THE VALUATION EXPERTS

Pharma-Biotech Financing / Company Valuation

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Overview

- Financing Sources
- Company Valuation

Friday:
- Product Valuation
Mission

Independent assessment and valuation of technology-driven companies/products in growth industries

Life Sciences Database Biotechgate.com
With Company profiles, licensing opportunities, investors and licensing deal information

- Experts Finance / Biotech-Pharma
- Not a venture capitalist
- International experience
- Track record of over 350 valued companies
- Clients such as NVF, Fraunhofer Gesellschaft, European Investment Bank; VCs; Arpida/Evolva
Funding gap

- Increasing cost of development
- Higher hurdles for registration
- Disappointment of investors
- General risk adversity of market

=> Less capital available for earlier stage companies
Biotech Financing

Quarterly Biotech Therapeutic Financing Rounds

Source: Biotechgate.com
Financing Trends

How do companies cope with lack of VC money?

- Corporate Investors becoming more important
- Licensing as key source of funding
- Fee for Service as a way of financing innovation
- Product / Project financing by VCs
- Public money is very important
Financing Sources

1. Own development => resources needed
   - Own financing (Services)
   - Public: Grants / Government Funding
     a) Regional
     b) National
     c) European / international
   - Raise capital
     a) Equity (VC, Corporate, Family Office, BA)
     b) Venture Debt / Convertibles
     c) Product Financing

2. Out-licensing
   - Value retention; lead vs. follow-on products
## Equity Finance

<table>
<thead>
<tr>
<th></th>
<th>Venture Capital</th>
<th>Corporate Investors</th>
<th>Family Offices</th>
<th>Business Angels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>&gt; USD 5 m</td>
<td>Open</td>
<td>Open</td>
<td>&lt; USD 2m</td>
</tr>
<tr>
<td><strong>Company type</strong></td>
<td>High risk / potential</td>
<td>Strategic fit, innovative</td>
<td>Service component, opportunistic</td>
<td>Seed / early stage</td>
</tr>
<tr>
<td><strong>Total capital requirement</strong></td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Exit</strong></td>
<td>Set 5-10 years</td>
<td>M&amp;A</td>
<td>Long-term partner</td>
<td>Medium term</td>
</tr>
</tbody>
</table>
# Non-Equity Finance

<table>
<thead>
<tr>
<th></th>
<th>Public Grants / Government</th>
<th>Private Grants</th>
<th>Convertibles</th>
<th>Revenue, Royalty Product Financing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>&lt; USD 2 m</td>
<td>&lt; USD 5 m</td>
<td>open</td>
<td>&gt; USD 10 m</td>
</tr>
<tr>
<td><strong>Company type</strong></td>
<td>Innovative, R&amp;D, early stage</td>
<td>Innovative, R&amp;D, niche markets,</td>
<td>High growth, later stage</td>
<td>Mature, later stage</td>
</tr>
<tr>
<td><strong>Total capital requirement</strong></td>
<td>All</td>
<td>All</td>
<td>All</td>
<td>High</td>
</tr>
<tr>
<td><strong>Exit</strong></td>
<td>None</td>
<td>None</td>
<td>Repay / convert</td>
<td>none</td>
</tr>
</tbody>
</table>
Don’ts in VC preparation

- Don’t use highly technical descriptions of products
- Don’t make vague or unsubstantiated statements
- Don't ignore or underplay your competition
- Don't ignore key risks
- Don’t take the funding process lightly
- Don’t try to raise between significant milestones
- Don't be afraid to ask for adequate funding
Dos for VC preparation

• You need a Business plan
• Be specific. Substantiate statements with market data
• Summarize and properly structure financial information;
• Show how much money you need; how do you spend it
• Network like crazy
• Do reference checks on the VC (previous investments)
Overview

- Financing Sources
- Company Valuation

Friday:
- Product Valuation
Why Valuation?

- **Value**: implies the inherent worth of a specific thing
- **Price**: depending on the market (supply / demand); whatever somebody is prepared to pay

"Price is what you pay. Value is what you get."

By Warren Buffett

=> Provide basis for negotiation, investment decision, fair share price
Why Valuation

- Value before investment (pre-money value): EUR 1,5 m
- Investment: EUR 0,5 m
- Value after investment (post-money value): EUR 2,0 m
- Share Investor: 0,5 m / 2 m = 25%
Out-licensing of a phase II product

Deal terms:
- Up-front: CHF 1 m
- Milestones: CHF 20 m
- Royalties: 7%

rNPV of product: ?

rNPV of deal: ?

rNPV of product: CHF 30 m
rNPV of deal: CHF 10 m
Split Biotech / Pharma: 33% / 66%

rNPV: risk adjusted net present value
Biotech Valuation

- Valuation is key issue in development
- Industry lacks transparency (private)
- Very difficult (high uncertainties)
- High potential for investors
- Long investment cycle
- Traditional valuation methods unsuited
- Complex technology and IP situations
Mind-set of Investors

- Take high risk, but expect high returns
- Pressure from investors
- Compete in capital market

<table>
<thead>
<tr>
<th>Probability of failure</th>
<th>Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Bond</td>
<td>0%</td>
</tr>
<tr>
<td>Bonds</td>
<td>5%</td>
</tr>
<tr>
<td>Blue Chip Company</td>
<td>10%</td>
</tr>
<tr>
<td>Internet company (Nasdaq)</td>
<td>50%</td>
</tr>
<tr>
<td>Biotechnology Company</td>
<td>80%</td>
</tr>
</tbody>
</table>
Risk as a major factor

