Selection of a Reasonable Royalty Rate to Measure Economic Damages for Trademark and Patent Infringement

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Damages analysts are often asked to estimate a reasonable royalty rate to measure economic damages for purposes of trademark and patent infringement. Although the bodies of law related to trademark and patent infringement are different from one another, the principles and concepts used to estimate a reasonable royalty rate for these types of intellectual property are fairly similar. This discussion summarizes the methods and procedures that analysts use to estimate a reasonable royalty rate. And, this discussion describes the factors and circumstances that analysts should consider when selecting a reasonable royalty rate for trademark and patent infringement purposes. Finally, this discussion focuses on the comparable uncontrolled transaction method, a commonly used method for selecting a reasonable royalty rate.

Introduction

The preferred measure of damages in U.S. patent infringement litigation is lost profits. If, however, actual lost profits damages cannot be established, which is most often the circumstance, then a reasonable royalty for the use of the patent must be determined.[1]

For U.S. trademark infringement litigation, damages typically can include the lost royalty income of the trademark owner plus the profits of the infringer.

For both of these types of intellectual property disputes, the analysis of a reasonable royalty can be an appropriate method for calculating damages. Although in practice, the need to analyze a reasonable royalty is generally more applicable to patent infringement disputes. In fact, according to some estimates, more than 80 percent of damages awards in patent litigation include a reasonable royalty payment.[2]

The underlying principle behind the determination of a reasonable royalty rate is that the selected royalty rate represents a reasonable indication of the value for use of the patent or trademark (the "subject intellectual property"). The reasonable royalty can be calculated based on:

1. an established royalty for the subject intellectual property,
2. the infringer's profit projections for infringing sales, or
3. a hypothetical negotiation between the intellectual property owner and the infringer for use of the subject intellectual property.[3]

This reasonable royalty is often expressed as a royalty rate (on a percentage basis) multiplied by a royalty base (the revenue derived from the infringing activity).

From an analyst prospective, the selection of a reasonable royalty rate is typically one of the most hotly contested aspects of an intellectual property economic damages dispute. This is because the process of determining a reasonable royalty rate can be different for each intellectual property infringement engagement.

The procedures to developing credible and defensible intellectual property royalty rates are as follows:

1. Provide a thorough analysis of the relevant functions, risks, and economics associated with the subject intellectual property.
2. Develop an accurate understanding of the facts and circumstances of the specific case and the applicable law of the relevant jurisdiction.

In addition, it is important that analysts have a clear understanding of the general factors and circumstances that affect the pricing of intellectual property royalty rates.

Related to selecting a reasonable royalty rate for intellectual property economic damages purposes, this discussion summarizes:

1. the methods and procedures used to estimate reasonable royalty rates and
2. the factors and circumstances that analysts often consider.

Reasons to Estimate Intellectual Property Royalty Rates

There are numerous reasons why analysts are routinely asked to perform intellectual property royalty rate analyses. Generally, these various reasons may be aggregated into the following categories:

1. Litigation claims and dispute resolution (the subject of this discussion)
2. Transaction pricing and structuring
3. Intercompany use and ownership transfers
4. Financial accounting and reporting
5. Taxation planning and compliance
6. Financing collateralization and securitization
7. Bankruptcy and reorganization
8. Management information and strategic planning

Within this general list, there are numerous other individual reasons to analyze intellectual property. These other reasons are beyond the scope of this discussion.

Reasonable Royalty Infringement Damages

Patent infringement damages are governed by federal patent law 35 U.S.C. Section 284. According to this statute, damages may be awarded to a patentee for use made of his or her invention by an infringer.

The damages amount should be adequate to compensate for the lost profits associated with 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.

Trademark infringement damages are generally governed by the Lanham Act, 15 U.S.C. Section 1117. This statute defines trademark infringement damages as the profits of the infringer plus any damages sustained by the trademark owner.

The courts generally interpret these statutes to mean that if actual lost profit damages cannot be ascertained, then a reasonable royalty for the use of the infringed intellectual property must be determined.[4]

In other words, for both of these types of intellectual property disputes, if lost profits damages cannot be proven, the intellectual property owner is entitled to damages based on a reasonable royalty for the use of the subject intellectual property.

In practice, the analysis of a reasonable royalty is rare in Lanham Act cases because the focus is usually on unjust enrichment and apportionment of infringer's profits. However, this statute does allow for a reasonable royalty as an appropriate form of damages for trademark infringement.

