

VALUATION OF IP

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Value of IP (or any other business asset)

The monetary compensation **expected** to be received from the licensing of IP (or from sale or exchange of other business asset)

Two different parties (i.e. licensee and licensor; or buyer and seller) may arrive at two different valuation figures by employing different parameters in the process and will base the negotiations on their valuation figures

Objectives

- To survey the basic principles of IP Valuation Techniques
- To develop a better appreciation for the role of Valuation in the business and academic environments
- To reinforce negotiation skills using Valuation as a routine practice
- To develop and establish practical guidelines and "Rules of Thumb" principles for OTT licensing

Price of IP (or any other business asset)

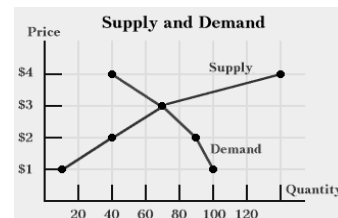
The monetary compensation **received** for licensing of IP as a result of a negotiation process

Valuation of IP (or any other business asset)

The **process** by which a dollar value of IP can be approximated

Price of IP (or any other business asset)

The Market Forces determine the nature of negotiation and the **Negotiated Price**



Assets of Business entity

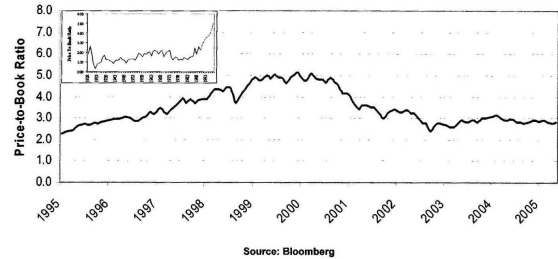
- **Tangible Assets**

- **Current Assets**
Cash and marketable Securities
- **Fixed Assets**
Property, plant, equipment

- **Intangible Assets**

- **Good Will**
- **Trademarks**
- **Technology**
Intellectual Property (IP)
Know-how
Trade Secrets

S&P Price-to-Book Ratio Continues to Say "There Is Something New of Higher-Than-Historic Value"



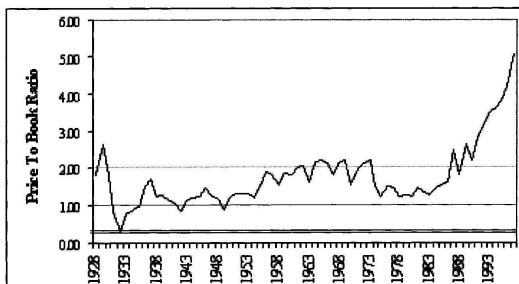
Assets and Valuation of Biotech Companies

- Technology (IP) may constitute 60%-80% of assets of Biotech company
- Valuation of Biotech company is essentially the valuation of its IP

When Valuation Is Needed

- Mergers and Acquisitions
 - Selling of Business Assets
 - Venture Capital (VC)
 - Investment Bank - IPO
 - Licensing
-
- Litigations

Is There a New Economy? S&P Price to Book Ratio



Why Valuation is Needed

For Companies:

Management requires in order to make sound economic strategic decisions

For Licensing Professionals (OTT):

Negotiations based on facts and information are more effective than those based on emotions

- credibility
- trustworthiness
- strength and confidence in process

Yield better results!!!

Methods of Valuation

- Economic Approach
- Market Approach
- Cost Approach
- Rule of Thumb

Finance 101- Present Value of Money

Present Value of Money:

Future value multiplied by a Discount Factor: $1 / (1+D)^n$

$$\begin{aligned} PV &= FV \times 1/(1+D)^n \\ &\text{or} \\ PV &= FV \times \text{Discount Factor} \end{aligned}$$

(D is also called Rate of Return)

Economic Approach

Based on Economic Benefits of the Asset (Technology)

- Future Revenue stream \longrightarrow
- Discounted into the Present

*Net Present Value (NPV) or
Discounted Cash Flow (DCF)*

Net Present Value (NPV)

A term used to estimate the value of an income producing asset (IP included):