1. How can we capture risk?
   => Assessment of the company

2. How can risk be quantified?
   => rating of factors
Assessment

1. Understand the fundamentals
2. Assumptions drive the valuation
⇒ Assessment/assumptions are key

Assessment
	Company 
1. Management
2. Market
3. Technology

Product
Management

1. Completeness skills
2. Track record / experience
3. Motivation / Incentive structure
4. Organization
5. Emotional intelligence / social competence
6. Composition and involvement of boards

1. none / very poor
2. low / poor
3. insufficient
4. sufficient
5. good
6. high
Market Environment

Industry Structure: (Five forces by Michael Porter)

1. Threat of new Entry
2. Rivalry among existing competitors
3. Pressure from substitute products
4. Dependencies on customers
5. Dependencies on suppliers
6. Current and future market potential
7. Customers
8. Political / legal dependencies
9. Cost and Sales estimations

1. none / very poor
2. low / poor
3. insufficient
4. sufficient
5. good
6. high
Science & Technology

1. Intellectual Property (IP)
2. Unique selling proposition
3. Alliances/partnerships
4. Management of future discoveries
5. Time to market

1. none / very poor
2. low / poor
3. insufficient
4. sufficient
5. good
6. high
Assessment to Valuation

Assessment => Define risk

DCF*: Discount rate

- Non-therapeutic company
- Technology platform

rNPV**:

- a. Discount rate
- b. Success rate

- Therapeutic product company

* DCF: Discounted Cash Flow
** rNPV: risk adjusted Net Present Value
Valuation Approaches

- Operations-based methods:
  \[ \Rightarrow \text{business plan, fundamentals} \]

- Market-based methods:
  \[ \Rightarrow \text{price, trends, comparison difficulties} \]

- Discounted Cash Flows (DCF)
- rNPV
- Real Options
- Venture Capital method
- Market Comparables
- Comparable Transactions

=> there is no “the right method”
=> combination of different methods
Basic DCF

Present Value
today

Future
year 1  year 2  year 3  year 4  year 5  year 6 till ∞

Terminal Value

Free Cash Flows
- 60  - 30  40  100  180  300
Discounted Cash Flow

1. Determine Free Cash Flows to year 5 or y3 / y10
2. Calculate Terminal Value
3. Discount with Discount Rate
4. Sum of Discounted Free Cash Flows
Assumptions: interest rate i=10%

today $(K_0)$  |  future $(K_1)$ (n=5 years)
--- | ---
1.00 EUR | 1.61 EUR  
0.62 EUR | 1.00 EUR

Content of the discount-rate:
- Depreciation of currency and
- Risk => Qualitative analyzes

=> = 1.6 X
Discount rate

a) Company stage
1 Seed Stage  leads  70% to 90% (20x)*
2 Start-up Stage  pre-clinical  50% to 70% (10x)*
3 First Stage  phase I  40% to 60% (8x)*
4 Second Stage  phase II  35% to 50% (6x)*
5 Later Stage  phase III  30% to 40% (5x)*

*X-times the investment in 5 years necessary => (1+80%)^5 = 19x

b) Rating based
⇒ Determine area within range
Comparable Methods

For most Biotechs you cannot use:
P/E, EV/EBITDA, EV/EBIT, EV/Sales

Company Value: USD 50 m
50 employees

10 employees
⇒ Company Value: **USD 10 m***

* (50/50) x 10 m = 10 m

- R&D expenditure
- Employees
- Money raised
- Product in development (p I, p II, p III)

Ratio
Venture Capital Method

<table>
<thead>
<tr>
<th>Stage</th>
<th>Discount rate</th>
<th>(Multiple)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>70% to 90%</td>
<td>(20x)*</td>
</tr>
<tr>
<td>Pre-clinical</td>
<td>50% to 70%</td>
<td>(10x)*</td>
</tr>
<tr>
<td>Phase I</td>
<td>40% to 60%</td>
<td>(8x)*</td>
</tr>
<tr>
<td>Phase II</td>
<td>35% to 50%</td>
<td>(6x)*</td>
</tr>
<tr>
<td>Phase III</td>
<td>30% to 40%</td>
<td>(5x)*</td>
</tr>
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* i.e.: in 5 years

Present Value

Present today

Future

year 1 -> Exit year

Exit Value
Example Glycart

- Glycart acquired by Roche
- For USD 180 m
- Swiss company; founded in 2000 spin-off from ETH in Zurich
- Technology platform to enhance the activity of therapeutic antibodies (cancer / autoimmune diseases)
- Pre-clinical products
- Existing collaboration with Roche (1 year)
- 30 employees
Example Glycart

- Raise USD 31 m in the past
- Planned to raise another USD 35 m => valuation too low
- Acquisition offer by mid-sized Pharma
  ⇒ auction process / parallel fund raising
Example Glycart

Valuation:
⇒ Pre-clinical compounds USD 180 m?
⇒ Technology Platform?
⇒ Keeping control?
⇒ Value enhancement for own products?
Conclusion

- Think outside the box / be creative
- Use grants and non-dilutive
  … but keep focus
- Valuation is all about the assumptions
- Price vs. Value
- Network, network, network….
Thank you for listening!

Slides available on www.venturevaluation.com

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