyzing costs should consider the following factors:

- When looking at costs of sales and individual line items over time as compared with unit production, care should be taken in analyzing the basis for inventory costing. That is, first-in, firstout; last-in, first-out; or average inventory costing may yield dramatically different results.
- Cost studies which provide information about what costs are specifically associated with the production or sale of units should be considered.
- Contracts can clarify what the commissions are on incremental unit sales or what the costs of materials are at various material purchase levels (for example, considering quantity discounts).
- Invoices showing purchases of inventories or materials, including those reflecting price increases, may help the expert ascertain what portion of cost increases were driven by changes in unit production or sales, as compared to other causes.

# 2.4. REASONABLE ROYALTY

Once infringement has been proven in patent cases, the patent holder is entitled to "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty."<sup>169</sup>

<sup>&</sup>lt;sup>164</sup> Micro Motion, Inc. v. Exac Corp., 761 F. Supp. 1420, 1429 (N.D. Cal. 1991).

<sup>&</sup>lt;sup>165</sup> Ibid., p. 1429. The account analysis was based on an individual review by the testifying expert of almost 6,000 accounts.

<sup>&</sup>lt;sup>166</sup> Polaroid Corp. v. Eastman Kodak Co., 16 USPQ 2d 1481 (N.D. Mass. 1990).

<sup>&</sup>lt;sup>167</sup> Ibid., p. 1526.

<sup>&</sup>lt;sup>168</sup> Ibid., p. 1527.

<sup>&</sup>lt;sup>169</sup> 35 USC § 284.

In the event lost profit damages cannot be proven for all of the alleged infringing sales, then the patent owner is entitled to reasonable royalties from use of the patented technology for the remaining units sold by the infringer. In other words, the patent holder is entitled to some form of damages on all the infringing sales.

In nonpatent intellectual property disputes, reasonable royalty is neither the base case nor the minimum award. However, it remains an alternative measure of damage and is available under appropriate circumstances. For example, the UTSA (as amended in 1985) states that "[i]n lieu of damages measured by any other methods, the damages caused by misappropriation may be measured by imposition of liability for a reasonable royalty for a misappropriator's unauthorized disclosure or use of a trade secret."<sup>170</sup>

The case law on reasonable royalty for nonpatent intellectual property suits borrows from the more developed body of case law from patent disputes. As a result, the discussion below relating to the parameters and guidelines provided for reasonable royalties in the context of patent disputes is generally applicable to other types of intellectual property infringement, unless otherwise noted. Of course, in all intellectual property disputes the reasonable royalty to be paid to plaintiff by defendant is governed by the particular facts of the case.

A starting point in determining a reasonable royalty is an established royalty—that amount paid by the parties for the intellectual property in suit—as it is based upon the voluntary agreement of a licensor and a licensee. When an established royalty does not exist or cannot be proven in sufficient detail, the analyst may need to calculate a royalty that would result from a hypothetical negotiation between the parties. These alternatives are discussed in the sections below.

# 2.4.1. Established Royalty

To recover an award of damages based on an established royalty rate, the patent owner needs to show that a licensing agreement covering the patent was entered into with another party, typically prior to a lawsuit or threat of a lawsuit.<sup>171</sup> The patent holder may have to demonstrate that multiple parties have found the royalty rate to be reasonable.<sup>172</sup> Some courts have held that a single licensing agreement may be insufficient and unreliable to prove an established royalty rate.<sup>173</sup> In general, the analyst should consider whether the royalty rate was accepted by enough members in the industry to be considered reasonable. Additionally, the analyst should consider whether or not existing licenses are truly comparable to the dispute between the patent holder and infringer.

<sup>&</sup>lt;sup>170</sup> Uniform Trade Secrets Act with 1985 Amendments, p. 11.

<sup>&</sup>lt;sup>171</sup> Sudiengesellschaft Kohle, m.b.h. v. Dart Indus., 862 F. 2d 1564, 1572 (Fed. Cir. 1988).

<sup>&</sup>lt;sup>172</sup> Trell v. Marlee Electronics Corp., 912 F. 2d 1443, 1446 (Fed. Cir. 1990).

<sup>&</sup>lt;sup>173</sup> Hanson v. Alpine Valley Ski Area, 718 F. 2d 1075, 1078 (Fed. Cir. 1983); Wang Laboratories, Inc. v. Mitsubishi Elec. America, Inc., 860 F. Supp. 1448, 1452 (C.D. Cal. 1993).

In evaluating established or otherwise existing royalty rates for the purposes of determining the reasonable royalty that an infringer should pay the patent holder, it often appears appropriate to suggest royalty adjustments to account for inherent differences between the existing agreement and the hypothetical negotiation (for example, the certainty regarding infringement and validity, or the perceived threat of litigation). Although such differences may be real and suggest the need for an adjustment, the analyst should not fail to consider all the inherent differences between actual negotiations and hypothetical negotiations. For example, actual negotiations usually include the transfer of knowledge and know-how, as well as documentation and sometimes continued support. These items, often of substantial value, are normally not transferred to infringers. The analyst should use caution when deciding how to properly quantify the overall royalty adjustment.

# **2.4.2. Hypothetical Negotiation**

A reasonable royalty analysis attempts to determine a royalty the patent owner would have obtained in an arm's-length "hypothetical negotiation" between the patent owner (as a willing licensor) and the infringer (as a willing licensee) just prior to the onset of infringement. This "hypothetical negotiation" analysis is inherently different from a "real-world" negotiation, in that it assumes that both parties agree the patent is valid and that the infringer's use of the technology is infringing. In light of the artificial nature of the hypothetical negotiation, a patent owner is not required to prove the reasonable royalty and its resulting damages with exact certainty but rather "as a matter of just and reasonable inference."<sup>174</sup> (In this regard, refer to Section 2.3.2.9., "Entire Market Value Rule.")

The hypothetical negotiation assumes that both parties would have been willing and able to negotiate a license agreement and that the negotiation took place at the time of first infringement. While the hypothetical negotiation is assumed to occur at the time of first infringement, it would be wrong to conclude that this timing should generally result in a "last minute premium" to be applied to the reasonable royalty.

It may appear that, like in a valuation, only information available as of the date of the supposed hypothetical negotiation could be used to determine the value of the royalty. However, despite the fact that the hypothetical negotiation should be as of the date of first infringement, the courts have considered information subsequent to the hypothetical negotiation date in determining the damage award.<sup>175</sup> This information is typically referred to as the "Book of Wisdom."

In deciding the reasonable royalty issues, the *Panduit* court addressed the following issues concerning the hypothetical negotiation:

<sup>&</sup>lt;sup>174</sup> SmithKline Diagnostics, Inc. v. Helena Laboratories Corp., 926 F.2d 1161 (Fed. Cir. 1991).

<sup>&</sup>lt;sup>175</sup> Fromson v. Western Litho Plate & Supply Co., 853 F.2d 1568 (Fed. Cir. 1988).

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. Except for the limited risk that the patent owner, over years of litigation, might meet the heavy burden of proving the four elements required for recovery of lost profits, the infringer would have nothing to lose, and every-thing to gain if he could count on paying only the normal, routine royalty non-infringers might have paid. As said by this court in another context, the infringer would be in a 'heads-I-win, tails-you-lose' position.<sup>176</sup>

The analyst understands that in an actual negotiation between a willing buyer and a willing seller, neither party is required to undertake the transaction. However, in a hypothetical negotiation, both parties are required to consummate the transaction. Therefore, the hypothetical negotiation needs to consider the specific circumstances surrounding both parties, such as financial position, competitive strategies, and market position.

A seminal case for determining a reasonable royalty rate is *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, which identified 15 factors that need to be considered in a reasonable royalty rate calculation. These factors are discussed in the following sections.

#### 2.4.2.1. Georgia-Pacific Factors

*Georgia-Pacific Corp. v. U.S. Plywood Corp.*<sup>177</sup> provided a list of 15 factors that the court considered important in determining a reasonable royalty rate. These factors have been widely adopted by the courts for use in calculating a reasonable royalty rate in a patent case. Not all of the factors will be considered in each case, nor will they all have the same level of importance in each case. In discussing the 15 factors, the court indicated that ". . . there is no formula by which these factors can be rated precisely in the order of their relative importance or by which their economic significance can be automatically transduced into their pecuniary equivalent."<sup>178</sup>

The 15 Georgia Pacific factors are as follows:

- 1. The royalties received by the patent holder for the licensing of the patent in suit, proving or tending to prove an established royalty.
- 2. The rates paid by the licensee for the use of other patents comparable to the patent in suit.
- 3. The nature and scope of the license, as exclusive or non-exclusive, or as restricted or nonrestricted in terms of territory or with respect to whom the manufactured product may be sold.

<sup>&</sup>lt;sup>176</sup> Panduit Corp. v. Stahlin Bros. Fibre Works, 575 F.2d 1152, 1158 (Sixth Cir. 1978)

<sup>&</sup>lt;sup>177</sup> Georgia-Pacific Corp. v. United States Plywood Corp., 318 F. Supp. 1116 (S.D.N.Y. 1970), modified, 446 F.2d 295 (Second Cir. 1970), cert. denied, 404 U.S. 870 (1971).

<sup>&</sup>lt;sup>178</sup> Ibid.

