



# THE VALUATION EXPERTS

## Valuation and HealthTech in Asia

Dr. Patrik Frei  
January 2017 | San Francisco

# Overview



- **Introduction to Valuation**
- **Valuation of a Company / Therapeutic Product**
- **Valuation in Asia / HealthTech**
  
- Asia's healthcare landscape: why Asia is different!
- Asia's HealthTech Landscape
- Asia's healthtech investment landscape
  
- **Q & A**

# Venture Valuation



VENTURE VALUATION

## Mission

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

**Company and Deals Database - [Biotechgate.com](http://Biotechgate.com)**

- Experts Finance / Biotech-Pharma
- Not a venture capitalist
- International experience
- Track record of over 400 valued companies
- Active in US/Canada, Europe, Asia
- Clients Investors / Companies (such as Novartis; GSK; European Investment Bank; VCs; Arpida/Evolva)

# Valuation of what?



## 1. Valuation of a company

- ⇒ Investment / Financing round
- ⇒ Merger / Acquisition
- ⇒ Measure success of company development



## 2. Valuation of a product

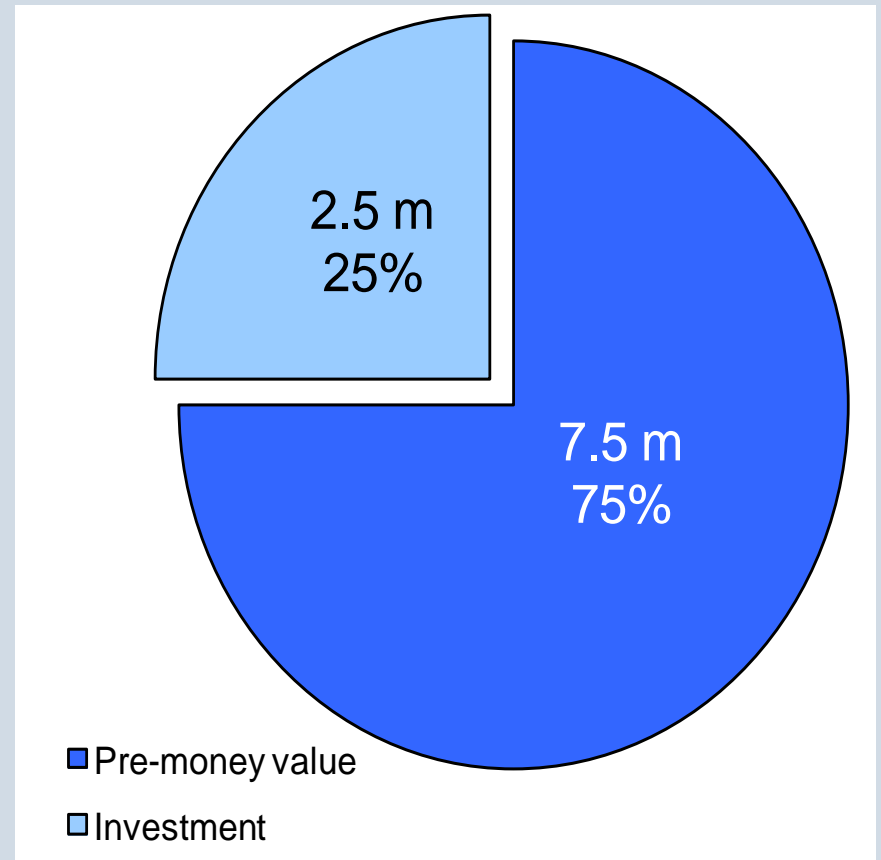
- ⇒ Licensing deal
- ⇒ Strategic development decision



# Why Valuation



- Value before investment (pre - money value): USD 7,5 m
- Investment: USD 2,5 m
- Value after investment (post-money value): USD 10,0 m
- Share Investor:  
 $2,5 \text{ m} / 10 \text{ m} = 25\%$



# Why Valuation

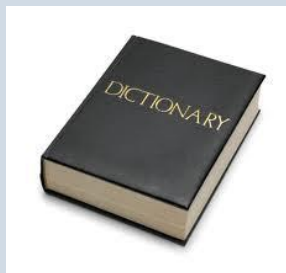


- Out-licensing of a pre-clinical product
- Deal terms:

up-front	USD 1 m
milestones	USD 20 m
royalties	7%
- rNPV of product ?
- rNPV of deal ?
  
