Intellectual Property Valuation
Application of the Relief from Royalty Method

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Discussion Outline

- Four types of intellectual property
- Three types of intellectual property analyses
- Use of royalty rate data in intellectual property analyses
- Intellectual property royalty rate data sources
- Two types of intellectual property royalty rate data
- Purpose of making royalty rate normalization adjustments
- Common types of normalization adjustments
- Royalty rate analysis illustrative example
- Relief from royalty method illustrative example
- Questions and discussion
Types of Intellectual Property

• Royalty rate data are commonly used in the analysis of intellectual property ("IP")

• There are four types of IP:
  • Patents
  • Trademarks
  • Copyrights
  • Trade secrets

• Many arm’s-length, third-party IP license agreements include both intellectual property and related intangible assets

• So, consider the bundle of intangible assets included in the license—as well as the bundle of IP legal rights included in the license
Patents and Related Assets

• Common types of patents
  • Utility patents
  • Design patents
  • Plant patents
  • Process/method patents

• Related intangible assets
  • Patent applications
  • Technology sharing agreements
  • Unpatented proprietary technology
  • Technology development rights
  • Engineering drawings and designs
  • Unpatented proprietary technology
  • Schematics and technical documentation
  • Regulatory approvals and licenses (e.g., FDA approvals, OSHA approvals)
Trademarks and Related Assets

• Related intellectual property
  • Trade names
  • Logos
  • Service marks
  • Service names
  • Trade dress

• Related intangible assets
  • Brand names
  • Advertising programs
  • Brochures and marketing materials
  • Name-related goodwill
Copyrights and Related Assets

• Copyrights are available for:
  • Literary works
  • Musical works
  • Dramatic works
  • Pantomimes and choreographed works
  • Pictorial, graphic, or sculptural works
  • Motion pictures and audiovisual works
  • Sound recordings
  • Architectural works
  • Computer software (object code and source code)
Copyrights and Related Assets (cont.)

- Related intangible assets
  - Engineering drawings
  - Blueprints
  - Manuals and procedures
  - Training films
Trade Secrets and Related Assets

• Trade secrets intellectual property
  • Customer information
  • Books and records
  • Product/formulas and recipes
  • Procedures and know-how
  • Pricing and cost information
  • Accounting documentation

• Related intangible assets
  • Employee training materials
  • Process flow charts
  • Plant diagrams and schematics
  • Financial plans and projections
Types of Intellectual Property Analyses

- Royalty rate data may be used in the following types of IP analyses:
  - Valuation analyses
  - Economic damages analyses
  - Transfer price analyses
- Royalty rate data and IP valuation analyses
  - Used in the market approach—relief from royalty rate method
  - To estimate a defined value for the IP
  - Also used in fairness opinion analysis
    - Fairness of proposed IP sale price
    - Fairness of a proposed license royalty rate
    - Fairness of the terms of a proposed IP exchange transaction
Types of Intellectual Property Analyses (cont.)

• Royalty rate data and IP damages analyses
  • As a reasonable royalty rate damages measure
  • May be used for tort damages or breach of contract damages

• Royalty rate data and transfer price analyses
  • Used in comparable uncontrolled transaction (CUT) method
  • International (taxation) transfers of intangible property
  • Interstate (taxation) transfers of intangible property
  • Intercompany transfers between controlled entities with minority ownership interests
Uses of Royalty Rate Data in IP Analyses

• Transactions
  • Sale of IP
  • License of IP
  • Transfer of IP within a controlled entity
  • Transfer of IP between a for-profit entity and a not-for-profit entity

• Financings
  • IP sale/licenseback financing
  • DIP or other secured financing (IP collateral)

• Fair value accounting
  • Acquisition accounting
  • Intangible asset impairment testing
  • Fresh-start accounting
Uses of Royalty Rate Data in IP Analyses (cont.)

• Taxation
  • Taxable transaction purchase price allocation
  • Basis in a contributed asset
  • Charitable contribution
  • Gift and estate tax planning and compliance
  • Intercompany transfer price (ALP)
  • Taxpayer solvency/insolvency for COD income recognition
  • Conversion of C corporation to S corporation
  • Ad valorem property tax

• Forensic analysis
  • Infringement damages
  • Breach of contract damages
  • Condemnation and eminent domain
  • Bankruptcy solvency/insolvency
Uses of Royalty Rate Data in IP Analyses (cont.)

• Bankruptcy
  • Preference claims and debtor solvency (Section 547)
  • Fraudulent transfers and debtor solvency (Section 548)
  • Asset sales and adequate protection (Section 363)
  • DIP entering into inbound or outbound license agreement (Section 363)
  • Decrease in the value of a creditor’s interest (Section 361)
  • Bankruptcy rules regarding a secured creditor’s interest (Rules 3012 and 3018)
  • Plan of reorganization confirmation (Section 1129)
  • Cram down of a plan of reorganization (Section 1129)
  • Secured creditor relief from the automatic stay (Section 362)
  • IP collateral valuations for DIP financing
  • Assessing the zone of insolvency and debtor company director duties
  • Rejection of debtor’s IP licenses (Section 365)
Generally Accepted IP
Valuation Approaches and Methods

• Market approach methods
  • Relief from royalty method
  • Comparable uncontrolled transactions method
  • Comparable profit margin method

• Cost approach methods
  • Replacement cost new less depreciation method
  • Reproduction cost new less depreciation method
  • Trended historical cost less depreciation method

• Income approach methods
  • Multiperiod excess earnings method
  • Capitalized excess earnings method
  • Incremental income method
  • Differential income method
  • Profit split method
  • Residual profit split method
IP Valuation Market Approach Considerations

• Valuation pricing metrics are based on either comparable or guideline
  • Licenses of IP
  • Sales of IP
  • Companies that use IP

• Valuation variables and procedures
  • Quantitative/qualitative analysis of the subject IP
  • Guideline license/sale/company selection criteria
  • Guideline license/sale/company selection
  • Verification of the selected transactional data
  • Analysis of the selected transactional data
  • Selection of the appropriate pricing metrics
  • Selection of the pricing multiples specific to the subject IP
  • Application of the selected pricing multiples to the subject IP metrics
IP Valuation Market Approach Considerations (cont.)