- 4. The licensor's established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special circumstances designed to preserve that monopoly.
- 5. The commercial relationship between the licensor and licensee, such as whether they are competitors in the same territory in the same line of business or whether they are inventor and promoter.
- 6. The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his nonpatented item; and the extent of such derivative or convoyed sales.
- 7. The duration of the patent and the term of the license.
- 8. The established profitability of the product made under the patent, its commercial success, and its current popularity.
- 9. The utility and advantages of the patent property over the old modes or devices, if any, which had been used for working out similar results.
- 10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention.
- 11. The extent to which the infringer has made use of the invention, and any evidence probative of the value of that use.
- 12. The portion of the profit or of the selling price that may be customary in the particular business or in a comparable business to allow for the use of the invention or analogous inventions.
- 13. The portion of the realizable profit that should be credited to the invention as distinguished from nonpatented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer.
- 14. The opinion testimony of qualified experts.
- 15. The amount that a licensor (such as the patent holder) and a licensee (such as the infringer) would have agreed upon if both had reasonably and voluntarily tried to reach an agreement; that is, the amount that a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit and the amount that would have been acceptable by a prudent patent holder who was willing to grant a license.<sup>179</sup>

#### 2.4.2.2. Classification of the Georgia-Pacific Factors

A treatise on the subject of intellectual property law and damages classifies the 15 *Georgia-Pacific* factors into two broad groupings of: (1) licensing activity (including prior and existing licenses, licensing policies and industry customs); and (2) the value of the patent (including anticipated profits, benefits of the invention, value of the invention, available non-infringing alter-

<sup>&</sup>lt;sup>179</sup> Ibid.

natives, and the duration of the patent).<sup>180</sup> The treatise's valuable description of the interplay of the issues presented in the *Georgia-Pacific* case and the hypothetical negotiation follows:<sup>181</sup>

#### [a] Licensing Activity

The patent owner's and the industry's licensing activity naturally plays an important role in determining a reasonable royalty award. Although prior licenses sold by a patent owner may be insufficient to create an established royalty rate, these prior or existing rates are carefully weighed by the courts in determining a reasonable royalty. The courts reason that the actual results reached by a willing seller and willing buyer in a similar patent negotiation should reasonably mirror any hypothetical negotiation between patent owner and the defendant at the time of infringement.<sup>182</sup> Additionally, even if the prior licenses were obtained under threat of litigation or in settlement, the royalty rate of the license is still some evidence of a reasonable royalty.<sup>183</sup>

In addition to the rates paid by other licensees, the rates paid by other industry participants for comparable patents may be used in calculating damages. Because, in most cases, a hypothetical negotiation would be undertaken without knowledge as to the future profitability of the patented invention, the courts reason that the willing buyer and the willing seller would be guided by the customary practice in the industry. Recognizing the unfairness of "rewarding" an infringer by permitting an award equal to that which would have been negotiated if the defendant was not an adjudicated infringer, however, the Federal Circuit has affirmed cases awarding substantially higher royalty rates than would have been negotiated under industry norms.<sup>184</sup> Thus, "industry custom" is rarely given decisive effect due to the generally unique character of both the

<sup>&</sup>lt;sup>180</sup> J. T. Thomas, D. A. Segal and H. M. Lyon; Terence P. Ross, Editor. *Intellectual Property Law Damages and Remedies: Updated through Release 4*, New York: Law Journal Press, p. 3-58.

<sup>&</sup>lt;sup>181</sup> Ibid. The following is a reprint of subsections 3.08[1][a] and [b].

<sup>&</sup>lt;sup>182</sup> See, e.g.:

*First Circuit: Bose Corp. v. JBL, Inc.*, 112 F. Supp.2d 138, 165 (N.D. Mass. 2000) ("Lacking an established royalty rate, the Court must retroactively construct a hypothetical 'arms-length' negotiation between a willing licensor and willing licensee to determine the royalty rate upon which the parties would have agreed.")

*Seventh Circuit: Northlake Marketing & Supply, Inc. v. Glaverbel*, 72 F. Supp.2d 893, 902 (N.D. Ill. 1999) ("Such a reasonable royalty is determined based upon a hypothetical negotiation between the patent owner and the infringer, at the time the infringement began, with both parties to the negotiation assuming that the patent is valid and would be infringed but for the license.")

Ninth Circuit: Underwater Devices, Inc. v. Morrison-Knudson Co., 217 U.S.P.Q. (BNA) 1039, 1064 (D. Haw. 1982), rev'd in part on other grounds, Underwater Devices, Inc. v. Morrison-Knudsen Co., 717 F.2d 1380 (Fed. Cir. 1983) (a reasonable measure of damages was set by the royalty charged by the patent owner to the licensees); Laitram Corp. v. Depoe Bay Fish Co., 549 F. Supp. 29, 36 (D. Ore. 1982) (for nearly the entire period of the patent, the patent owner charged a standard license fee to all users of its patented process).

<sup>&</sup>lt;sup>183</sup> See, e.g., *Century Wrecker Corp. v. E. R. Buske Manufacturing Co., Inc.*, 898 F. Supp. 1334, 1338-1341 (N.D. Iowa 1995).

<sup>&</sup>lt;sup>184</sup> See, e.g.: *Radio Steel & Manufacturing Co. v. MTD Products, Inc.*, 788 F.2d 1554, 1556 (Fed. Cir. 1986) (affirming an award of 10 percent reasonable royalty despite evidence establishing that the infringer in fact expected a net profit of only 6 percent); *BioRad Laboratories, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 617 (Fed. Cir. 1984), *cert. denied* 469 U.S. 1038 (1985) (affirming a 33 percent royalty despite an industry standard of only 3 to 10 percent).

patented invention and the market circumstances under which the license would be purchased and utilized.<sup>185</sup>

Despite the fact that the fifteen factors used to determine a reasonable royalty are based on the premise that a hypothetical negotiation took place, the courts properly give weight to any restrictive licensing policies of the patent owner. A formal written policy does not have to exist; rather, the patent owner's licensing policy can be established by taking into account its prior licensing activities. Furthermore, no matter what the policy or prior licensing activity, a patent owner may wish to demonstrate that it had the capacity to make the infringing sales and, accordingly, the patent owner would not have licensed the defendant without substantial financial inducement.<sup>186</sup>

The rationale behind giving any consideration to the patent owner's licensing policies is that if the patent owner generally refuses to grant licenses to its invention, a higher royalty would be justified in order to induce the hypothetical sale. Some courts have arbitrarily applied a high arithmetical weight to this factor, thereby justifying a higher-than-market royalty rate.<sup>187</sup> On the other hand, some courts have assigned little value to the patent owner's licensing policy and thus found relatively conservative reasonable royalty rates.<sup>188</sup>

#### [b] Value of the Patent

All of the factors in the second category of the fifteen Georgia-Pacific factors relate to the value of the patent generally and to the defendant specifically. It is axiomatic that the perception of the parties to a negotiation about the value of the patent would be important in determining the outcome of those negotiations. Accordingly, the courts consider what the defendant infringer anticipates its profits and cost savings would be by using the patent

<sup>&</sup>lt;sup>185</sup> See, e.g.:

*Fourth Circuit: Tights, Inc. v.* Kayser-*Roth Corp.*, 442 F. Supp. 159, 163 (M.D.N.C. 1977) ("The Court finds this evidence [of license agreements for the patent-in-suit] more reliable for what the parties would consider the worth of the invention than any evidence of royalties paid on comparable patents.")

*Eighth Circuit: Austin-Western Road Machinery Co. v. Disc Grader & Plow Co.*, 291 F. 301, 305 (Eighth Cir. 1923), *cert. denied*, 263 U.S. 717 (1924) ("Royalties paid in more or less similar situations would be considered, although the weight of such evidence in any particular case might be slight.")

<sup>&</sup>lt;sup>186</sup> See, e.g.:

Second Circuit: Shamrock Technologies Inc. v. Medical Sterilization Inc., 808 F. Supp. 932, 942 (E.D.N.Y 1992), *aff'd*, 28 U.S.P.Q.2d (BNA) 1693 (Fed. Cir. 1993) ("We . . . consider the use [the infringer] made of the [patented] process in competing with [the patentee].")

Third Circuit: Total Containment, Inc. v. Environ Products, Inc., 921 F. Supp. 1355, 1401 (E.D. Pa. 1995), aff'd, 106 F.3d 427 (Fed. Cir. 1997); Mobil Oil Corp. v. Amoco Chemicals Corp., 915 F. Supp. 1333, 1359 (D. Del. 1994) (parties "were not truly competitors").

*Sixth Circuit: Minco, Inc. v. Combustion Engineering, Inc.*, 903 F. Supp. 1204, 1223-1224 (E.D. Tenn. 1995), *aff'd* 95 F.3d 1109 (Fed. Cir. 1996) (20% royalty appropriate because the patent owner "had a very high profitability rate" (53 percent) and the infringer "had a strong need to gain the advantages of the patented" product).

Seventh Circuit: American Medical Systems Inc. v. Medical Engineering Corp., 794 F. Supp. 1370, 1394 (E.D. Wis. 1992), aff'd in part, rev'd in part and remanded, 6 F.3d 1523 (Fed. Cir. 1993) ("[The patentee] had little incentive to license [its] patent. [It] was using the patent, and had the manufacturing capacity to meet demand for pre-filled self-contained prosthesis. By granting [the infringer] a license, [it] would have been assisting the competition in a highly competitive market, and in a sub-market where it clearly was gaining an edge.")

<sup>&</sup>lt;sup>187</sup> See, e.g., SmithKline Diagnostics, Inc. v. Helena Laboratories Corp., 926 F.2d 1161, 1168 (Fed. Cir. 1991).