- ⇒ rNPV of product: USD 30 m
- ⇒ rNPV of deal: USD 10 m
- ⇒ Split Biotech / Pharma: 33% / 66%

rNPV: risk adjusted net present value

# Definitions



- **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

# Risk vs. Return



Investors:

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

	Probability of failure	Return
Government Bond	0%	3%
Bonds	5%	5%
Blue Chip Company	10%	9%
Internet company (Nasdaq)	50%	20%
Biotechnology Company	80%	50%



# Overview



- Introduction to Valuation
- **Valuation of a Company / Therapeutic Product**
- Valuation in Asia / HealthTech

# Valuation Approaches



## 1. Operations-based methods:

⇒ *business plan, fundamentals*

## 2. Market-based methods:

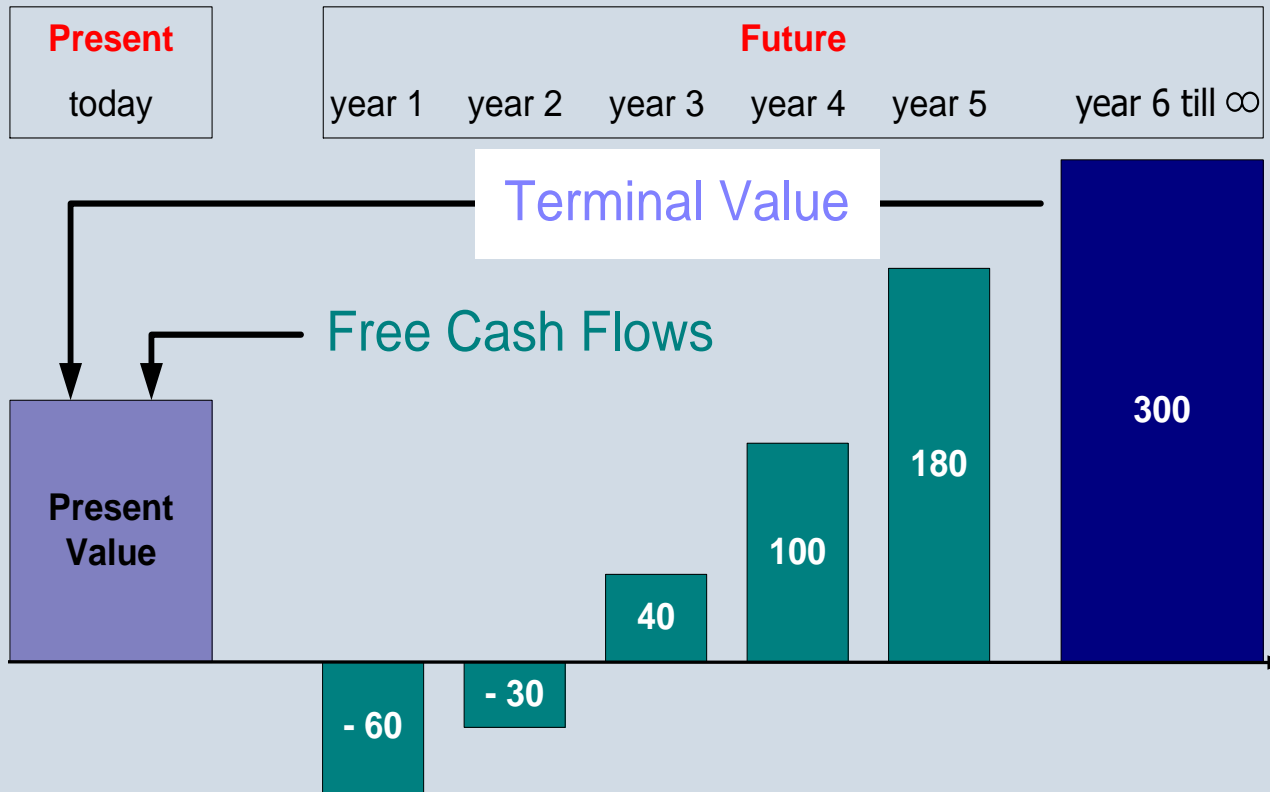
⇒ *price, trends, comparison difficulties*