The statutes that govern intellectual property damages do not provide any specific guidance for calculating reasonable royalty damages.

There is, however, a substantial body of judicial precedent regarding the selection of trademark and patent royalty rates for purposes of infringement damages litigation. While the body of case law related to patents is distinct from trademarks, the general principles and concepts used to develop reasonable royalty rates for these types of intellectual property are fairly similar.

Analysts can consider this judicial guidance when selecting an appropriate method to estimate a reasonable royalty rate for intellectual property infringement damages purposes.

Judicial Guidance on Factors to Consider when Selecting a Reasonable Royalty

The governing rule in the selection of a reasonable royalty is that the royalty must reflect the value attributable to the infringement, and no more.[5]

The reasonable royalty can be calculated based on an established royalty for the subject intellectual property, the infringer's profit projections for infringing sales, or a hypothetical negotiation for use of the subject intellectual property between the intellectual property owner and the infringer.[6]

One frequently cited framework related to the estimation of a reasonable royalty is presented in *Georgia-Pacific v. U.S. Plywood Corp.* ("*Georgia-Pacific*").[7]

In that case, the court listed a series of factors that can be used to support the determination of a reasonable royalty (the "*Georgia-Pacific* factors").

The *Georgia-Pacific* factors are summarized as follows:

1. The royalties received by the patentee 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 nonexclusive; or as restricted or nonrestricted in terms of territory or with respect to whom the manufactured product may be sold
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 conditions 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 items; 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, that 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 comparable businesses 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 patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying 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 which amount would have been acceptable by a prudent patentee who was willing to grant a license

Recent judicial precedent indicates that the application of the *Georgia-Pacific* factors to any royalty rate analysis can be considered as a general analytical approach, and it should not merely be applied as a requirement in all cases.[9]

That is, the use of any or all of the *Georgia-Pacific* factors is not required by the courts to be part of an intellectual property infringement royalty rate analysis.[10]

If the *Georgia-Pacific* factors are used as part of a royalty rate analysis, the analyst should fully analyze the applicable factors, rather than cursorily reciting all 15 factors.[11]

The courts have made this point clear, noting:[12]

> Although we have never described the Georgia-Pacific factors as a talisman for royalty rate calculations, district courts regularly turn to this 15-factor list when fashioning their jury instructions. Indeed, courts often parrot all 15 factors to the jury, even if some of those factors clearly are not relevant to the case at hand. And, often, damages experts resort to the factors to justify urging an increase or a decrease in a royalty calculation, with little explanation as to why they do so, and little reference to the facts of record.

As an example, *Georgia-Pacific* factor 15 implies that a hypothetical reasonable royalty should leave an infringer with a profit. Some valuation damages analysts wrongly assume that reasonable royalty calculations must provide for such profit in all situations. Yet the Federal Circuit warns against blindly constraining a reasonable royalty analysis to the *Georgia-Pacific* factors in this manner.

The Federal Circuit has stated, "[A]lthough an infringer's anticipated profit from use of the patented invention is '[a]mong the factors to be considered in determining' a reasonably royalty, the law does not require that an infringer be permitted to make a profit."[13]

If the analyst chooses to rely on the relevant *Georgia-Pacific* factors to support a royalty rate analysis, it is important to include some explanation of both why and to what extent the factors affect the royalty calculation. The relevant factors may also need to be adapted on a case-by-case basis depending on the characteristics of the subject intellectual property.[14]

If any of the *Georgia-Pacific* factors are excluded from the royalty rate analysis, the analyst should have a good reason for the exclusion (even if the reason is not explicitly included in the analysis).

If properly applied, the analyst can rely on the *Georgia-Pacific* factors as a framework to support the determination of a reasonable royalty. Within this framework, the analyst should rely on generally accepted royalty rate estimation methods that are applicable to the relevant jurisdiction.

Generally Accepted Methods Used to Estimate a Reasonable Royalty Rate

There are several generally accepted methods that analysts typically use to estimate a reasonable royalty rate for trademark and patent infringement damages purposes. These methods include the following:

1. Incremental profit method—a weighted average cost of capital analysis of the infringer's actual profits with and without the use of the infringed intellectual property
2. Differential income method—a discounted cash flow analysis of the infringer's projected profitability with and without the use of the infringed intellectual property
3. Comparable profit margin method—a comparative analysis based on the profitability of the subject intellectual property owner/operator and comparable companies that do not use the subject intellectual property
4. Comparable uncontrolled transaction (CUT) method—a comparative analysis based on third-party sale or license transactions involving similar intellectual property

The selection of an appropriate royalty rate method is generally based on the facts and circumstances of each specific case. In some instances, however, the selection of an appropriate intellectual property royalty rate method may be a legal determination. The analyst should consult with client legal counsel early in the analysis process to determine which methods may or may not be acceptable based on statutory authority, judicial precedent, or administrative ruling.