<sup>&</sup>lt;sup>188</sup> See, e.g., Andrew Corp. v. Gabriel Electronics, Inc., 785 F. Supp. 1041, 1054 (N.D. Me. 1992).

compared to use of non-infringing devices or processes. Again, a willing buyer would only agree to a royalty if it was predictable that he would obtain an economic benefit, such as a higher projected profit.

In determining anticipated profits at the time of the hypothetical negotiation, the courts often consider the infringer's actual profit performance over the period of infringement.<sup>189</sup> Even though the courts look to anticipated profits, the reasonable royalty award is not a lost profits damage theory. Indeed, because the determination of a reasonable royalty should be based on anticipated profits, "there is no rule that a royalty be no higher than the infringer's net profit margin."<sup>190</sup> In fact, the Federal Circuit has held that it is irrelevant that the infringer did not actually meet its anticipated profit projections.<sup>191</sup>

Additionally, although "[t]he established royalty rate . . . should be applied only to *sales of infringing products* to avoid running afoul of the policy in patent law against extending patents beyond their lawful scope," the courts recognize that the infringer's anticipated profits may include collateral benefits in addition to direct profits from the patented invention, which the parties would take into account in negotiating a reasonable royalty rate.<sup>192</sup> In other words, a potential licensee would consider the profits that it would obtain from convoyed sales of parts, supplies, accessories, and related products, as well as those profits that flow or would be expected to flow from the right to manufacture, use or sell that patented invention. The theory is that "[w]here a hypothetical licensee would have anticipated increased convoyed sales as a result of a patent license, such sales may be considered in fixing a reasonable royalty rate because the licensee would in theory be disposed to pay a higher royalty if it could expect such collateral benefits."<sup>193</sup> Moreover, if the patent owner is in the business of selling the patented product, he would have demanded a higher royalty to compensate for the loss of such collateral benefits.

In addition, in determining the value of the patent, the relative contribution of the patented feature is a factor that is taken into account. If the contribution of the patented invention is significant, a higher royalty would have resulted from the hypothetical negotiation.<sup>194</sup> Conversely, if the patent were less significant, then a "willing buyer" would have been less willing to pay a higher royalty. In assessing the relative importance of this factor, courts may look to whether the patent was a "pioneer patent," under the theory that a pioneer patent has manifest commercial success.<sup>195</sup> Nevertheless, because the relative contribution of a patented invention varies greatly within each field and for each patent, the weight accorded this factor varies with the circumstances of the individual case.

<sup>&</sup>lt;sup>189</sup> See, e.g., *Trell v. Marlee Electronics Corp.*, 912 F.2d 1443, 1446 (Fed. Cir. 1990). See also, *Bose Corp. v. JBL*, *Inc.*, 112 F. Supp.2d 138, 168 (D. Mass. 2000) (examining the infringer's sales over the infringement period).

<sup>&</sup>lt;sup>190</sup> State Industries, Inc. v. Mor-Flo Industries, Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989), cert. denied, 493 U.S. 1022 (1990).

<sup>&</sup>lt;sup>191</sup> See Interactive Pictures Corp. v. Infinite Pictures Corp., 274 F.3d 1371, 1384–1385 (Fed. Cir. 2002).

<sup>&</sup>lt;sup>192</sup> A & L Technology v. Resound Corp., 1995 WL 415146 (N.D. Calif. 1995) (Emphasis added).

<sup>&</sup>lt;sup>193</sup> Ibid.

<sup>&</sup>lt;sup>194</sup> See *Golight, Inc. v. Wal-Mart Stores, Inc.*, 216 F. Supp. 2d 1175, 1184 (D. Colo. 2002) ("a large portion of the realizable profit should be attributed to the uniqueness of the invention patented").

<sup>&</sup>lt;sup>195</sup> See, e.g., *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1554 (Fed. Cir.) (*en banc*), cert. denied, 516 U.S. 867 (1995).

It is also assumed that a "willing buyer" in a hypothetical negotiation would be more disposed to pay a higher royalty if the patented invention was fully developed and commercially in place. The rationale is that the buyer would have to expend less time and capital to bring its product or service to market. As such, a buyer would pay more for a "developed" invention than for one that the buyer was required to spend substantial capital and investment to develop, market, use or commercialize.

Another important factor that is considered in the hypothetical negotiation is the remaining term of the patent at the time of the infringement. Generally, it is believed that a buyer would have been more likely to agree to a higher royalty the longer the remaining term of the patent. A defendant, however, may argue that the longer the remaining patent term, the lower the royalty. That is, knowing it would have to pay considerable royalties for an extended period, the defendant may argue that it would have had a greater incentive to design around the patent.<sup>196</sup>

Finally, in assessing a reasonable royalty, the courts will take into consideration whether the defendant had any non-infringing alternatives that were equal in terms of cost and performance. If a non-infringing alternative exists, the defendant, as the "willing buyer," "would have been in a stronger position to negotiate for a lower royalty rate knowing it had a competitive noninfringing device in the wings."<sup>197</sup> The defendant infringer, however, must prove that: (1) the alternative is sufficiently similar to the infringed patent, and (2) the non-infringing alternative was available, that is, in existence and covered by a patent owned by a third party, at the time the infringer's copying of the patented invention demonstrates that the invention is not "worthless," but rather shows that the invention has "several advantages" over the proposed non-infringing alternatives.

#### 2.4.2.3. Date of Hypothetical Negotiation

For measuring reasonable royalty rates, the courts have looked to the date when infringement first began. The hypothetical licensor and licensee are assumed to voluntarily meet on that date with information that addresses the first fourteen *Georgia-Pacific* factors and agree upon a reasonable royalty. This form of analysis limits the information available for the hypothetical negotiation to that available (1) before the commercial success of the patent could be determined, (2) before actual profitability could be determined, and (3) even before customer acceptance could be determined. It limits the estimation of a reasonable royalty to budget, forecast, plan pricing, and project operating costs, and, therefore, projections of profits.

<sup>&</sup>lt;sup>196</sup> See, e.g., *Schneider (Europe) AG v. SciMed Life Systems*, 852 F. Supp. 813, 848 (D. Minn. 1994) ("At the time of the hypothetical negotiation, the . . . patent still had fourteen years left. This factor tends to favor [the infringer] and decreases the reasonable royalty rate slightly.").

<sup>&</sup>lt;sup>197</sup> Zygo Corp. v. Wyko Corp., 79 F.3d 1563, 1571-1572 (Fed. Cir. 1996).

<sup>&</sup>lt;sup>198</sup> See generally, 7 *Chisum on Patents*, § 20.03[3][b][v] (2000).

<sup>&</sup>lt;sup>199</sup> See, e.g., GNB Battery Technologies, Inc. v. Exide Corp., 886 F. Supp. 420, 439 (D. Del. 1995).

Notably, it is often many years after infringement starts before the patent holder becomes aware of the infringement, brings suit against the defendant, and litigates the issues. In addition, trials often are held years after the patent holder notifies the infringer of infringement and the infringement suit is filed. During this extended period, much information becomes available about the patent and its success that might not have been anticipated or available at the hypothetical negotiation date when infringement began. As a result, the analyses and outcomes under the first fourteen *Georgia-Pacific* factors will often be different if the court limits itself to information available on or before the date of first infringement.

The courts have addressed the use of information that becomes available only after the date at which the hypothetical negotiation is assumed to have taken place (the date of first infringement). For example, in *Fromson v. Western Litho Plate and Supply Company*, the court stated that "[t]he methodology encompasses fantasy and flexibility; fantasy because it requires a court to imagine what warring parties would have agreed to as willing negotiators; flexibility because it speaks of negotiations as of the time infringement began, yet permits and often requires a court to look to events and facts that occurred thereafter and that could not have been known to or predicted by the hypothesized negotiators."<sup>200</sup>

Some courts have cautioned against treating the negotiation as one with full knowledge of future events. In *Integra Lifesciences v. Merck*, the Federal Circuit ruled that "[t]he first step in a reasonable royalty calculation is to ascertain the date on which the hypothetical negotiation in advance of infringement would have occurred."<sup>201</sup> The Federal Circuit went on to reverse and remand the reasonable royalty verdict because "the record does not clearly indicate whether 1994 or 1995 is the proper date for the first infringement."<sup>202</sup> In its opinion, the court emphasized the importance of determining the first date of infringement because "[t]he value of a hypothetical license negotiated in 1994 could be dramatically different from one undertaken in 1995 . . . [as] a year can make a great difference in economic risks and rewards."<sup>203</sup>

### 2.4.2.4. Analyses to Support an Opinion on a Hypothetical Negotiation

To maximize the effectiveness of an analysis of a hypothetical negotiation, the expert may want to perform the following types of analysis, depending on the facts of the case, consistent with the *Georgia Pacific* and hypothetical negotiation parameters:

<sup>&</sup>lt;sup>200</sup> Fromson v. Western Litho Plate and Supply Company, 853 F.2d 1568, 1575 (Fed. Cir. 1988).

<sup>&</sup>lt;sup>201</sup> Integra Lifesciences v. Merck, 331 F.3d 860, 870 (Fed. Cir. 2003).

<sup>&</sup>lt;sup>202</sup> Ibid.

<sup>&</sup>lt;sup>203</sup> Ibid.