The sum of future net income (I) stream discounted into the present:

$$NPV = \sum I_n \times 1/(1+D)^n$$

I_n – net income in year n
 $1/(1+D)^n$ – discount factor
 n – year 1,2, 3.....life of asset (IP)

Finance 101- Compounded Interest

Future Value of Money

$$FV = PV \times (1+i)^n$$

Present Value of Money

$$PV = FV \times \frac{1}{(1+i)^n}$$

Discount Factor \longleftarrow

n – number of years from initial investment (1,2 3,....)
 PV – present value
 FV – future value
 i – interest rate

(Time value of money)

NPV Adjustment for Risk

NPV can be adjusted for risk by:

- **Choosing the appropriate Discount rate D**
 - the higher the risk the higher is D
- **Multiplying by a Risk Factor (R) (<1)**
 - determined by standard techniques
 - the higher the risk the lower is R

$$\text{Risk Adjusted NPV} = NPV \times R$$

Valuing IP by the NPV Method

Discount Rates Commonly Used:

For conservative Investment:

<i>Inflation Rate</i>	3%
<i>Long Term T Bill</i>	7%
<i>Corporate Bonds</i>	12% - 18%
<i>Average Cost of Capital</i>	15%

With Consideration for Risk (IP etc.):

<i>Corporate Investment</i>	30%
<i>VC Investment</i>	50%

Valuation -The Cost Approach

Licensee perspective:

The costs of reproducing same as in licensed IP or replacing with alternative.

- actual cost
- Delay factor

Licensor perspective:

The cost to develop plus return

Risk Licensing IP – Estimating Factor

- **Market**
 - Size
 - Competitive landscape
- **Technology**
 - Stage of development
 - Degree of innovativeness
 - Technical Challenges (Scale-up, Manufacturing)
 - Clinical development
- **IP**
 - Breadth (claims, territorial) and Strength
 - Stage of prosecution
 - Patent terms
- **License Terms**
 - Degree of Exclusivity
 - Territory
 - Field of Use

Valuation -The Cost Approach

When to use:

- When costs can be estimated
- In negotiation of upfront royalties
- Internal Use License Agreements
- Biological Material License Agreement
- At very early stage and when future market is not known

Summary – Economic approach

- Value of IP = NPV
- Can be used when the following estimates can be made:
 - Revenues
 - Expenses
 - Cost of development
 - Risk
- To be used in combination with other approaches

Valuation – The Market Approach

- Industry standards and comparables
- Source of comparable transactions:
 - Internal database
 - Published surveys
 - AUTM survey
 - LES surveys
 - Public announcements
 - Word of mouth
 - Techno-I (UTEK).
 - <http://www.techno-i.org/process.cm?pageID=4&tl=4>
 - Litigation
 - www.lexisnexis.com. Information from patent infringement suits

Valuation – The Market Approach

Source of comparable transactions – continued:

- Required disclosure

- SEC filings
- <http://www.sec.gov/edgar/searchedgar/companysearch.html>
- <http://pro.edgar-online.com> (Edgar online)
- www.10k.com (10k Wizard)

- Databases

- <http://royaltysource.com> – RoyaltySource
- <http://www.fvgi.com> - Financial Valuation Group
- <http://www.techagreements.com> – Tech Agreements
- <http://www.recap.com> - Recombinant Capital
- <http://www.knowledgeexpress.com> - KnowledgeExpress

Valuation – Rule of Thumb

- Needs to be established for different scenarios
- The 25% rule:
 - Licensor and Licensee should split pre-tax profit at 25%/75% ratio
 - At a profit margin of 20% this means royalties of 5% on Sales

Valuation – Rule of Thumb

How rule of thumb for royalties is determined:

- Collect historical data from last 5 years
- Plot a bar diagram of frequency distribution vs. range
- Determine average, median and lower and upper limits
- Analyze data with respect to
 - technology risk
 - market size
- Tabulate ranges vs. market size and risk

market size	Royalty Range		
	low risk	Int. risk	low risk
Large	Range1	Range2	Range3
Medium	Range4	Range5	Range6
Small	Range7	Range8	Range9
v. Small	Range10	Range11	Range12