When estimating a reasonable royalty rate for economic damages purposes, it is common for the analyst to use a combination of royalty rate methods. The combination reflects the different factual circumstances that could lend themselves to different reliable methodologies.

Ultimately, whatever royalty rate methodology is used should be:

1. legally permissible in the relevant jurisdiction and
2. sufficiently tied to the facts and circumstances of the case.

The analyst will often apply a market-based method as part of the royalty rate selection process. This is because "the market"—that is, the economic environment where arm's-length transactions between unrelated parties occur—can typically provide the best indication of a reasonable royalty.

One market-based method commonly used to estimate a reasonable royalty rate is the CUT method. This method is commonly used because trademarks and patents are frequently sold or licensed in arm's-length transactions.

The CUT method requires the analyst to collect and analyze market-derived transactional data regarding the sale or license of comparable IP. Comparability is determined based on such characteristics as type, use, profit potential, and the industry in which the subject intellectual property functions.

If properly analyzed, the results derived from the CUT method generally provide a direct and reliable measure of a market-based royalty rate for the subject intellectual property.

The CUT Method Royalty Rate Selection Process

While the CUT methodology is relatively simple, the practical application of the CUT method involves a complex and rigorous analytical process.

The general procedures of the CUT method are summarized as follows:

1. Define the subject intellectual property.
2. Analyze the quantitative and qualitative factors of the subject intellectual property; this may include the determination of an appropriate royalty base.
3. Identify the appropriate criteria for selecting comparable sale or license transactions, such as intangible asset type, intangible asset use, industry in which the intangible asset operates, date of sale, and so on.
4. Select comparable sale or license transactions.
5. Verify that the comparable transactional data is factually accurate and reflect arm's-length market considerations; this step includes reading the comparable transactional data.
6. Analyze the comparable transactional data to develop appropriate royalty rate metrics.
7. Select a royalty rate specific to the subject intellectual property.
8. Apply the selected royalty rate to the subject intellectual property metrics.

The analyst should examine each comparable sale or license transaction for terms and conditions that would justify elimination, adjustment, or reliance on the underlying data.

It is generally appropriate for analysts to eliminate from consideration those anomalous observations that cannot be normalized or adjusted. However, it is generally inappropriate for analysts to eliminate from consideration those anomalous observations simply because they fall outside of the typical observation range.

Defining the Analysis Subject

An important initial procedure in a reasonable royalty rate analysis is to define the analysis subject. Defining the analysis subject will help the analyst (1) determine an appropriate royalty base and (2) identify comparable sale and license transactions.

Trademarks and patents are types of intellectual property. Intellectual property is a special and distinct subset of commercial intangible assets. There are four main types of intellectual property.

These intellectual property types include the following:

1. Trademarks
2. Patents
3. Copyrights
4. Trade secrets

Each of these four types of intellectual property is legally created under and protected by a specific federal or state statute. Each of these intellectual property types can be associated with a number of related other intangible assets.

Defining the analysis subject is an important procedure in any royalty rate analysis, and it is especially important when using the CUT method. This is because the credibility of the CUT method is based on identifying comparable transactions involving comparable property.

In order to be considered "comparable" to the subject intellectual property transaction, an uncontrolled sale or license transaction need not be identical to the subject transaction, but must be sufficiently similar that it provides a reliable measure of an arm's-length result.

The Appropriate Royalty Base

Another important procedure in the analysis of the subject intellectual property is the determination of the appropriate royalty base.

The royalty base for both trademark and patent damages measurements are typically subject to the "entire market value rule" (EMVR). This rule "permits recovery of damages based on the value of the entire apparatus containing several features, where the patent-related feature is the basis for customer demand."[15]

Broadly speaking, where the patented feature drives customer demand for the entire infringed product, the EMVR permits the patent owner to treat all revenue from the infringing product as an appropriate royalty base.