- Discounted Cash Flows (DCF)
  - rNPV
  - Real Options
  - Venture Capital method
  - Market Comparables
  - Comparable Transactions
- } Operations methods
- ⇒ Mixed method
- } Market methods

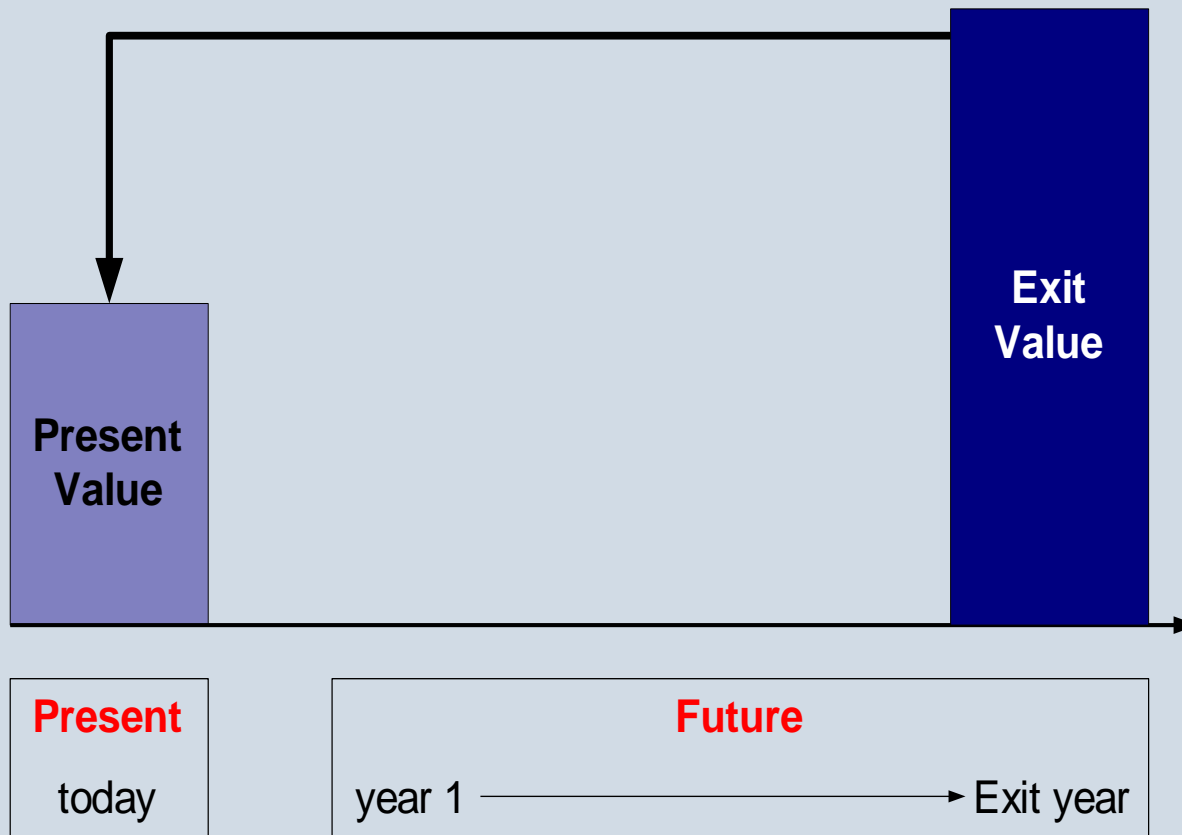
⇒ there is no “the right method”