Georgia Pacific		
Factor(s)	Analysis	Where to Find
1, 2, 3	Review of existing license agreements pertaining to the intellectual property in suit or similar intellectual property. These agreements may be between plaintiff and defendant, between either of the parties and others not involved in the suit, or between parties not involved in the suit. In general, the closer the technology and the parties, the more relevant the agreements.	Commercial royalty databases, public filings, licenses involving the parties to the case (often produced in discovery), financial records of the parties.
8, 12, 13	Profitability of products covered by the intellectual property in suit compared to that of other products.	Company financial records, public filings, sales reports, and invoices.
8, 9, 10	Review of marketing materials to determine the importance of the covered feature to the sales and profitability of covered and infringing products.	Company financial statements, internal company correspondence, marketing plans, correspondence with customers, sales training materials, customer opinion surveys.
5	Documents pertaining to the competitive relationship between the companies.	Internal correspondence, licensing history and correspondence, each party's customer list.
4	Documents pertaining to the amount of protection and effort the plaintiff places on its intellectual property.	Correspondence, testimony of company management.
9	Cost savings and other benefits of the intellectual property in suit.	Internal correspondence, financial records, and correspondence.
15	Financial position of companies and need for intellectual property and product sales.	Financial statements and records over time, particularly as of date of first infringement.
6	Collateral sales and related product sales.	Sales invoices showing how often the products are sold together, marketing literature.

# 2.4.3. Updates to Georgia-Pacific

In *Honeywell v. Minolta*, the court's jury instructions provided a list of factors to consider when determining a reasonable royalty.<sup>204</sup> This list—which differs somewhat from the *Georgia Pacific* list of 15 factors—includes the following factors:

- 1. The anticipated amount of profits the prospective licensor reasonably thinks would be lost, as a result of licensing the patent, compared to the anticipated royalty income.
- 2. The relative bargaining strengths of both the patent owner and the infringer.
- 3. The anticipated net profits that the prospective infringer reasonably thinks they will earn.

<sup>&</sup>lt;sup>204</sup> *Honeywell v Minolta*, Civil Nos. 87-4847, 88-1624 (N.D. N.J. 1992), jury instructions at 69.

- 4. The commercial past performance of the product, i.e., in terms of profits and public acceptance.
- 5. The market to be "tapped."
- 6. Any other economic factor that would be taken into account by a normally prudent businessman, under similar circumstances, when negotiating a hypothetical license.

Although the *Georgia-Pacific* and *Honeywell v. Minolta* factors provide guidelines when determining a reasonable royalty, they do not represent the only viable approaches to determining a reasonable royalty. "The amount of a reasonable royalty after infringement turns on the facts of each case, as best they may be determined."<sup>205</sup> For assistance in the establishment of a royalty rate, the analyst may want to consult searchable databases such as those identified on Appendix A.

### 2.4.4. Other Methods of Measurement

#### 2.4.4.1. The 25-Percent Rule

Under this methodology, the royalty rate is set between 25 and 33 percent of operating profit depending on a number of factors and considerations between the patent holder and the infringer.<sup>206</sup> The rationale for leaving between 67 and 75 percent of the profits to the licensee is the assumption of greater financial risk in commercializing the technology.

Although this methodology has received criticism for being overly simplistic, it has proven useful to the courts:

The 25% rule is a shorthand phrase for a method of dividing expected profit between a licensor and licensee. It divides net pretax profit with normally 25% of that profit being paid to the licensor as a reasonable royalty, while 75% is reserved to the licensee as its profit for the risks attendant to manufacturing and marketing. Normally, the net profit that is divided is . . . that of the licensee. Sometimes the licensor's net profit rate may be used, however, where the licensee's profit rate is not known. While a trial court is not limited to selecting one or the other of the specific royalty figures proposed by the opposing parties, *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 926 F.2d at 1168, the court here finds that the 25% rule is an appropriate rationale for determining a base royalty rate. Defendant's licensing expert, Mr. Robert Goldscheider, noted that he first became familiar with the 75%/25% distribution of licensing profits when he began to do licensing work in 1959 and 1960. Since that time, defendant's expert has participated in several hundred licensing negotiations involving intellectual property, and, according to Mr. Goldscheider, he and "at least two other highly respected pioneers in the field of licensing" have written published works concerning

<sup>&</sup>lt;sup>205</sup> Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152 (Sixth Cir. 1978).

<sup>&</sup>lt;sup>206</sup> M. A. Glick. *Intellectual Property: The Law and Economics of Patent Infringement Damages*. http://www.econ.utah.edu/ les/version\_2.0/papers/law&econpats.htm. See, e.g., Robert Goldscheider, *The Licensing Law Handbook* (1993–94). Reference to this rule can be found in *Tektronix, Inc. v. U.S.*, 552 F.2d 343, 350 (Ct. Cl. 1977); *Paper Converting Machine Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 22 (Fed. Cir. 1984); *Syntex Inc. v. Paragon Optical Inc.*, 7 U.S.P.Q. 2d 1001, 1027 (D. Ariz. 1987); and *Polaroid Corp. v. Eastman Kodak Co.*, 16 U.S.P.Q. 2d 1481, 1535 (D. Mass. 1990). See also: R. Goldscheider, J. Jarosz, and C. Mulhern. *Use of the 25 Per Cent Rule in Valuing IP, les Nouvelles*, pp. 123– 133, December 2002.

the 25% rule. In addition, the 25% rule or a close variant of it has been recognized by a number of other federal courts as a "rule of thumb" or "typical" in the licensing field.<sup>207</sup>

Although sole reliance on the 25 percent rule may not be appropriate, the rule may be useful as a starting point or frame of reference. The results should be adjusted based on all relevant facts and circumstances.

#### 2.4.4.2. The Analytical Method

Another measurement methodology is the *analytical method*. The royalty calculation under this method is based on the infringer's own internal profit projections for the infringing item at the time the infringement began. The analytical method is based on the premise that any rate of return in excess of a normal rate of return can be attributed to the patent. This method takes the profits of the infringer, subtracts the infringer's normal profit, and awards some portion of the remainder to the patent owner.

For example, in *TWM Mfg. Co., Inc. v. Dura Corp.*,<sup>208</sup> the Special Master computed "reasonable royalty" damages based on an internal memorandum, written by the infringer's top management before the infringement began. The memo indicated that the infringer projected a substantial gross profit (52.7 percent) from the proposed infringing sales. Using this figure, the Special Master subtracted overhead expenses to obtain the infringer's projected net operating profit (37 percent to 42 percent) and then divided the projected net operating profit between the infringer and the patent holder. The Special Master concluded that, at the time infringement began, the infringer would have accepted the standard industry profit on the item. The profit for the infringer was set at the standard industry rate (6.6 percent to 12.5 percent), and the remaining 30 percent became the "reasonable royalty."

On appeal to the Federal Circuit, the infringer contended that it was erroneous for the Special Master to use this method, asserting that the more traditional "willing licensor-willing licensee" test was legally mandated. The infringer also downplayed the significance of its pre-infringement memorandum, highlighting instead that the actual profits realized on the infringing products were much lower than the projected figures. The Federal Circuit, however, rejected the infringer's contentions and affirmed the award. After noting that there is no single way to determine patent damages, the Federal Circuit held that it was of no consequence that a lesser royalty may have resulted from another analysis.<sup>209</sup> "On appeal, an infringer cannot successfully argue that the district court abused its discretion in awarding 'high' royalty by simply substituting its own recomputation to arrive at a lower figure."<sup>210</sup> The only relevant question was whether or not

<sup>&</sup>lt;sup>207</sup> Standard Manufacturing Co., Inc. and DBP, Ltd. v. United States, 42 Fed.Cl. 748 (1999).

<sup>&</sup>lt;sup>208</sup> TWM Mfg. Co., Inc. v. Dura Corp., 789 F.2d 895, 899 (Fed. Cir. 1986).

<sup>&</sup>lt;sup>209</sup> Ibid.

<sup>&</sup>lt;sup>210</sup> Ibid.

the method used by the lower court was proper, and the appellate court concluded that it was. In particular, the Federal Circuit upheld the Special Master's use of the analytical method because, unlike the infringer's alternative, it focused on the critical time when infringement began rather than thereafter.

Although making profit projections is typically not straightforward, an advantage of the analytical method to the patent holder is that it attempts to use the information upon which the infringer based its decision to infringe. In some cases, pre-infringement projections can become a real impediment to the infringer in the midst of litigation. As discussed above, the courts have found pre-infringement memorandums and projections to be particularly relevant, since the infringer based its decision to manufacture and market the infringing product on the very information being used to determine the reasonable royalty amount.

An infringer's defense to a reasonable royalty case based on the analytical method is often to attack its own profit projections. Rather than present evidence of a lower actual profit margin or evidence dated after the date infringement first began, the infringer attempts to undercut the reliability of its own proprietary documents dating from the time when infringement began.

#### 2.4.4.3. Discounted Cash Flow Analysis

Discounted cash flow analysis is a method of valuing an investment based on the estimated future cash flows, taking into consideration the time value of money.<sup>211</sup> "The discounted cash flow (DCF) method for determining a corporation's enterprise value has three main components: (a) an estimation of net cash flows that the firm will generate and when, over some period; (b) a terminal or residual value equal to the future value, as of the end of the projection period, of the firm's cash flows beyond the projection period; and (c) a cost of capital with which to discount to a present value both the projected net cash flows and the estimated terminal or residual value . . . [with] 'terminal value' [being] the value of cash flows expected to be received by the company beyond the 'terminal year' (which is the final year for which particularized cash flow projections are made) discounted to the 'present value'. . . "<sup>212</sup>

### 2.4.5. Reasonable Royalty in Copyright Disputes

In copyright disputes, if the copyright owner and the infringer compete in the same market, the courts may use a *lost sales* measurement to compensate for the sales that would have been made "but for" the defendant's infringement. If the owner and infringer serve different markets, the courts may use a *reasonable royalty* or *market value* test to determine the hypothetical reasonable royalty that the copyright owner would have received for the defendant's use. In a

<sup>&</sup>lt;sup>211</sup> P.E. Fess and C. S. Warren, *Accounting Principles*, Sixteenth Edition. *Cincinnati, OH:* South-Western Publishing Co., p. 1104, 1990.