In particular, the courts have held that application of the EMVR in the context of patent royalties requires adequate proof of three conditions:

1. The infringing components should be the basis for customer demand for the entire machine including the parts beyond the claimed invention.
2. The individual infringing and noninfringing components should be sold together so that they constitute a functional unit or are parts of a complete machine or single assembly of parts.
3. The individual infringing and noninfringing components should be analogous to a single functioning unit.[16]

In practical terms, the EMVR is defined as the "smallest salable infringing unit with close relation to the claimed invention."[17] This unit may represent a single component employed in a larger product, such as one of several computer processor circuit boards incorporated into a computer server.

The courts have scrutinized the application of the EMVR more closely in recent years. In one recent example, a district court excluded the testimony of the plaintiff's damages expert for improperly applying the EMVR in determining the reasonable royalty for an infringing feature of the defendant's product. The court explained that the damages expert provided no evidence that "the systems's entire value derived from that single feature."[18]

If, however, the patented features do not prove to be the basis of customer demand, or otherwise meet the requirement for the EMVR, the royalty base may need to be apportioned to the relevant patented features, even if those features are not independently saleable.

Apportionment seeks to limit an infringer's damages to the contributed value of the patented technology. This principle seeks to avoid the situation where the aggregate royalties from components would be greater than the value of the product itself.

When preparing an intellectual property infringement analysis, analysts should work with legal counsel early in the analysis process to determine the appropriate royalty base.

Sources of Intellectual Property Sale or License Transactions

The analyst can rely on a number of data sources in order to identify comparable sale or license transactions. These data sources include government databases, news and industry trade publications, and third-party subscription-based royalty rate databases.

Examples of third-party intellectual property sale or license transaction databases include the following:

1. Business Valuation Resources ktMINE database
2. Royalty Connection database
3. RoyaltySource Intellectual Property database
4. Royalty Range European Royalty database
5. RoyaltyStat, LLC
6. Industry-specific databases

These third-party royalty rate data providers collect transactional data involving intellectual property (including trademark and patent) sale or license agreements from publicly available sources, such as Securities and Exchange Commission (SEC) filings, news articles, industry trade publications, and company press releases.

The analyst can search these royalty rate databases to identify sale or license transactions that have factors comparable to the relevant factors of the subject intellectual property.

In recent years, the courts in infringement cases have taken a very conservative approach to comparability. Analysts that testify to the comparability of royalty rate data need to select data that is sufficiently similar to the subject intellectual property that it provides a reliable indication of a comparable arm's-length royalty rate. These data typically

"[R]aw transactional data obtained from third-party databases typically contain information that is not relevant or comparable to the subject transaction."

should include actual sale or license transactions involving comparable intellectual property.

Other types of royalty rate data include industry royalty rates and royalty rates derived from surveys. Generally, the courts have considered these types of data to be too broad to provide relevant, comparable royalty rate data. For this reason, the analyst ordinarily should use these types of data as a reasonableness check and not as the primary indication of a reasonable royalty rate.

In a 2015 decision, a district court excluded the testimony of the plaintiff's damages expert based on an improper reasonable royalty analysis.[19]

The court noted that the expert's opinion relied on nonspecific or irrelevant royalty rate data, including the following:

1. Licenses obtained from RoyaltySource that were not comparable to the patented technology
2. Generalized royalty rate studies that the court noted were no better than applying an impermissible "rule of thumb" analysis

This decision is only the latest in a line of recent cases where the courts have demanded more analytical rigor in the determination of a reasonable royalty.

A damages expert should read and understand license agreements and other royalty rate data and consider how that material applies to the facts and circumstances of the present case before formulating a royalty-rate-based damages analysis.

Adjusting Transactional Data

The raw transactional data provided from sale or license transaction databases often will need to be adjusted to increase their comparability to the subject intellectual property. This is because the raw transactional data obtained from third-party databases typically contain information that is not relevant or comparable to the subject transaction.

Examples of normalization adjustments commonly used to increase the comparability of the raw transactional data to the subject transaction include the following:

- Upfront fixed payments
- Milestone fixed payments
- Minimum/maximum fixed payments
- Litigation settlements
- Intercompany transfers
- Equity as part of license
- Short/long license terms
- Sale transaction—not a license transaction
- Royalty rate based on different metrics (e.g., percent of sales or percent of profits)
- Royalty on sublicense income
- Multiple intellectual property in the license
- Product sale/distribution agreements
- Relation to other agreements

Elements of Comparison

The significant and unique attributes of intellectual property can vary greatly. For comparative analysis purposes, however, intellectual property attributes can generally be categorized into 10 common elements of comparison. These elements of comparison can be used to select and analyze CUT sale or license transactions.