⇒ combination of different methods

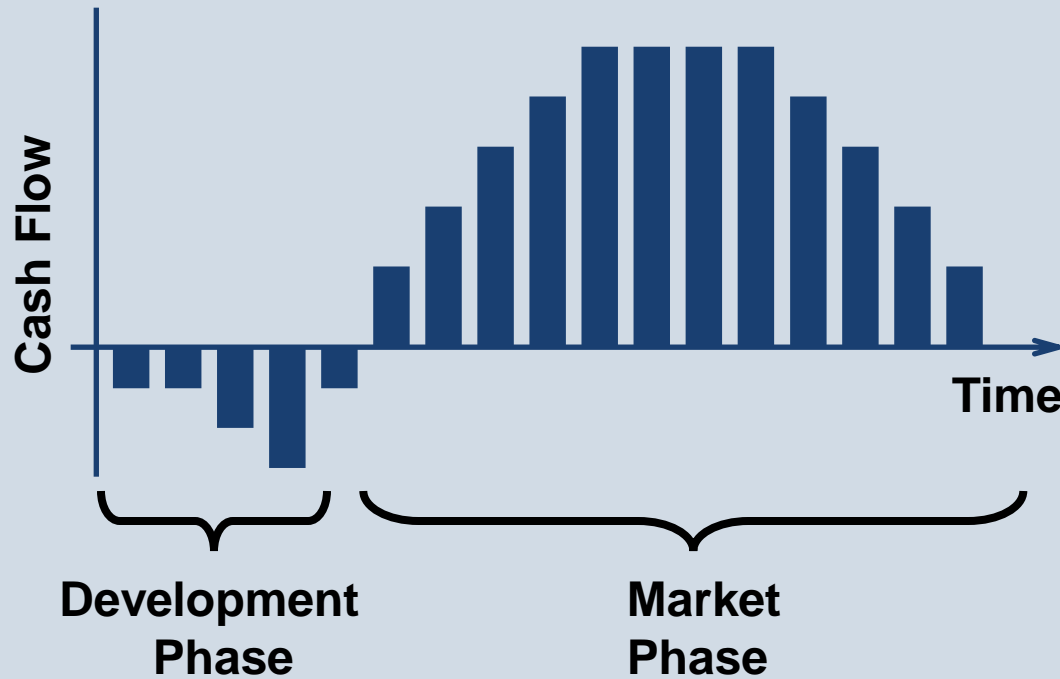
# Basic DCF



# Venture