<sup>&</sup>lt;sup>212</sup> Steiner Corp. v. Benninghoff, 5 F. Supp. 2d 1117 (D. Nev. 1998).

dual market context, some courts have held that the value lost by the copyright owner should be approximated from the infringer's acts that prevented the copyright owner from taking advantage of that particular market.

Unlike the patent law, the Copyright Act makes no mention of treating a reasonable royalty as a minimum damage measure. Not unlike the patent law, however, the question posed by Section 504(b) is "what a willing buyer would have been reasonably required to pay to a willing seller for plaintiffs' work."<sup>213</sup>

The measurement of damages for copyright infringement is not as well established as that for patent infringement, in large part because appeals of copyright cases are taken to the appellate court in the region in which the case was filed, rather than solely to the Federal Circuit. This causes judicial precedent in copyright cases to be regional in nature rather than national in scope. The copyright analyst is advised to seek counsel's input and review case law from per-tinent jurisdictions.

If the court selects a reasonable royalty measure of damages, it may attempt to determine the amount that the infringer would have paid for the right to use the copyrighted work legally. Just as in patent cases, any preexisting licenses may offer a measure of the appropriate reasonable royalty.<sup>214</sup> For example, in *McRoberts Software, Inc. v. Media 100, Inc.*, the court determined that the jury had ample evidence from which to estimate the value of the competitor's use of the copyrighted source code and arrive at its \$1.2 million actual damage award for copyright infringement. Finding that the jury had evidence of the copyright owner's past agreements with the infringing competitor to develop and modify prior versions of the copyrighted material, the court ruled that there was a sufficient basis for the damage award.<sup>215</sup>

The reasonable royalty may take the form of a lump sum representing the reasonable value of the work. Alternatively, the royalty may be a percentage of the licensee's profits. In *On Davis v. The Gap, Inc.*, the court determined that a copyright owner's loss of a reasonable royalty or license fee to which a willing buyer and a willing seller would have agreed may serve as its "actual damages" supporting recovery under the Copyright Act.<sup>216</sup>

A defendant may attempt to distinguish preexisting licenses based on (1) the types of uses that they authorized, (2) the amount of the copyrighted work that was used, and (3) the changing value of the copyrighted work over time.

<sup>&</sup>lt;sup>213</sup> Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc., 772 F.2d 505, 512 (Ninth Cir. 1985).

<sup>&</sup>lt;sup>214</sup> Rogers v. Koons, 960 F.2d 301, 313 (Second Cir. 1992).

<sup>&</sup>lt;sup>215</sup> McRoberts Software, Inc. v. Media 100, Inc., 329 F.3d 557 (Seventh Cir. 2003).

<sup>&</sup>lt;sup>216</sup> On Davis v. The Gap, Inc., 246 F.3d 152 (Second Cir. 2001).

## **2.4.6 Unjust Enrichment**

*Unjust enrichment* is an alternative damages measure to compensatory damages. While compensatory damages seek to restore the plaintiff to the financial position in which it would have been but for the defendant's wrongful act, unjust enrichment seeks to deprive the defendant of whatever gain or benefit it obtained from the wrongful act. In essence, unjust enrichment compels the defendant to disgorge all ill-gotten gains to the owner of the infringed intellectual property.

As discussed previously, Dan Dobbs (in his book *Dobbs Law of Remedies: Damages—Equity Restitution*) identified five methods for measuring the gain obtained by a defendant for purposes of an unjust enrichment award.<sup>217</sup> The unjust enrichment remedy is frequently employed by the courts in copyright, trademark, and trade secret litigation and is incorporated in the federal statutes governing intellectual property. With respect to copyrights, Section 504(b) of the Copyright Act provides that "[t]he copyright owner 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."<sup>218</sup> Therefore, unless it is duplicative, recovery of both actual damages and the defendant's profits is allowed.

With respect to trademarks, the Lanham Act authorizes a trademark owner to recover both the infringer's profits and its own damages sustained "subject to the principles of equity and upon such terms as the court deems reasonable . . ."<sup>219</sup>

The UTSA provides that, in addition to recovering its actual loss, a trade secret owner may recover the "unjust enrichment" caused by the misappropriation to the extent the enrichment is not taken into account in calculating the owner's actual loss.<sup>220</sup> Unjust enrichment is also permitted as a measure of damages in design patent disputes, but it is unavailable for utility patents.

A copyright owner may be entitled to recover indirect profits from copyright infringement. However, before doing so, the copyright owner must first demonstrate that the infringing acts had an effect on the profits earned by the infringer.<sup>221</sup> In *Mackie v. Rieser*, the court determined that the artist was not entitled to indirect profits from the symphony's infringement of his copyrighted sculpture, even through an unauthorized photograph of the sculpture was used in an advertising brochure. The court indicated that since it could not determine how many individuals subscribed because of the artist's work, any claim for indirect profit was speculative and unsupported.<sup>222</sup>

<sup>&</sup>lt;sup>217</sup> See Section 2.2.2 above.

<sup>&</sup>lt;sup>218</sup> 17 USC § 504(b).

<sup>&</sup>lt;sup>219</sup> 15 USC § 1125 (c)(1).

<sup>&</sup>lt;sup>220</sup> Uniform Trade Secrets Act with 1985 Amendments, p. 11.

<sup>&</sup>lt;sup>221</sup> Mackie v. Rieser, 296 F.3d 909 (Ninth Cir. 2002).

<sup>&</sup>lt;sup>222</sup> Ibid.

In *Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc.*, the Ninth Circuit Court of Appeals addressed the issue of indirect profits of the infringer.<sup>223</sup> In that case, the court determined that the MGM Grand Hotel had infringed on a music copyright belonging to Frank Music. The music was part of MGM's musical revue entitled *Hallelujah Hollywood* and was heavily promoted to the public as a lead attraction of MGM. After calculating actual damages for infringement, the court determined that the copyright owner was entitled to indirect profits and the court awarded the copyright owner a portion of MGM's total profits. However, before indirect profits may be awarded, the court "must conduct a threshold inquiry into whether there is a legally sufficient causal link between the infringement and the subsequent indirect profits."<sup>224</sup>

Revenues to be included in an unjust enrichment measure of damages may need to reflect application of the entire market value rule. Refer to the discussion in Section 2.3.2.9., "Entire Market Value Rule," above. If more than simply the copyrighted or trademarked work is included in revenues, an apportionment of the resulting profit to the infringement may be necessary. Refer to the discussion in Section 2.4.6.2, "Apportionment," below.

#### 2.4.6.1. Costs in Unjust Enrichment Claims

As indicated above, profits from unjust enrichment, as well as for lost profits, are calculated as sales from the units in question, less costs associated with producing and selling the additional units. In both lost profits and unjust enrichment claims, the burden to prove the sales in question falls on the plaintiff. The burden to prove costs, however, falls on *defendant* in unjust enrichment claims, while it remains with *plaintiff* in claims of lost profits. To prove unjust enrichment, once the fact of damages has been proved, plaintiff bears only the responsibility to prove the quantum of sales, although plaintiff may rebut the testimony of defendant on cost issues.

In *Johnson v. Jones*, the court determined that once the plaintiff in a copyright infringement suit had met the burden of establishing infringer's gross revenue, the burden then shifted to the infringer to prove expenses to deduct from that amount. In the absence of such proof, the plaintiff was entitled to recover the infringer's gross revenue from the infringement. It was not enough that the infringer testified as to the average profit margin, as infringement may allow the infringer to recognize net profit at a much larger profit margin percentage of its gross revenue than in the absence of infringement.<sup>225</sup>

In *On Davis v. The Gap, Inc.*, a copyright case, the Ninth Circuit Court of Appeals narrowed the definition of revenues to be used in the damage claim, stating "we think the term 'gross revenue' under the statute means gross revenue reasonably related to the infringement, not unrelated revenues."<sup>226</sup> In arriving at its decision, the Ninth Circuit relied in part on the Seventh Circuit's 1983

<sup>&</sup>lt;sup>223</sup> Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc., 886 F.2d 1545, 1551 (Ninth Cir. 1989).

<sup>&</sup>lt;sup>224</sup> Mackie v. Reiser, 296 F.3d 909 (Ninth Cir. 2002).

<sup>&</sup>lt;sup>225</sup> Johnson v. Jones, 149 F.3d 494 (Sixth Cir. 1998).

<sup>&</sup>lt;sup>226</sup> On Davis v. The Gap, Inc., 246 F.3d 152, 160 (Ninth Cir. 2001).

decision in *Taylor v. Meirick*, which held that the copyright owner was entitled to profits of the infringer related to infringed product sales, but not on everything the infringer sold. Therefore, to establish a *prima-facie* case, the copyright owner should show the infringer's gross sales of infringing products.<sup>227</sup> Notably, the Seventh Circuit in the *Taylor* case explained its logic in interpreting the statute as follows: "If General Motors were to steal your copyright and put it in a sales brochure, you could not just put a copy of General Motors' corporate income tax return in the record and rest your case for an award of infringer's profits."<sup>228</sup>

Consistent with the discussion above on incremental costs, some courts accept as deductible expenses only those costs directly attributable to the production, distribution, performance, or display of the infringing work. For the infringer to deduct such expenses, it should prove them with a reasonable degree of "specificity."<sup>229</sup> In some federal circuits, the acceptable profit measure is not incremental profit; rather, it is based on a full recognition of the costs related to the infringement, including overhead and fixed costs. Some courts, however, have refused to recognize certain overhead costs. The attorney should provide guidance to the analyst in this area.