• Market approach valuation considerations
  • Seasoned guideline IP/development stage subject IP
  • Development stage guideline IP/seasoned subject IP
  • State of the competition in the owner/operator industry
  • Comparable profit margins—is the subject IP the only reason for the difference in profit margins between the owner/operator company and the selected CPM companies?
Objectives of the IP Analysis

1. To estimate a defined value for a specific ownership interest in the IP
2. To measure an appropriate royalty rate or license fee associated with the third party license of the IP
3. To calculate the arm’s-length price (ALP) for the intercompany transfer of IP between controlled foreign entities of a multinational taxpayer corporation
4. To quantify the expected remaining useful life (RUL) of the ownership or operating (or associated rate of change in the value) of the IP
5. To determine the amount of lost profits or other economic damages associated with a damages event suffered by the IP
6. To opine on the fairness (or solvency, adequate consideration, excess benefits, etc.) of an IP sale or license transaction
Elements of the Assignment—IP Description

• The first element is a complete definition of the IP.
• That definition should specify exactly what patent, copyright, trademark, or trade secret is the valuation subject.
• This definition should include the registration number and country for the patent or for the copyright and trademark (if registered).
• This definition should describe any commercial intangible assets to be considered with the IP.
Elements of the Assignment—Bundle of Rights

• The second element is a description of the bundle of legal rights.
• Which of the following bundles should be included in the valuation?
  1. Fee simple interest
  2. Term/reversion interest
  3. Licensor/licensee interest
  4. Sublicensee interest
  5. Territory (domestic/international) interest
  6. Product line/industry interest
  7. Life/residual interest
  8. Use rights
  9. Development rights
  10. Commercialization/exploitation rights
Elements of the Assignment—License or Contract Terms
The third element describes any contract or license terms in effect

1. Licensor/licensee responsibility common contract terms:
   • Identity of the licensor and the licensee
   • Term of the agreement (including any renewal options)
   • The intellectual property legal protection requirements
   • Amount and responsibility for research and development expenditures
   • Amount and responsibility for marketing, advertising, or other promotional expenditures
   • Responsibility to obtain and maintain any licenses, permits, or other regulatory approvals
   • Milestone dates for regulatory approvals, commercialization, sales levels, etc.
Elements of the Assignment—License or Contract Terms (cont.)

2. Other common IP contract terms:
   - Minimum use, production, or sales requirements
   - Minimum marketing, promotion, or commercialization expense requirements
   - Research and development technology development payments, development completion payments
   - Party responsible to obtain the required regulatory approvals
   - Milestone license payments
   - Rights to any future developments
   - Rights to sublicense
Elements of the Assignment—Standard of Value

• The fourth element is the standard (or definition) of value the analyst is asked to conclude:
  • Fair value
  • Fair market value
  • Use value
  • User value
  • Owner value
  • Investment value
  • Acquisition value
  • Collateral value
Elements of the Assignment—Premise of Value

• The fifth element is the premise of value that the analyst should apply:
  • value in continued use
  • value in place (but not in use)
  • value in exchange—orderly disposition basis
  • value in exchange—voluntary liquidation basis
  • value in exchange—involuntary liquidation basis
Purpose of the IP Valuation

• The purpose of the valuation considers the following questions:
  1. What will the IP valuation be used for?
  2. Who will rely on (or receive a copy of) the valuation?
  3. What form and format of IP valuation report is required?
  4. Are there any legal instructions (e.g., specific statutory definitions, judicial precedent, or reporting requirements) that the analyst should consider?
IP Data Gathering and Due Diligence

• The analyst typically gathers and analyzes information related to the current IP owner/operator

• Such information typically includes the following:
  • Owner/operator historical and prospective financial statements
  • Owner/operator historical and prospective development/maintenance costs
  • Owner/operator current and expected resource/capacity constraints
IP Data Gathering and Due Diligence (cont.)

- Description and estimate of the IP economic benefits to the current owner/operator
  - Associated revenue increase (e.g., related product unit price/volume, market size/position)
  - Associated expense decrease (e.g., expense related to product returns, COGS, SGA, R&D)
  - Associated investment decrease (e.g., inventory, capital expenditures)
  - Associated risk decrease (existence of IP licensees/contracts, decrease of cost of capital components)
  - Assessment of IP impact on owner/operator strategic position: SWOT – strengths, weaknesses, opportunities, and threats
IP Market Potential Considerations

• The analyst may consider the IP market potential outside of the current owner/operator

• The analyst may consider the following factors:
  • Change in the market definition or the market size for an alternative owner/user
  • Change in alternative/competitive uses to an alternative owner/user
  • The IP ability to create inbound/outbound license opportunities to an alternative owner/user
  • Whether the current owner can (1) operate the IP and also (2) outbound license the IP (in different products, different markets, different territories, etc.)
Review of IP Financial Projections

• The analyst may review and challenge (1) any owner/operator-prepared financial projections and (2) any owner/operator-prepared measures of IP economic benefits.