The 10 common elements of comparison are as follows:[20]

1. The legal rights or type of intangible asset ownership conveyed
2. The existence of any special terms or arrangements (for example, between the buyer or licensee and the seller or licensor)
3. The existence, or absence, of arm's-length sale or license conditions
4. The economic (especially the risk and expected returns) conditions existing in the appropriate secondary market at the time of the sale or license transaction
5. The industry in which the intellectual property is used
6. The geographic or territorial characteristics associated with the sale or license transaction
7. The term or duration characteristics of the sale or license transaction
8. The use, exploitation, or obsolescence characteristics of the sale or license transaction
9. The economic characteristics of the sale or license transaction

10. The inclusion of other assets in the sale or license transaction (this element may include the sale or license of a bundle or a portfolio of assets, such as the use patented and unpatented products, marketing assistance, trademarks, product development, or other contractual rights)

Not all of the above listed elements of comparison may be applicable in all cases. The elements of comparison relied on to select and analyze CUT sale or license transaction data should relate to the relevant attributes of the subject intellectual property.

The analyst can use the elements of comparison to develop a comparative analysis focused on the similarities and differences between the comparable intellectual property and the subject intellectual property. This comparability analysis will help the analyst select truly comparable sale and license transaction data and develop a credible and defensible, reasonable royalty rate.

Conclusion

This discussion summarized the methods and procedures used to estimate intellectual property royalty rates and the factors and circumstances that analysts often consider when selecting a reasonable royalty rate for intellectual property economic damages purposes.

For most of these types of intellectual property disputes, the analysis of a reasonable royalty is a frequently relied on and generally accepted method for calculating damages.

From an analyst prospective, the selection of a reasonable royalty rate is typically one of the contested aspects involved in an intellectual property economic damages dispute. This is because the process used to determine a reasonable royalty rate can be different for each intellectual property infringement engagement.

In order to develop credible and defensible intellectual property royalty rates, analysts should:

1. provide a thorough analysis of the relevant functions, risks, and economics associated with the subject intellectual property;
2. analyze the general factors and circumstances that affect the pricing of both the subject intellectual property and comparable intellectual property royalty rate transactions; and
3. work closely with counsel to develop an accurate understanding of the facts and circumstances of the specific case and the applicable law of the relevant jurisdiction.

"[T]he process used to determine a reasonable royalty rate can be different for each intellectual property infringement engagement."

Notes:

1. Hansen v. Alpine Valley Ski Area, Inc., 718 F.2d 1075, 1078 (Fed. Cir. 1983).
2. *PwC 2014 Patent Litigation Study* (PricewaterhouseCoopers LLP, 2014): 10.
3. Wordtech Sys. v. Integrated Network Solutions, Inc., 609 F.3d 1319 (Fed. Cir. 2010).
4. Hansen v. Alpine Valley Ski Area, Inc.
5. Ericsson, Inc. v. D-Link Systems, Inc., No. 2013-1625, -1631, -1632, -1633 (Fed. Cir. Dec. 4, 2014).
6. Wordtech Sys. v. Integrated Network Solutions, Inc., 609 F.3d 1319 (Fed. Cir. 2010).
7. 318 F. Supp. 1116 (S.D.N.Y. 1970).
8. Technology and IP Law Glossary (http://www.ipglossary.com/glossary/georgia-pacific-factors/#.VoMi2vkrJD8).
9. WhitServe, LLC v. Computer Packages, Inc., No. 2012-1206, -1261 (Fed. Cir. Aug. 7, 2012).
10. Ibid.
11. Ibid.
12. Ericsson, Inc. et al. v. D-Link Systems, Inc.
13. Monsanto Co. v. Ralph, 382 F.3d 1374 (Fed. Cir. 2004).
14. Ibid.
15. State Industries, Inc. v. Mor-Flo Industries, Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989).
16. Cornell v. Hewlett-Packard Co., 609 F.Supp.2d. 279 (N.D.N.Y. 2009).
17. Ibid. See also Laser Dynamics, Inc. v. Quanta Computer, Inc., 694 F.3d 51, 67 (Fed. Cir. 2012).
18. Ibid.
19. Chico's Fas, Inc. v. Clair, 2015 U.S. Dist. LEXIS 71716 (June 3, 2015).
20. Robert F. Reilly and Robert P. Schweihs, *Guide to Intangible Asset Valuation* (New York: American Institute of Certified Public Accountants, Inc., 2014), 260.

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