Capital method

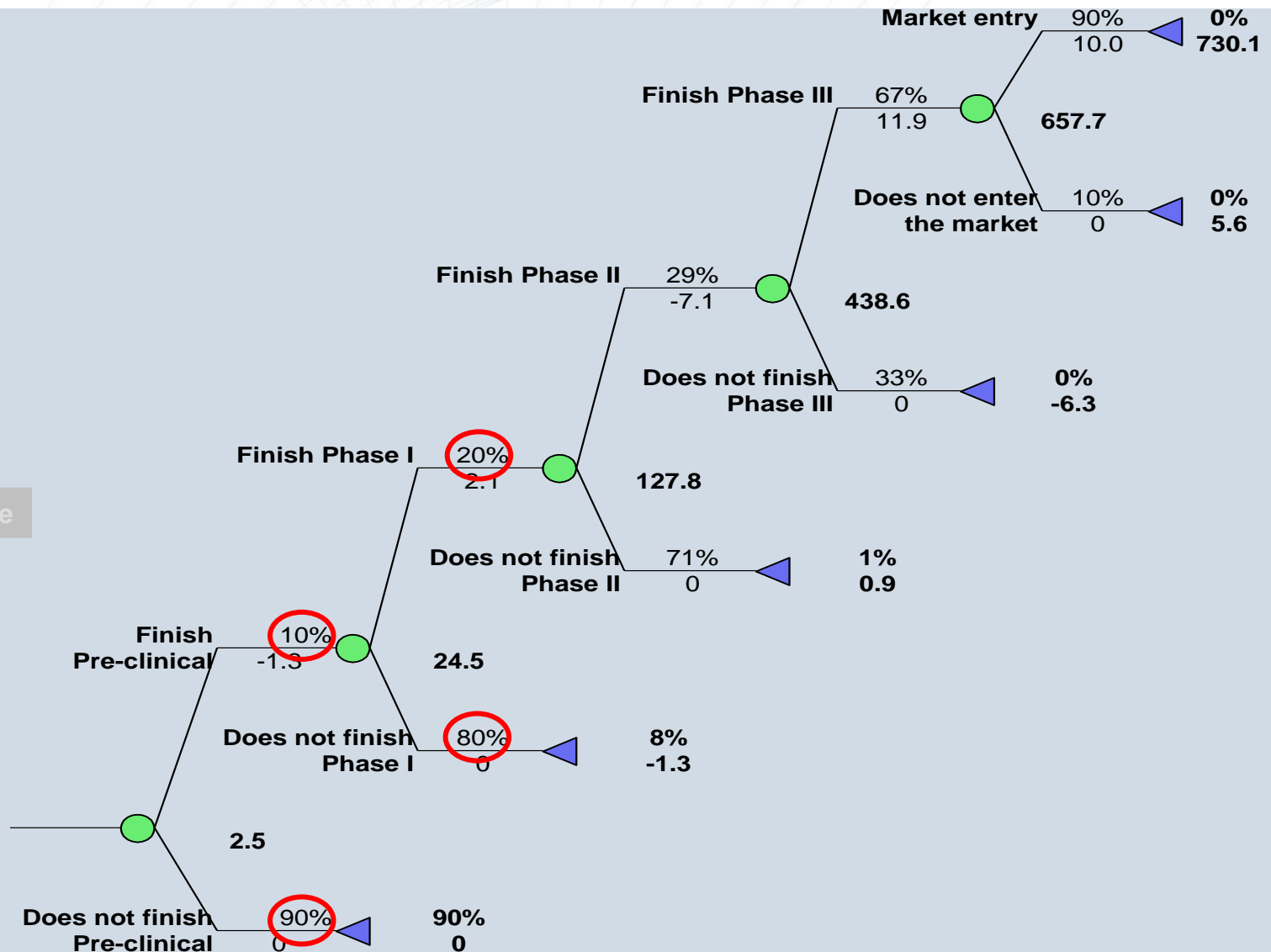
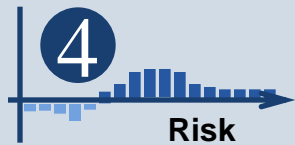