A trademark owner is only entitled to receive infringers "profits" under Section 35(a) of the Lanham Act; in other words, the infringer's net revenues. Determining which costs are deductible from gross revenues to arrive at an infringer's profits, however, is not an easy task. There are a number of competing standards for measuring appropriate cost deductions. Under the *differential cost rule*, sometimes referred to as the incremental approach, only specific costs that would not otherwise have been incurred but for the production of the infringing goods are allowed as deductions. Fixed costs, such as rent for manufacturing facilities, would not be deducted. Only variable costs, such as the raw materials and the labor that actually go into manufacturing the infringing product, are allowed as deductions. This is the most favorable rule for trademark owners.

The *direct assistance rule* is a variant of the differential cost rule that is more generous to infringers. Under the direct assistance rule, costs that directly assisted in the production of the infringing goods are allowed as deductions. The benefit to infringers under this rule is that some elements of overhead and general administration are permitted deductions. This is the approach taken under the *Restatement (Third) of Unfair Competition*.

The *fully allocated cost rule*, sometimes referred to as the full absorption approach, is even more generous to infringers. Under this rule, all expense items properly allocated under generally accepted accounting principles to production of the infringing goods are allowed as deductions.<sup>230</sup> The analyst should seek the guidance of counsel on the rules that apply in the relevant jurisdiction.

<sup>&</sup>lt;sup>227</sup> Taylor v. Meirick, 712 F.2d 1112, 1122 (Seventh Cir. 1983).

<sup>&</sup>lt;sup>228</sup> Ibid.

<sup>&</sup>lt;sup>229</sup> Allen-Myland v. International Business Machines Corp., 770 F. Supp. 1014, 1024 (Third Cir. 1991).

<sup>&</sup>lt;sup>230</sup> Terence P. Ross, Editor. *Intellectual Property Law Damages and Remedies: Updated through Release 4*, New York: Law Journal Press, p. 4-28, 4-29, 2003.

### 2.4.6.2. Apportionment

The Copyright Act, the Lanham Act, and the UTSA each provide that in an unjust enrichment claim, the intellectual property owner shall recover only the net profits of the infringer *attribut-able to the infringement*. By comparison, in a lost profits claim, all of the profits derived from infringing sales are awardable as damages. As a result, in an unjust enrichment claim, only the portion of profits from infringing sales that can be ascribed to the intellectual property in question are to be awarded.

Similar to the issue of proving deductible costs, in an unjust enrichment claim, it is defendant's responsibility to prove the deduction from sales to adjust for the apportionment of profits to the various assets that contribute to the sale of an infringing item. Plaintiff may rebut the testimony of defendant on this issue.

Some examples of factors relevant to apportionment are:

- 1. Costs of capital.
- 2. Intellectual property elements.
- 3. Business reputation.
- 4. Quality and functionality of product.
- 5. Manufacturing ability.
- 6. Marketing and advertising.
- 7. Hotel guest accommodations.
- 8. Restaurants.
- 9. Talents of producers/directors/performers.

Many other factors can and should be considered in determining the appropriate apportionment.

Since apportionment is required in a disgorgement claim but not in a lost profits claim, a plaintiff typically will attempt to prove lost profits when capable of doing so. Apportionment is also not required in statutory damages.<sup>231</sup>

In general, courts recognize the inherent difficulty in analyzing apportionment. As a result, they tend to require greater certainty in proof of the existence of damages, and exhibit somewhat greater flexibility in the proving of apportionment.

**2.4.6.2.1.** Apportionment Based on Cost. Apportionment should be done on the basis of relative value. In economics, it is common to find that the relative cost or price of a component or element is a fair measure of its relative value. That is, something that costs twice as much is often worth twice as much. If that is true for a particular product, it may be reasonable to apportion profits in proportion to the cost of the components.

<sup>&</sup>lt;sup>231</sup> Nintendo of America, Inc. v. Dragon Pac. Int'l, 40 F.3d 1007, 1010 (Ninth Cir. 1994), cert. denied, 515 U.S. 1107 (1995).

Other cost-based apportionment methodologies may involve elements other than cost of goods sold. For example, in a copyright case involving advertising, the relative cost (and volume) of infringing advertising to total advertising may be one step in the apportionment process. Since a portion of the value of the good being advertised may come from its inherent quality and desirability, and another portion may come from the advertising, the analysis may also include the relative cost of advertising as a whole compared to the cost of goods sold.

Cost-based apportionment is inappropriate if the cost of some elements may not represent their value. This is particularly true if valuable elements are obtained at no cost (for example, because they are already owned by the infringer) or if the cost or value of the elements are not easily measured, such as the value of a brand name. For example, in *Columbia Machine & Stopper Corp. v Adriance Machine Works*,<sup>232</sup> the expert attempted to apportion a machine's profits to the infringing element by using a fraction dividing the cost of the infringing part by the total cost of the machine. The court, however, rejected this approach, finding that part cost was not a fair measure of the relative contribution of the infringing element.

**2.4.6.2.2.** Alternative Non-Infringing Hypothetical Market. This methodology calls for the creation of a hypothetical supplementary yet non-infringing product with a resulting estimate of the profit created by this product. Under this method, the expert would subtract the hypothetical non-infringing profits from the actual profits made during the sale of infringing products and apportion the difference to the infringing feature.

**2.4.6.2.3.** *Volume Basis*. In some cases, the volume of the infringing elements as a portion of the total work is a rational basis for apportionment. For example, in *Frank Music*,<sup>233</sup> the performing act that used the infringing music constituted approximately 12 percent of the show's weekly running time, and the court attributed 12 percent of the show's profits to the infringement.<sup>234</sup> There is, however, no bright line rule.

For example, in *Lottie Joplin Thomas Trust v. Crown Publishers*, the defendant used copyrighted materials in a compilation set.<sup>235</sup> The defendant argued that because the infringing portion comprised 10 percent of the total collection, the plaintiff was entitled to 10 percent of the total profit. The court found this method unacceptable, because the product was marketed as a complete collection and the absence of the infringing material would have had a substantial effect on the overall value of the product. The court ultimately awarded 50 percent of the profits based on the infringed materials, reasoning that the additional products would be purchased to complete the collection.

<sup>&</sup>lt;sup>232</sup> Columbia Machine & Stopper Corp. v. Adriance Machine Works, 79 F.2d 16 (Second Cir. 1935).

<sup>&</sup>lt;sup>233</sup> Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc., 772 F.2d 505, 512 (Ninth Cir. 1985).

<sup>&</sup>lt;sup>234</sup> The Ninth Circuit made adjustments to the 12 percent based on other factors not relevant to this discussion.

<sup>&</sup>lt;sup>235</sup> Lottie Joplin Thomas Trust v. Crown Publishers, 456 F. Supp. 531, 538 (S.D.N.Y. 1977), aff'd, 592 F.2d 651 (Second Cir. 1978).

Similarly, in *Nintendo of America, Inc. v. Dragon Pac. Int'l*, the defendant packaged multiple video games on a single Nintendo cartridge, and the expert argued that because 33 percent of the games packaged on a cartridge were Nintendo games, 33 percent of profits was an appropriate apportionment.<sup>236</sup> The court rejected that argument, reasoning that since the entire cartridge was marketed as a Nintendo product, the plaintiff had received the benefit of the Nintendo trademark on all games included on the cartridge.

#### 2.4.6.3. Stacked Royalties

The question of the value of intellectual property is complicated if the defendant has expenses (either real or imputed based on its own intellectual property contribution) for other intellectual property used with the product in question. For example, if the product uses other patented technology or earns premium pricing due to a trademark, it may be appropriate to consider the other contributory intellectual property assets in the apportionment analysis.

The court addressed this issue in *Integra v. Merck.*<sup>237</sup> In that case, plaintiff's patents related to segments of certain proteins that, by interacting with certain receptors on the surfaces of cells, induced better cell adhesion and growth aimed at promoting wound healing. Integra was awarded \$15 million in reasonable royalty damages at trial. On appeal, the Federal Circuit found that the number of patent licenses needed to develop a drug may also affect the value placed on any single technology used in the development process and remanded the case to the district court for further proceedings. On remand, the court reduced the damages to \$6.375 million.

Stacked royalties can also apply to the determination of a reasonable royalty if multiple licenses exist with a single product.

## 2.5. OTHER DAMAGE CALCULATIONS

In addition to compensatory damages in the form of lost profits, reasonable royalties or unjust enrichment, augmented damages in excess of the compensatory measure of recovery may be awarded in appropriate cases. Augmented damages may include enhanced statutory damages and punitive damages.<sup>238</sup>

Certain intellectual property damage statutes permit the award of enhanced damages at the discretion of the court. For example, in a patent case, upon a finding of willful infringement, the court may award up to treble damages plus attorney's fees and costs. In trademark disputes, a court may enter judgment, according to the circumstances of the case, for any sum above the amount found as actual

<sup>&</sup>lt;sup>236</sup> Nintendo of America., Inc. v. Dragon Pac. Int'l, 40 F.3d 1007, 1010 (Ninth Cir. 1994), cert. denied, 515 U.S. 1107 (1995).