• The analyst may perform the following benchmark analyses:
  • compare owner/operator prior projections to prior actual results of operations
  • compare owner/operator projections to current capacity constraints
  • compare owner/operator projections to the current total market size
  • consider published industry average comparable profit margin (CPM) data
  • consider guideline publicly traded company CPM data
  • consider the quality and quantity of available license data
  • perform RUL analysis, with consideration of:
    • legal/statutory life
    • contract/license life
    • technology obsolescence life
    • economic obsolescence life
    • lives of prior generations of the IP
    • position of the IP in its life cycle
Due Diligence—Financial Projection Ratios Benchmark Analysis Industry Data Sources

- The Risk Management Association – *Annual Statement Studies: Financial Ratio Benchmarks*
- BizMiner (The Brandow Company) – *Industry Financial Profiles*
- CCH, Inc. – *Almanac of Business and Industrial Ratios*
- Fintel, LLC – *Fintel Industry Metrics Reports*
- MicroBilt Corporation (formerly IntegraInfo) – *Integra Financial Benchmarking Data*
- ValueSource – *IRS Corporate Ratios*
- Schonfeld & Associates, Inc. – *IRS Corporate Financial Ratios*
Guideline Company Profit Margins
Benchmark Analysis Company Data Sources

- FactSet Research Systems, Inc.—FactSet
- Hoover’s, Inc.—Hoover’s Company Records
- Mergent, Inc.—MergentOnline
- Morningstar, Inc.—Morningstar Equity Research
- Standard & Poor’s—CapitalIQ
- Thomson Reuters—Thomson ONE Analytics
Relief from Royalty Method
Royalty Rate Data Requirements

• Analysts typically need to consider two types of arm’s-length license agreement royalty rate data:
  • actual compensation data (raw data)
  • normalization adjustment data

• The base rate is the contractual compensation specified in the license agreement. These data include the “noise” of the actual royalty consideration arrangements.

• The adjustment data are the license-specific terms needed to “normalize” CUT royalty arrangements to make them more comparable to the subject transaction.

• So, analysts need to read the CUT license agreements.
License-Specific “Noise” Often Encountered in CUT Data

- CUT license agreements often include terms that should be analyzed and adjusted in order to make the CUTs more comparable to the subject IP analysis.
- These normalization adjustments typically reduce the “noise” in what appears to be a wide range of aberrational and unrelated royalty rate data.
License-Specific “Noise” Often Encountered in CUT Data (cont.)

• Some of the common normalization adjustments that analysts may look for:
  • upfront fixed payments
  • milestone fixed payments
  • minimum/maximum fixed payments
  • litigation settlements
  • intercompany transfers
  • equity as part of license
  • short/long license terms
  • IP sale not a license
  • royalty rate not % of sales
  • royalty on sublicense income
  • multiple IP in the license
  • product sale/distribution agreements
  • main/complementary products
  • relation to other agreements
Other Factors That Affect License Royalty Rates

• In addition to license-specific “noise” terms, industry and other general factors affect royalty rate levels.

• Analysts should consider these general factors that affect royalty rates when analyzing CUT data with respect to a subject IP:
  • State of the economy
  • Size of the subject industry
  • Growth of the subject industry
  • Profitability of the subject industry
  • Market position of subject IP
  • Market position of CUT IP
  • Position in life cycle of subject IP
  • Position in life cycle of CUT IP
Three Procedures to Manage “Noise” in Royalty Rate Data

- Analysts generally use one of three procedures to manage the noise of anomalous royalty rate data:
  - Eliminate the anomalous observations from the selected royalty rate data
  - Quantitatively adjust for the impact of the normalization factors
  - Qualitatively access the impact of the normalization factors
- In addition to these three procedures, analysts use central tendency analyses that minimize the impact of any anomalous observations:
  - Median royalty rate
  - Trimmed mean royalty rate
  - Interquartile range of royalty rates
Three Procedures to Manage “Noise” in Royalty Rate Data (cont.)

• It is generally appropriate for analysts to eliminate from consideration those anomalous observations that cannot be normalized or adjusted.

• It is generally inappropriate for analysts to eliminate from consideration those anomalous observations just because they fall outside of the typical range (i.e., because they are not Goldilocks observations).
Royalty Rate Data Sources

- ktMINE
- RoyaltySource
- RoyaltyRange
- Royalty Connection
- RoyaltyStat
- IntangibleSpring
- Markables
ktMINE

- ktMINE is an interactive intellectual property database that provides direct access to license royalty rates, actual license agreements, and detailed agreement summaries. The subscription-based database contains over 12,000 intellectual property license agreements. The intellectual property license database is updated frequently. License agreements are searchable by industry, keyword, and various other parameters. The full text of each intellectual property license agreement is available. Available at www.bvmarketdata.com.
RoyaltySource

- AUS Consultants offers a database that provides intellectual property license transaction royalty rates. The database can be searched by industry, technology, and/or keyword. The information provided includes the license royalty rates, name of the licensee and the licensor, a description of the intellectual property licensed (or sold, if applicable), the transaction terms, and the original sources of the information provided. Preliminary results are available online and a final report is sent to the subscriber via email. A subscription is not necessary. Analysts can pay per search. Available at www.royaltysource.com.
RoyaltyRange