# Valuation of a therapeutic

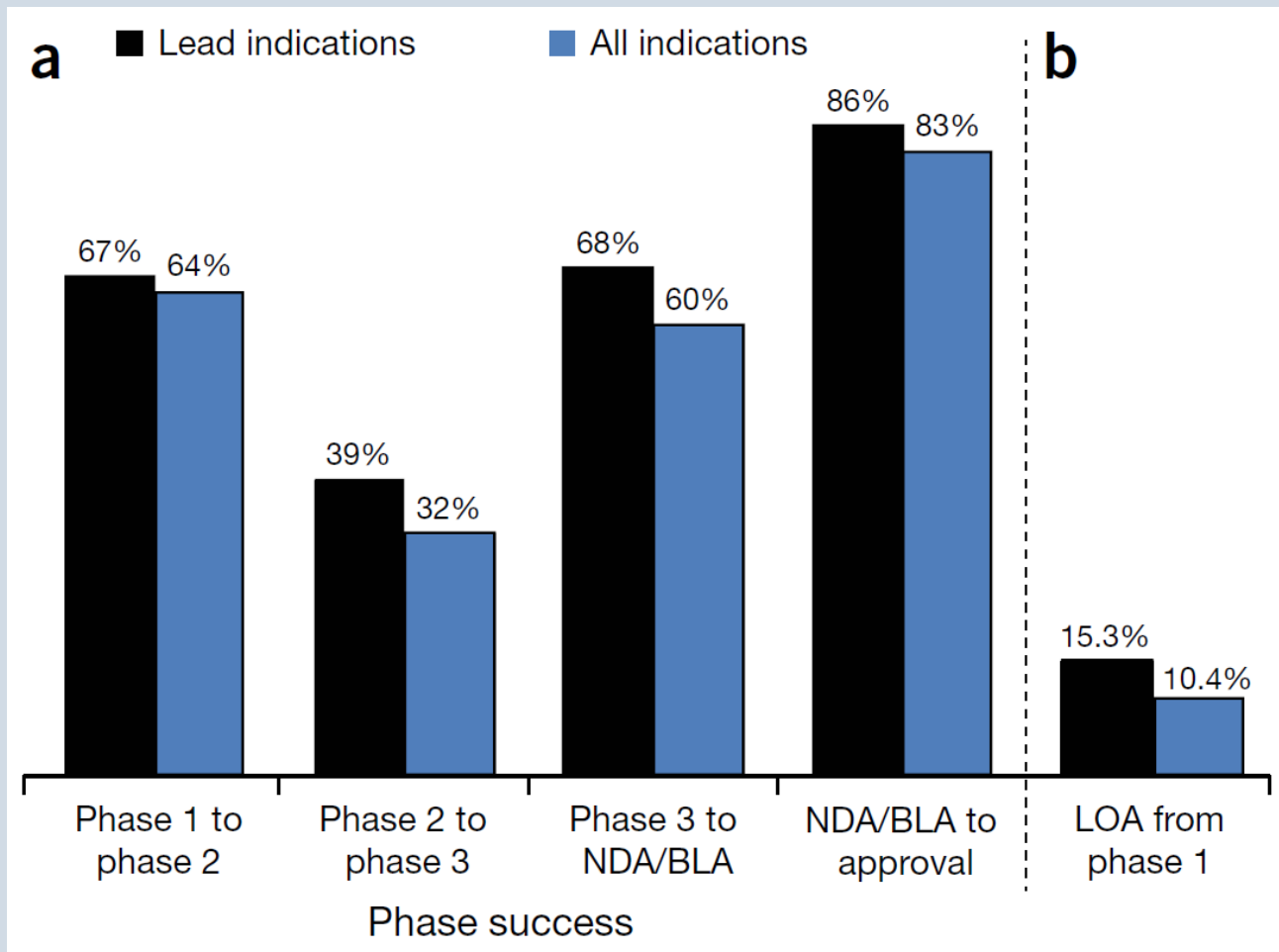
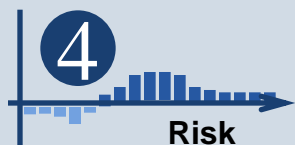


- Determine timelines and cash flows in each phase
- Develop solid assumptions for all key variables