<sup>&</sup>lt;sup>237</sup> Integra Lifesciences I, Ltd. v. Merck KGaA, 331 F.3d 860 (Fed. Cir. 2003) and Integra Lifesciences I, Ltd. v. Merck KGaA, 2004 WL 2284001 (S.D.Cal. 2004).

<sup>&</sup>lt;sup>238</sup> Punitive damages are rarely awarded in intellectual property cases and are not discussed in detail in this Practice Aid.

damages, not exceeding three times such amount. If the court finds that the amount of the recovery based on lost profits is either inadequate or excessive, the court may in its discretion enter judgment for such sum as the court finds to be just, according to the circumstances of the case.<sup>239</sup>

In a copyright matter,<sup>240</sup> the defendant who prevails may be awarded attorney's fees against the plaintiff.

#### 2.5.1. Market Value

If neither lost sales nor a reasonable royalty have an empirical basis, an infringed copyright owner may employ the *market value test* as an alternative measure of actual damages. The market value test estimates the fair market value that a willing buyer would have paid a willing seller for the use of a work.

Applying the market value test, a number of courts determine the value to the infringer for the use of the copyrighted work, rather than the value a willing buyer and willing seller would have negotiated. Although this difference may at first blush seem semantic, it can make a substantial difference in the determination of value.

There are two instances in which the market value measure of the copyright owner's damages is generally employed, namely (1) if the defendant infringer or defendant's infringement has harmed the reputation or the value of the copyrighted work for a particular market, or (2) if (a) the defendant has made no profits from the infringement, (b) the copyright owner has no proven lost sales, and (c) the circumstances of the market make the probability of a negotiated license unlikely.<sup>241</sup>

The copyright owner's actual damages may consider the "extent to which the market value of the copyrighted work at the time of infringement has been injured or destroyed by the infringement."<sup>242</sup> This concept was applied in *Montgomery v. Noga.* In that case, actual damages for infringement of a copyrighted computer program were awarded based on the impact of the infringement on the value of an unregistered version of the program that had been derived from the copyrighted program. The court ruled that in determining the magnitude of the injury to the value of the registered copyright at the time of infringement, the value of the protected program would not be determined solely by reference to the market value of the copyrighted program as a standalone product.<sup>243</sup>

<sup>&</sup>lt;sup>239</sup> 15 USC § 1117.

<sup>&</sup>lt;sup>240</sup> 17 USC § 504(d).

<sup>&</sup>lt;sup>241</sup> S. A. Edelman and Terence P. Ross. *Intellectual Property Law Damages and Remedies: Updated through Release 4,* New York: Law Journal Press, p. 2-25, 2003.

<sup>&</sup>lt;sup>242</sup> Radack, D.V. (1998) "Remedies for Copyright Infringement", *JOM*, 50 (5) (1998) p. 51, www.tms.org/pubs/journals/ JOM/matters/matters-9805.html.

<sup>&</sup>lt;sup>243</sup> Montgomery v. Noga, 168 F.3d 1282 (Eleventh Cir. 1999).

## 2.5.2. Statutory Damages

#### 2.5.2.1. Statutory Damages for Counterfeit Trademarks

In cases involving the usage of a counterfeit trademark, the plaintiff may elect, prior to the court rendering final judgment, to recover not less than \$500 nor more than \$100,000 per counterfeit mark per type of goods or services sold, offered for sale or distributed, as the court considers just.<sup>244</sup> Alternatively, if the court finds that the use of the counterfeit mark was willful, the plaintiff may elect, prior to the court rendering final judgment, to recover not more than \$1 million per counterfeit mark per type of goods or services sold, offered for sale or distributed, as the court considers just.<sup>245</sup> A counterfeit mark is defined as:

(i) a counterfeit of a mark that is registered on the principal register in the United States Patent and Trademark Office for such goods or services sold, offered for sale, or distributed and that is in use, whether or not the person against whom relief is sought knew such mark was so registered; or (ii) a spurious designation that is identical with, or substantially indistinguishable from a designation as to which the remedies . . . are made available . . .<sup>246</sup>

With respect to domain names, the plaintiff may elect, prior to the court's entry of final judgment, to recover in lieu of actual damages or profits, an award of statutory damages in the amount of not less than \$1,000 and not more than \$100,000 per domain name, as the court considers just.<sup>247</sup>

#### 2.5.2.2. Statutory Damages for Copyrights

The Copyright Act allows the plaintiff to obtain statutory damages if the copyright owner is unable to prove his actual damages or the defendant's profits. The statutory amount of damages is to be:

in a sum of not less than \$750 or more than \$30,000 as the court considers just . . . In a case where the copyright owner sustains the burden of proving, and the court finds, that infringement was committed willfully, the court in its discretion may increase the award of statutory damages to a sum of not more than \$150,000. In a case where the infringer sustains the burden of proving, and the court finds, that such infringer 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.

<sup>&</sup>lt;sup>244</sup> 15 USC § 1117(c).

<sup>&</sup>lt;sup>245</sup> 15 USC § 1117(c)(2).

<sup>&</sup>lt;sup>246</sup> 15 USC § 1116(d).

<sup>&</sup>lt;sup>247</sup> 15 USC § 1117(d).

<sup>&</sup>lt;sup>248</sup> 17 USC § 504.

### **2.5.3. Corrective Advertising**

In fixing damages, courts may take into consideration the cost of a corrective advertising campaign the trademark owner conducts in order to repair the effect of the defendant's misleading advertising. The purpose of such a campaign is to correct any misimpressions that were formed in the marketplace due to the infringers' actions and thereby return the plaintiff to a preinfringement state.

For example, in *U-Haul International, Inc. v. Jartran, Inc.*, the trial court awarded damages twice the amount of the original false ad campaign.<sup>249</sup> In *Big O Tire Dealers, Inc. v. The Good-year Tire & Rubber Company,* the court held that corrective advertising damages were equal to 25 percent of the defendant's advertising expenditures in the relevant market. In reaching its conclusion, the court based its analysis on the Federal Trade Commission guideline that often requires businesses engaging in misleading advertising to spend 25 percent of their advertising budget on corrective advertising.<sup>250</sup>

It is often advantageous to seek the opinion of practitioners seasoned in the art of developing advertising campaigns, such as public relations or advertising professionals, to opine on the amount of corrective advertising required to reverse customer confusion or the adverse impact of infringement. Analysis of the advertising levels expended by the parties to the suit may also be probative.

<sup>&</sup>lt;sup>249</sup> U-Haul International, Inc. v. Jartran, Inc., 793 F.2d 1034 (Ninth Cir. 1986).

<sup>&</sup>lt;sup>250</sup> Big O Tire Dealers, Inc. v. The Goodyear Tire & Rubber Company, 561 F.2d 1365, 1375 (Tenth Cir. 1977).

# **3. CONCLUSION**

This Practice Aid provides the practitioner with a discussion of the theoretical, legal, economic, and accounting foundations of intellectual property and the methodologies commonly employed in the calculation of infringement damages. Notably, the United States courts continue to award damages in intellectual property cases under a variety of theories and analyses, giving the damages expert freedom to explore the economic consequences of the infringing activity. As in calculating damages under any civil cause of action, the expert should carefully consider the facts and circumstances of the dispute at hand.

## APPENDIX A: INTELLECTUAL PROPERTY PRINT AND ELECTRONIC RESOURCES (NONEXHAUSTIVE LIST)

## **PERIODICALS AND PUBLICATIONS**

There are many periodicals and publications that either discuss the valuation of intellectual property assets or contain market information regarding the sale, transfer, or exchange of intellectual property. Although it is not within the scope of this Practice Aid to identify all of the potential sources for this kind of information, some recommended sources include the following:

- Intellectual Property Law: Damages and Remedies, Terrence P. Ross (2004), Law Journal Press, 105 Madison Avenue, New York, New York 10016, www.lawcatalog.com.
- Licensing Economics Review, 155 Gaither Drive, P.O. Box 1050, Moorestown, NJ 08057.
- *Les Nouvelles* (a Journal of the Licensing Executives Society). Alexandria, VA. Licensing Executives Society (U.S.A. and Canada), Inc., 1997.
- Intellectual Property Strategist. Leadership Publications, New York.
- Licensing of Intellectual Property. Jay Dratler, Jr. New York: Law Journal Seminars-Press, 1994.
- Licensing a Strategy for Profits. Edward P. White. U.S.A.: Licensing Executives Society (U.S.A. and Canada), Inc., 1997.
- *Technology Licensing: Corporate Strategies for Maximizing Value*. Russell L. Parr and Patrick H. Sullivan. New York: John Wiley & Sons, Inc., 1996.
- Intellectual Property Infringement Damages: A Litigation Support Handbook. Russell L. Parr. New York: John Wiley & Sons, Inc., 1993.
- *Valuation of Intellectual Property and Intangible Assets*. Gordon Smith and Russell Parr. New York: John Wiley & Sons, Inc., 1994, 2<sup>nd</sup> Edition.
- *Valuation of Intellectual Property* videocourse. Joseph A. Agiato and Russell L. Parr. New York: The American Institute of Certified Public Accountants, Inc., 1996.
- Valuation of Intellectual Property Course Handbook. Joseph A. Agiato and Russell Parr. New York: AICPA Publication, 1996.
- *Investing in Tangible Assets: Finding and Profiting From Hidden Corporate Value.* Russell L. Parr. New York: John Wiley & Sons, Inc., 1991.