• RoyaltyRange database consists of manually gathered and analyzed data. The reports contain more than 50 detailed standardized comparability factors on royalty rates and license terms. Each report is supplemented with original unredacted agreements, as well as filings and other types of documents the data are gathered from. The database focuses on European transactions, but also contains some U.S. transactions. The database excludes agreements between related parties, agreements with undisclosed remuneration mechanisms, royalty-free agreements, agreements where royalties are expressed in other forms than percentage, agreements with individuals, universities, and other noncommercial entities. It is available at www.royaltyrange.com
Royalty Connection

- Royalty Connection™ provides online access to intellectual property license royalty rate and other license information on all types of technology, patents, trade secrets, and know-how. The data are aggregated from arm’s-length sale/license transactions, litigation settlements, and court-awarded royalty order from 1990 to the present. The intellectual property license database is frequently updated. Users can search by industry, product category, or keyword. The information provided includes the consideration paid for the intellectual property license and any restrictions (such as geographic or exclusivity). Available at www.royaltyconnection.com.
RoyaltyStat

• RoyaltyStat is a subscription-based database of intellectual property license royalty rates and license agreements, compiled from Securities and Exchange Commission documents. It is searchable by SIC code or by full text. The results can be viewed online or achieved. The intellectual property transaction database is updated daily. The full text of each intellectual property license agreement in the database is available. Available at www.royaltystat.com.
IntangibleSpring

• IntangibleSpring is a subscription-based database of royalty rates sourced from license agreements filed with the SEC. Using a combination of text mining, natural language processing, and manual review, this database identifies and extracts complete license agreements from filings with the SEC. This database excludes agreements with incomplete pricing data. Available from www.intangiblespring.com.
Markables

• This database is different from the other databases discussed. Rather than drawing royalty rates from actual transactions of intellectual property, Markables gathers its data from purchase price allocations published in SEC filings. It has over 9,000 trademark valuations published in the financial reports of publicly traded companies from all over the world. Each record contains trademark value, revenues, reported or implied trademark royalty rates, customer value, enterprise value, trademark profit split, and other data, and a detailed description of the business as of the date of the valuation. Available at www.markables.net.
IP License Database Strengths

- IP license databases are searchable by industry (SIC or other classifications).
- In most cases, the license agreements are searchable by keyword.
- Databases may be searched for a particular timeframe.
- Results may be filtered by territory (worldwide or specific countries).
- Results may be filtered by exclusive vs. nonexclusive licenses.
- In most cases, the actual license agreements may be downloaded from the databases (or accessed via links).
IP License Database Weaknesses

• There are usually a lot of duplicates in these databases.
• Often, there are multiple updates of the same license agreement (another type of duplication).
• Some “license agreements” are actually purchase agreements.
• Some license agreements are between related parties (not at arm’s length).
• Often, a license agreement involves several different intellectual properties (e.g., trademark and patent), making it difficult to get at the royalty rate for just the trademark, for example.
• The consideration in the license agreements is often on an unusable basis (e.g., per 1,000 barrels of beer rather than as a percent of net sales).
Royalty Rate Analysis Illustrative Example

• The analyst’s assignment objective is to estimate the fair market value of a pharmaceutical industry patent and related know-how owned and operated by Alpha Company (“Alpha”).

• The analyst’s assignment purpose is to assist management in its tax planning and compliance related to the Alpha conversion from C corporation status to S corporation status as of January 1, 2018.

• The analyst decided to use the market approach and the relief from royalty method to value this commercialized patent.
Royalty Rate Analysis Illustrative Example (cont.)

• The subject patent relates to a molecular compound. Alpha developed the biochemical compound to cure the debilitating disease called antisocial personality disorder (“APD”). Victims of APD are socially awkward and generally unpopular.

• The patented compound is called Suave. The prescription drug product that uses this compound is called Debonair.

• Alpha has been producing and selling Debonair in the United States for a number of years.
Illustrative Royalty Rate Search Criteria

- SIC code 2834, pharmaceuticals industry
- Technology intangibles and manufacturing/process intangibles
- Either the licensor or the licensee is a U.S. company
- No territory restrictions
- No restrictions on the type of the agreement
- No restrictions on the license start date or stop date
Initial Royalty Rate Search Results

- ktMINE – initial search identified 72 license agreements
- RoyaltySource – requested 30 randomly selected license agreements
- The identified license royalty rates ranged from 2% of product revenue to 100% of sublicense revenue
- Numerous license royalty rates were expressed as:
  - % of gross profits
  - % of net profits
  - $ per kilogram
  - % of manufacturing costs
  - $ per time period
  - fixed $ amount

- How does the analyst make sense of over 100 divergent royalty rate data points?
Types of License Agreements in the Commercial Databases

- These types of agreements may be eliminated (from consideration), adjusted (quantitatively normalized), or assessed (qualitatively):
  - Territory production/manufacturing agreements
  - Territory distribution agreements
  - Sublicense agreements
  - Trademark license agreements
  - Intercompany transfer price agreements
  - Nonpatent technology licenses
  - Asset sale agreements
  - Joint development agreements
  - Joint venture agreements
  - Access to product data and library of research
  - IP infringement settlement agreements
  - Stockholder litigation settlement agreements
  - Technical assistance agreements
Types of Products Included in Databases