# Risk-adjusted NPV



# Success rates



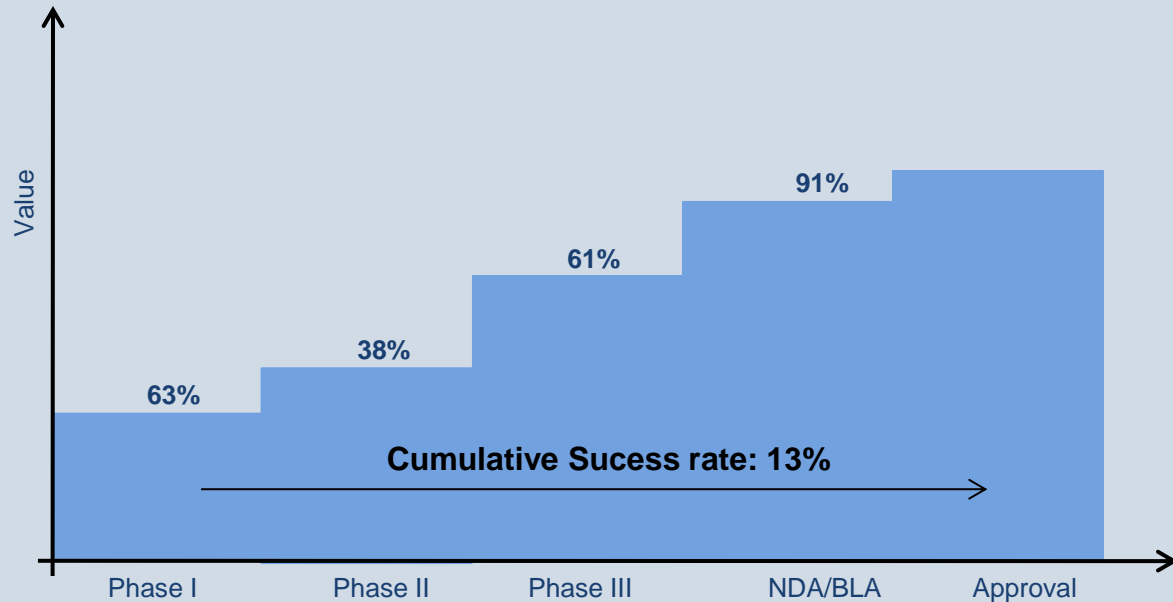
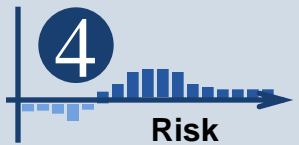
Source: Nature Biotechnology; Clinical development success rates for investigational drugs; January 2014

# Success rates



## The relation between Risk and Value

- Completion of a phase → Direct value increase





# Deal terms



- Front/ back-loading a deal can heavily influence deal structure
- Deal terms dependent on needs of both parties

In USD m	Payment of	rNPV* (or up-front)
<b>Up-front</b>	1 m	1 m
<b>Finish Pre-clinical</b>	1 m	0.44 m
<b>Finish Phase I</b>	1 m	70'000
<b>Finish Phase II</b>	1 m	17'000
<b>Finish Phase III</b>	1 m	8'000
<b>Approval / Enter market</b>	1 m	5'000
<b>Royalties</b>	1%	0.70 m

\* Time value of money and Risk adjusted

# Overview



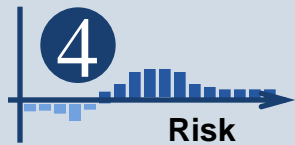
- Introduction to Valuation
- Valuation of a Company / Therapeutic Product
- **Valuation in Asia / HealthTech**

# Valuation in Asia



- Different markets
- Different needs of patients (high price innovation vs. affordable care for broad population)
- Valuation of generic / biosimilar
- Valuation of Healthtech

# Valuation of Biosimilar



	Original product	Biosimilar
Costs	152m	68m
Time to market	8 years	5 years
Sales 2031	USD 983m	USD 164m
Cum. Success	11%	33%
<b>rNPV</b>	<b>USD 10m</b>	<b>USD 13m</b>
rNPV after phase III	USD 649m	USD 179m

# Valuation of Healthtech



- Short time to revenues
- Lower investment
- Development of new markets
- Revolution (vs. evolution)
- Attractiveness to different investors (ICT, lower financial needs, faster to market)
- Exit routes

# Conclusion



- Valuation is key in the development of a start-up
- Valuation is not easy
- Value  $\neq$  Price
- Its all about the assumptions
- Valuations of different companies and locations  
=> same same, but different



# THE VALUATION EXPERTS

Thank you for listening!

Tel.: +41 44 500 38 42  
[www.venturevaluation.com](http://www.venturevaluation.com)  
[p.frei@venturevaluation.com](mailto:p.frei@venturevaluation.com)

Venture Valuation  
Switzerland / Singapore