- How to License Technology. Robert C. Megantz. New York: John Wiley & Sons, Inc., 1996.
- Licensing Intellectual Property: Legal, Business and Market Dynamics. John W. Schlicher. New York: John Wiley & Sons, Inc., 1996.

#### **PROFESSIONAL ORGANIZATIONS**

A number of national and local professional organizations provide information on intellectual property matters. The more popular national organizations include the following:

- Licensing Executives Society
- American Intellectual Property Law Association
- Intellectual Property Owners Association
- International Intellectual Property Alliance
- National Association of Plant Patent Owners
- National Council of Intellectual Property Law Associations
- Patent and Trademark Office Society
- International Trademark Association
- International Collegiate Licensing Association

The contact information for these professional organizations is included in Appendix B, "Intellectual Property Professional Associations," to this Practice Aid. The source of this data is a publication entitled *National Trade and Professional Associations of the United States*, issued by Columbia Books, Inc. It is updated annually to incorporate any changes to existing listings or the addition of new organizations.

#### **INTERNET SITES**

A number of Internet resources are available to the analyst to access market information relating to businesses and intellectual property matters. Although it is not possible to list all potential sources of information, the following represents a sampling of Internet sites that may prove useful:

- www.census.gov (United States Census Bureau)
- www.copyright.gov (United States Copyright Office)
- www.fvgi.com (The Financial Valuation Group)
- www.hoovers.com (provides company financial data)
- www.inta.org (International Trademark Association)

- www.lesi.org (Licensing Executives Society International)
- www.royaltysource.com (Royalty Source)
- www.usa-canada.les.org (Licensing Executives Society USA, Canada)
- www.sec.gov/edgar.shtml (U.S. Securities and Exchange Commission's searchable database of filings)
- www.uspto.gov (U.S. Patent and Trademark Office's searchable database of patents and trademarks)
- www.ggmark.com/#State\_Trademark\_Law (U.S. State Trademark Laws and Databases)

## APPENDIX B: INTELLECTUAL PROPERTY PROFESSIONAL ASSOCIATIONS (NONEXHAUSTIVE LIST)

American Intellectual Property Law Association 2001 Jefferson Davis Highway, Suite 203 Arlington, VA 22202 (703) 415-0780, Fax (703) 415-0786

American Society of Composers, Authors and Publishers (ASCAP)
1 Lincoln Plaza
New York, NY 10023
(212) 621-6000, Fax (212) 724-9064

Association of University Technology Managers 60 Revere Dr., Suite 500 Northbrook, IL 60062 (847) 559-0846, Fax (847) 480-9282

Business Software Alliance (USA) 1150 18<sup>th</sup> St. NW, Suite 700 Washington, D.C. 20036 (202) 872-5500, Fax (202) 872-5501

Copyright Society of the USA 352 Seventh Ave., Suite 739 New York, NY 10001 (212) 354-6401, Fax (212) 354-2847

Intellectual Property Owners Association 1255 23rd Street NW, Suite 200 Washington, DC 20037 (202) 466-2396, Fax (202) 466-2893 International Trademark Association 655 Third Avenue, 10<sup>th</sup> Floor New York, NY 10017 (212) 768-9887, Fax (212) 768-7796

Inventors Workshop International Education Foundation 1029 Castillo Street Santa Barbara, CA 93101 (805) 962-5722, Fax (805) 899-4927

Licensing Executives Society (USA & Canada) 1800 Diagonal Rd., Suite 280 Alexandria, VA 22314 (703) 836-3106, Fax (703) 836-3107

Los Angeles Copyright Society 1800 Avenue of the Stars, Suite 900 Los Angeles, CA 90067

National Association of Patent Practitioners (NAPP) 4680-18-i Monticello Ave., PMB 101 Williamsburg, VA 23188 (800) 216-9588, Fax (757) 220-3928

National Association of Plant Patent Owners 1000 Vermont Avenue, Suite 300 Washington, DC 20005 (202) 789-2900, Fax (202) 789-1893

International Collegiate Licensing Association http://nacda.collegesports.com/nacda/ nacda-contact.html

International Intellectual Property Alliance 1747 Pennsylvania Avenue NW, Suite 825 Washington, DC 20006 (202) 833-4198, Fax (202) 872-0546

International Licensing Industry Merchandisers' Association 350 5<sup>th</sup> Avenue, Suite 1408 New York, NY 10118 (212) 244-1944, Fax (212) 563-6552 National Council of Intellectual Property Law Associations c/o Procter and Gamble 11520 Reed Hariman Hwy. Cincinnati, OH 45241 (513) 634-4782

Patent and Trademark Office Society P.O. Box 2089 Arlington, VA 22202

Patent Office Professional Association 742 S. 26<sup>th</sup> St. Arlington, VA 22202 (703) 305-3000, Fax (703) 308-0818

## APPENDIX C: SUMMARY OF INTELLECTUAL PROPERTY CASES

Case Name	Subject
A & L Technology v. Resound Corp., 1995 WL 415146 (N.D. Calif. 1995)	Patent
Allen Archery, Inc. v. Browning Mfg. Co., 898 F.2d 787 (Fed. Cir.1990)	Patent
Allen-Myland v. International Business Machines Corp., 770 F. Supp. 1014 (Third Cir. 1991)	Copyright
Alpo v. Ralston-Purina, 997 F.2d 949 (D.C. Cir. 1993)	Trademark
American Hoist & Derrick Co. v. Sowa & Sons, 725 F.2d 1350 (Fed. Cir. 1984), <i>cert. denied</i> , 469 U.S. 821 (1984)	Patent
American Medical Systems Inc. v. Medical Engineering Corp., 794 F. Supp. 1370 (E.D. Wis. 1992)	Patent
American Original Corp. v. Jenkins Food Corp., 774 F.2d 459 (Fed. Cir. 1985)	Patent
American Sales Corp. v. Adventure Travel, Inc., 862 F.Supp. 1476 (E.D. Va. 1994)	Trade Secrets
Amstar Corp. v. Envirotech Corp., 823 F.2d 1538 (Fed. Cir. 1987)	Patent
Andrew Corp. v. Gabriel Electronics, Inc., 785 F. Supp. 1041 (N.D. Me. 1992)	Patent
Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (Third Cir. 1983), <i>cert. denied</i> , 464 U.S. 1033 (1984)	Copyright
Ara Mfg. Co. v. Convertible Replacement Top Co., 377 U.S. 476 (1964)	Patent
Arriflex Corporation v. Aaton Cameras, Inc., 220 U.S.P.Q. 424 (S.D.N.Y. 1983)	Patent
Atlantic Thermoplastics Co., Inc. v. Faytex Corp., 970 F.2d 834 (Fed. Cir. 1992)	Patent
Austin-Western Road Machinery Co. v. Disc Grader & Plow Co., 291 F. 301 (Eighth Cir. 1923), <i>cert. denied</i> , 263 U.S. 717 (1924)	Patent
Bandag, Inc. v. Gerrard Tire Company, Inc., 704 F.2d 1578 (Fed. Cir. 1983)	Patent
BASF v. Old World Trading Co., 41 F.3d 1081 (Seventh Cir. 1994)	Patent
Baumstimler v. Rankin, 677 F.2d 1061 (Fifth Cir. 1982)	Patent

Case Name	Subject
Beatrice Foods Co. v. New England Printing and Litho. Co., 899 F.2d 1171 (Fed. Cir. 1990), and 923 F.2d 1576 (Fed. Cir. 1991)	Patent
Best Cellars, Inc. v. Wine Made Simple, Inc., LJG Wines, Inc., 320 F.Supp.2d 60 (S.D.N.Y. 2003)	Trademark
BIC Leisure Prod. v. Windsurfing Int'l, Inc., 850 F. Supp. 224 (S.D.N.Y. 1994)	Patent
Bio-Rad Laboratories Inc. v. Nicolet Instrument Corp., 739 F.2d 604 (Fed. Cir. 1984), cert. denied, 469 U.S. 1038 (1984), and 807 F.2d 964 (Fed. Cir. 1986), cert. denied, 482 U.S. 915 (1987)	Patent
Big O Tire Dealers, Inc. v. The Goodyear Tire & Rubber Company, 561 F.2d 1365 (Tenth Cir. 1977)	Trademark
Bose Corp. v. JBL, Inc., 112 F. Supp.2d 138 (N.D. Mass. 2000)	Patent
Bott v. Four Star Corp., 807 F.2d 1567 (Fed. Cir. 1986)	Patent
Broderbund Software, Inc. v. Unison World, Inc., 648 F.Supp. 1127 (N.D. Cal. 1986)	Copyright
Brooktree Corp. v. Advanced Micro Devices, Inc., 977 F.2d 1555 (Fed. Cir. 1992)	Patent
Brunswick v. U.S., 36 Fed. Cl. 204 (Fed. Cir. 1996)	Patent
Business Trends Analysts, Inc. v. Freetonia Group, Inc., 887 F.2d 399 (Second Cir. 1989)	Copyright
Carella v. Starlight Archery & Pro Line Co., 804 F.2d 135 (Fed. Cir. 1986)	Patent
Central Soya Co. v. Geo. A. Hormel & Co., 723 F.2d 1573 (Fed. Cir. 1983)	Patent
Century Wrecker Corp. v. E. R. Buske Manufacturing Co., Inc., 898 F. Supp. 1334 (N.D. Iowa 1995)	Patent
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