• These products may be eliminated (from consideration), adjusted (quantitatively normalized), or assessed (qualitatively):
  • Generic drugs
  • Cosmetic products
  • Nonhuman drugs
  • Medical and surgical devices
  • Radiation delivery systems
  • Over-the-counter products
  • Dietary supplement products
  • Nonprescription skin care products
  • Multiple pharmaceutical products (product portfolios)
  • Multiple patents and know-how (IP portfolios)
Types of License Compensation in Databases

• These license consideration arrangements may be eliminated (from consideration), adjusted (normalized), or assessed (qualitatively):
  • profit split % of gross profits
  • profit split % of net profits
  • profit split % of product profits
  • % of sublicense revenue/income
  • % of manufacturing costs
  • % of total costs
  • % of exit event consideration
  • % of FMV assigned
  • $ per volume/weight

• Some of these consideration arrangements may be useful in the application of profit split analysis methods or of cost plus analysis methods

• Some of these consideration arrangements may be converted into a percent of revenue royalty rate
Examples of the Elimination of Royalty Rate Noise

<table>
<thead>
<tr>
<th>Licensor</th>
<th>Licensee</th>
<th>License Rights</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cypress Pharmaceuticals</td>
<td>Pediatrix</td>
<td>Right to distribute Granisol</td>
<td>$1,000/mo.</td>
</tr>
<tr>
<td>Allergan</td>
<td>Nektar Therapeutics</td>
<td>Collaboration agreement to develop Levadex</td>
<td>50% of profits/loss</td>
</tr>
<tr>
<td>Arius Pharmaceuticals</td>
<td>Biodelivery Sciences</td>
<td>Rights to BEMA patent and to develop products</td>
<td>$375,000/quarter</td>
</tr>
<tr>
<td>Epicept Corp.</td>
<td>Epicept GmbH</td>
<td>Cooperation agreement to develop Caplene for AML remission treatment</td>
<td>$2,000/day/employee</td>
</tr>
<tr>
<td>Columbia Laboratories</td>
<td>Scientelle</td>
<td>Right to use patent to develop diabetes drug for licensor</td>
<td>150% of development expenses—to licensee</td>
</tr>
<tr>
<td>Pharmos Corp.</td>
<td>Reperio Pharmaceuticals</td>
<td>Product development agreement—right to use the patent to develop small molecular drugs</td>
<td>50% of FMV of an exit event</td>
</tr>
</tbody>
</table>
Examples of the Quantitative Adjustment (Normalization) of Royalty Rate Noise

<table>
<thead>
<tr>
<th>Licensor</th>
<th>Licensee</th>
<th>License Rights</th>
<th>Consideration</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycomed</td>
<td>Paringenix</td>
<td>Patent rights to develop variations of named products</td>
<td>100% sublicense revenue</td>
<td>8% of revenue [a]</td>
</tr>
<tr>
<td>Keryx Biopharma</td>
<td>Torii</td>
<td>Right to use patent and technology to manufacture products to treat inflammatory cutaneous disorders</td>
<td>15% of mfg cost</td>
<td>7.5% of revenue [b]</td>
</tr>
<tr>
<td></td>
<td>Pharma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deponed</td>
<td>Solvany</td>
<td>Right to use patent and technology to develop and manufacture pain medicine delivery device</td>
<td>15% of sales</td>
<td>7.5% of sales [c]</td>
</tr>
<tr>
<td></td>
<td>Pharma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impax Labs</td>
<td>Medicis</td>
<td>Right to use patents, know-how, and technology to develop products for treatment of oral acne</td>
<td>25% of gross profit</td>
<td>10% of sales [d]</td>
</tr>
<tr>
<td></td>
<td>Pharma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbia Labs</td>
<td>Coventry</td>
<td>Rights to patents and patent applications to develop small modular immune-pharmaceutical products</td>
<td>50% of pretax profit</td>
<td>7.5% of sales [e]</td>
</tr>
<tr>
<td></td>
<td>Pharma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVSA Pharma</td>
<td>River’s</td>
<td>Rights to use patents and technology to develop and manufacture products for stated gastro-intestinal disease</td>
<td>$5,000,000 plus 25% of gross profit</td>
<td>10% of sales [f]</td>
</tr>
<tr>
<td></td>
<td>Edge</td>
<td></td>
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<tr>
<td></td>
<td>Pharma</td>
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Explanation:
[a] Assume that 100% of sublicense revenue becomes pretax margin; 8% is the pretax margin in this industry.
[b] Manufacturing cost = about 50% of revenue in this industry.
[c] As a rule of thumb, medical devices generally generate about twice the royalty rate as medicines.
[d] Gross profit margin is approximately equal to 40% of sales in this industry.
[e] Pretax margin is approximately 15% of sales in this industry.
[f] Gross profit margin is approximately 40% of sales; the $5,000,000 upfront payment settles a patent infringement lawsuit between the licensor and the licensee.
## Examples of Qualitative Assessment of Royalty Rate Noise

<table>
<thead>
<tr>
<th>Licensor</th>
<th>Licensee</th>
<th>License Rights</th>
<th>Consideration</th>
<th>Term</th>
<th>Analyst’s Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoffman-La Roche</td>
<td>Meda AB</td>
<td>Rights to patents, trademarks, and all IP, inventory, contracts, manufacturing and sales—asset purchase agreement</td>
<td>10% of sales</td>
<td>6 years</td>
<td>less than 10% of sales [a]</td>
</tr>
<tr>
<td>Combinatorix</td>
<td>Fovea Pharma</td>
<td>Collaboration agreement—right to collaborate to develop ophthalmic medicine to treat BOE diseases</td>
<td>4% of sales</td>
<td>10 years</td>
<td>more than 4% of sales [b]</td>
</tr>
<tr>
<td>CIBA Vision</td>
<td>Novartis Pharma</td>
<td>Right to use technology to develop a benzoporphyrin derivative mono acid ring for use in cataract surgery</td>
<td>20% of sales</td>
<td>10 years</td>
<td>less than 20% of sales [c]</td>
</tr>
<tr>
<td>Coventry Pharma</td>
<td>Watson Pharma</td>
<td>Right to use patent, trademark, copyrights, regulatory filings, and promotional materials to develop Progesterone products</td>
<td>10% of sales</td>
<td>until last IP expires</td>
<td>less than 10% of sales [d]</td>
</tr>
<tr>
<td>PDL Biopharma</td>
<td>Alexion Pharma</td>
<td>Right to use PDL antibody patent family in the development and manufacture of other licensed products</td>
<td>4% of sales</td>
<td>term of other licenses</td>
<td>more than 4% of sales [e]</td>
</tr>
</tbody>
</table>

**Explanation:**
- [a] Licensee is paying for a going concern business.
- [b] Both licensor and licensee have to contribute to the development of any new drug.
- [c] Medical devices extract higher royalty rates; also gives licensee the right to buy materials from the licensor at cost.
- [d] Includes multiple IP and the right to operate a business.
- [e] Patent can only be used with other licensed products, that also generate license royalty income to the licensor.
# Examples of Selected CUT Royalty Rate Data for Suave Analysis

<table>
<thead>
<tr>
<th>Licensor</th>
<th>Licensee</th>
<th>License Rights</th>
<th>License Term</th>
<th>Licensor Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cominatrix</td>
<td>Alpha Plan</td>
<td>Right to use patent and clinical research to adopt Prednisporin to treat glaucoma</td>
<td>6 years</td>
<td>8% of sales</td>
</tr>
<tr>
<td>Cosmo Pharma</td>
<td>Santorus</td>
<td>Right to use patents and know-how to develop products containing Budesonide to treat ulcerative colitis</td>
<td>6 years</td>
<td>7% of sales</td>
</tr>
<tr>
<td>Eli Lilly</td>
<td>United Therapeutics</td>
<td>Right to use technology to develop and commercialize prescription product for treatment of pulmonary hypertension</td>
<td>20 years</td>
<td>6% of sales [a]</td>
</tr>
<tr>
<td>Baxter International</td>
<td>Eleisin Pharma</td>
<td>Right to patent and technology to improve Glufosfamide related to treatment of cancer</td>
<td>9 years</td>
<td>8% of sales</td>
</tr>
<tr>
<td>Auxilium Pharma</td>
<td>Biospecifics</td>
<td>Right to use BTC patents in development of next generation of products to treat Peyronie’s Disease</td>
<td>8 years</td>
<td>8.5% of sales</td>
</tr>
</tbody>
</table>

Footnote:
[a] Royalty rate may be low due to long license period.
Relief from Royalty Method Illustrative Example

• What is the market-derived royalty rate to use in the Suave patent valuation?
• What is the market-derived royalty rate for a use license of the Suave biochemical compound patent that is used in the Debonair prescription drug product to treat APD?
• The analyst eliminated royalty rate data that did not present meaningful license consideration
• The analyst adjusted the royalty rate data to indicate an adjusted range of royalty rates of 7.5% to 10% of sales
  • mean royalty rate – 8.4%
  • median royalty rate – 8%
  • mode royalty rate – 7.5%
Relief from Royalty Rate Method Illustrative Example (cont.)

• The analyst assessed royalty rate data that indicated a greater than/less than royalty rate range as follows:
  • Royalty rate greater than 4%
  • Royalty rate less than 20%
  • Modes – greater than 4%, less than 10%

• The analyst selected CUT royalty rate data that indicated a range of 6% to 8.5% of sales and:
  • Royalty rate mean – 7.5%
  • Royalty rate median 8%
  • Royalty rate mode 8%

• Based on these empirical data, the analyst select a royalty rate of 8% of sales for the Suave patent.

• This empirically derived royalty rate conclusion can be used for the Suave patent valuation (or for economic damages or transfer price analysis purposes)/
Relief from Royalty Rate Method Illustrative Example (cont.)

- Factors considered by the analyst in the final selection of the 8% of sales royalty rate for the Suave patent:
  - Relative profitability of Suave compared to CUT patents
    - Relative profit margins
    - Relative return on investments
  - Relative size of Suave market compared to CUT patent markets
  - Relative growth rate of Suave market compared to CUT patent markets
  - Relative position of Suave in its market compared to relative position of CUT patents in their markets
  - Relative substitutes for Suave compared to relative substitutes for CUT patents
Relief from Royalty Rate Method Illustrative Example (cont.)

- Relative age of Suave in its life cycle compared to relative ages of CUT patents in their life cycles
- Comparative analyses are ideally prepared on patent-to-patent basis. Alternatively, comparative analyses may have to be performed in a:
  - company-to-company basis
  - industry-to-industry basis
# Market Approach—Relief from Royalty Method Illustrative Example

Alpha Company  
Suave Compound Patent Valuation  
Market Approach—Relief from Royalty Method  
As of January 1, 2018  
(in $ millions)

<table>
<thead>
<tr>
<th>Suave Patent Valuation Analysis [a]</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
<th>Year 7</th>
<th>Year 8</th>
<th>Year 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debonair Product Revenue Expected Growth Rate [b]</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>-12%</td>
<td>-12%</td>
<td>-12%</td>
</tr>
<tr>
<td>Debonair Revenue Amount (year 0 base revenue = 400)</td>
<td>440</td>
<td>484</td>
<td>532</td>
<td>532</td>
<td>532</td>
<td>469</td>
<td>412</td>
<td>363</td>
<td></td>
</tr>
<tr>
<td>Selected Patent License Royalty Rate</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Projected “Relief from Royalty” License Expense (rounded)</td>
<td>35</td>
<td>39</td>
<td>43</td>
<td>43</td>
<td>43</td>
<td>38</td>
<td>33</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Projected Income Tax Expense (40% tax rate) [c]</td>
<td>14</td>
<td>16</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>15</td>
<td>13</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Projected Net “Relief from Royalty” License Expense (rounded)</td>
<td>21</td>
<td>23</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>23</td>
<td>20</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Present Value Discount Factor (at 12%, midyear convention) [d]</td>
<td>.94</td>
<td>.84</td>
<td>.75</td>
<td>.67</td>
<td>.60</td>
<td>.54</td>
<td>.48</td>
<td>.43</td>
<td>.38</td>
</tr>
<tr>
<td>Present value of “Relief from Royalty” License Expense</td>
<td>20</td>
<td>19</td>
<td>20</td>
<td>17</td>
<td>16</td>
<td>14</td>
<td>11</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Total Present Value of “Relief from Royalty” License Expense</td>
<td>133</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fair Market Value of the Suave Compound Patent (rounded)</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Market Approach—
Relief from Royalty Method Illustrative Example (cont.)

Notes:
[a] Expected RUL of the Suave patent is 9 years, based on management’s projection of the Suave product economic life. Alpha management is currently developing a replacement product. And, there are competitive products.
[b] Analyst derived the projected revenue growth/decline rates (in conjunction with Alpha management) based on an analysis of similar drug product revenue growth/decline rates during the last half of their patent life cycles.
[c] Assumes a 40% combined effective income tax rate.
[d] Assumes a 12% after-tax present value discount rate.
Analyst Caveats in the Use of IP License Royalty Rate Data

• Use several IP license databases, if possible

• Know what IP you are analyzing, what industry you are analyzing, and what bundle of legal rights you are analyzing

• Print and read each license agreement that may provide empirical royalty rate data

• Examine the license agreement for terms and conditions that will justify elimination, adjustment, or assessment—or reliance on the license royalty rate
Analyst Caveats in the Use of IP License Royalty Rate Data (cont.)

• The commercial license databases include documents other than arm’s-length license agreements:
  • Asset purchase agreements
  • Intercompany transfer price agreements
  • Product sale, manufacturing, distribution agreements
  • Joint venture, collaboration, etc., agreements

• There are various types of license compensation formula that are not particularly useful to a royalty rate analysis
  • $ per unit
  • $ per period
  • Equity as payment
  • % of gross profit or net profit
Analyst Caveats in the Use of IP License Royalty Rate Data (cont.)

• Be prepared to eliminate, adjust, and assess license royalty rate data in order to extract meaningful IP pricing metrics

• Real estate appraisers regularly eliminate, adjust, and assess empirical sales data in performing real estate appraisals

• Valuation analysts regularly eliminate, adjust, and assess guideline company pricing multiple data in performing market approach business valuations

• The procedure to eliminate, adjust, and assess empirical data should be a well-used tool in the valuation analyst’s toolbox
The Effective IP Valuation Report

• In order to encourage the reader’s acceptance, the effective IP valuation report should be:
  • Clear, convincing, and cogent
  • Well-organized, well-written, and well-presented
  • Free of grammar, punctuation, spelling, and mathematical errors
  • Procedurally and mathematically replicable, without the use of any unexplained or unsourced valuation variables
The persuasive IP valuation report will tell a narrative story that:

- Defines the valuation analyst’s assignment,
- Describes the analyst’s data gathering and due diligence procedures,
- Justifies the analyst’s selection of (and rejection of) the generally accepted valuation approaches, methods, and procedures,
- Explains how the analyst performed the valuation synthesis and reached the final value conclusion,
- Defends the analyst’s IP value conclusion, and
- Describes all of the data sources that the analyst relied on (and includes copies of non-public source documents)
IP Valuation Report Errors to Avoid

• An effective IP valuation report will avoid these common errors:
  • Failure to apply the defined standard of value
  • Failure to apply the defined premise of value
  • Analytical internal inconsistencies
  • Arithmetic errors in the valuation analysis
  • Insufficient support for the selected valuation variables
  • Reliance on industry or other rules of thumb
  • Insufficient data and inadequate market research
  • Inadequate due diligence procedures
Summary and Conclusion

• There is a lot of noise in IP license database royalty rate raw data
• Analysts can effectively use these empirical data to perform IP valuation, damages, and transfer price analyses
• Analysts may use the “eliminate, adjust, and assess” procedures to reach a reasonable range of royalty rates—and a final, supportable royalty rate conclusion
• Analysts should not use the Goldilocks procedure:
  • select a predetermined royalty rate that is “just right”
  • then eliminate, adjust, and assess the data to justify the predetermined “just right” royalty rate
Summary and Conclusion (cont.)

• Analysts should be prepared to explain all selections, rejections, or adjustments of available license royalty rate data

• If the license market for the subject IP is efficient, then the analyst should be able to modulate the noise in the royalty rate data—and to reach a reasonable range of royalty rates and a supportable IP valuation conclusion

• Questions and discussion
Industry Data Sources for Royalty Rate Adjustments

• Publicly traded company research sources:

  • Bloomberg – Bloomberg is a fully searchable online database that provides financial information on nearly all active and inactive US publicly traded companies and active and inactive international companies. Companies may be searched by industry sectors or by SIC codes. Detailed financial information is available. The information is updated frequently. More information is available at www.bloomberg.com/professional/.

  • MergentOnline – MergentOnline is a fully searchable online database that provides financial information on over 15,000 active and inactive US publicly traded companies and approximately 20,000 active and inactive international companies. Companies are listed by SIC codes and by North American Industry Classification System (NAICS) codes. More information is available at www.mergentonline.com.
Industry Data Sources for Royalty Rate Adjustments (cont.)

- S&P Capital IQ – S&P Capital IQ contains detailed financial and textual information on approximately 79,000 publicly traded companies (both domestic and foreign). The information is derived from documents filed with the SEC and similar global securities regulators (as well as proprietary research). The database may be searched by SIC code or by S&P’s industry classifications. Detailed financial information is available. The information is updated frequently. More information is available at www.capitaliq.com.

- Thompson ONE – Thompson ONE is a fully searchable database that provides financial information on approximately 52,000 public companies over 1 million private companies. Companies may be searched by GICS codes or SIC codes. Detailed financial information is available. The information is updated frequently. More information is available at www.thomsonreuters.com.
Industry Data Sources for Royalty Rate Adjustments (cont.)

• Industry Financial Research Sources:
  • Occupational Safety & Health Administration – The US Department of Labor, Occupational Safety & Health Administration website provides SIC codes. Codes can be searched by keyword, or the SIC code “tree” can be viewed and browsed.
  • US Census Bureau – The US Census Bureau NAICS website provides a searchable database of NAICS codes. NAICS codes are a more recent classification system than SIC codes. Therefore, they can be better for newer industries, such as some high-tech industries.
Industry Data Sources for Royalty Rate Adjustments (cont.)

- **FirstResearch** – FirstResearch is an industry research database that was developed to provide information for sales people. It provides an overview, valuation pricing multiples, growth rates, and information on how to analyze a company in a particular industry. Information is updated quarterly. It is available at www.firstresearch.com.

- **IBISWorld** – IBISWorld is one of the largest independent publishers of US industry research. Research includes information on major companies in the industry, growth rates, key financial data, and outlook for the industries. The research covers approximately 700 different market segments. Some international reports are also available. Information is updated quarterly for most industries and less frequently for some. It is available at www.ibisworld.com and also through other database aggregators.
Industry Data Sources for Royalty Rate Adjustments (cont.)

- S&P Industry Surveys – S&P Industry Surveys are available on approximately 50 industry sectors. The reports provide global industry information as well as information on the US industries. Major companies are discussed, and detailed information on the recent past and the outlook for the future are provided. A glossary of specialized terms is provided. Also, comparable financial information on major companies in the industry is provided. The information is updated twice a year. These surveys are available from various sources, including S&P NetAdvantage and Alacra.com.

- ABI/Inform – Articles from US and international general interest and trade publications may be searched. This database is available at most libraries and through database aggregators such as Alacra.com.
Industry Data Sources for Royalty Rate Adjustments (cont.)

- **Bloomberg Industries** – This component of the Bloomberg database provides industry data, interactive charting, and written analysis from a team of industry experts. Contact information for each industry expert is provided so that an analyst can follow up with questions if needed. More information is available at www.bloomberg.com/professional/.

- **MarketResearch.com** – This database provides access to industry and market research reports from many different sources. It provides information on products, trends, regions, demographics, industries, and companies from its collection of over 700 research publishers. More information is available at www.marketresearch.com.
Industry Data Sources for Royalty Rate Adjustments (cont.)

- S&P Capital IQ – This database provides access to analyst research as well as some market research reports. Capital IQ uses S&P industry classifications. These classifications can be helpful in grouping companies in comparable industries. In addition, comparative ration information is available. More information is available at www.capitaliq.com.

- Thomson One – This database provides access to analyst research and market research reports. More information is available at www.thomsonreuters.com.

- Westlaw – Articles from US and international general interest and trade publications may be searched. Westlaw also provides access to the Investext analyst research database. More information is available at www.westlaw.com.
Industry Data Sources for Royalty Rate Adjustments (cont.)

• *Almanac of Financial Ratios*, CCH, Inc. – This resource is available in print and e-book formats. The book includes 50 comparative performance indicators and covers all of North America using NAICS data. The information is calculated and derived from the latest available IRS data on nearly 5 million companies. It includes companies in nearly 200 industries. The book is issued annually. More information is available at www.cchgroup.com.

Industry Data Sources for Royalty Rate Adjustments (cont.)

- *Ibbotson Cost of Capital*, Morningstar – This annual book contains five separate measures of cost of equity, weighted average cost of capital, statistics on sales and profitability, capitalization, beta, equity valuation multiples, enterprise valuation multiples, financial ratios, equity returns, and capital structure. It is organized by SIC code. Quarterly updates are available online at ccrc.morningstar.com/

- *IRS Corporate Ratios*, Schonfeld & Associates, Inc. – This book includes 76 financial ratios that are based on the most recently available income statement and balance sheet data compiled by the IRS. The data focuses on the comparison of financial ratios for companies with and without net income. The contrast between profitable and unprofitable companies highlights which ratios are critical in the achievement of financial success. The book is issued annually. More information is available at www.saibooks.com.