www.venturevaluation.com
www.biotechgate.com

VENTURE VALUATION

Fit for Health 2.0

Financing sources for life science projects and companies

Dr. Aitana Peire

May 2016 | International Exploitation Training FFH2.0, Dublin

VENTURE VALUATION

Venture Valuation

Fit for Health 2.0

Mission

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

Biotechgate: Company directory – licensing opportunites / Investors database / Licensing deal terms

- Experts Finance / High-tech industries
- Not a venture capitalist
- International experience
- Track record of over 400 valued companies
- Clients such as NVF, Fraunhofer Gesellschaft, European Investment Bank; VCs; Arpida/Evolva

VENTURE VALUATION

Fit for Health 2.0

Agenda

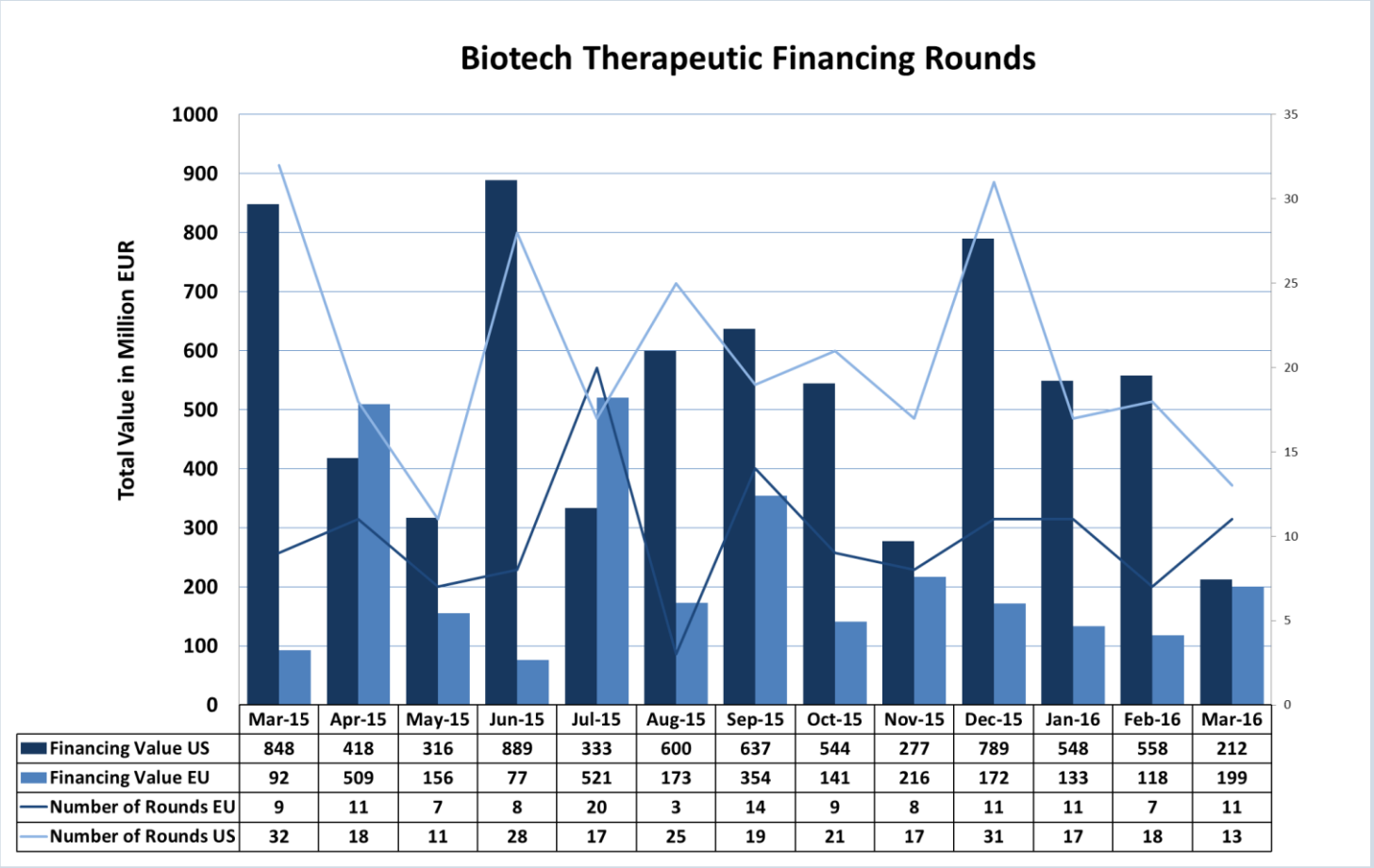
- **Financing trends – Private financing**
- **Financing Sources**
- **Dos and Don’ts in raising money**

VENTURE VALUATION

Fit for Health 2.0

Financing trends

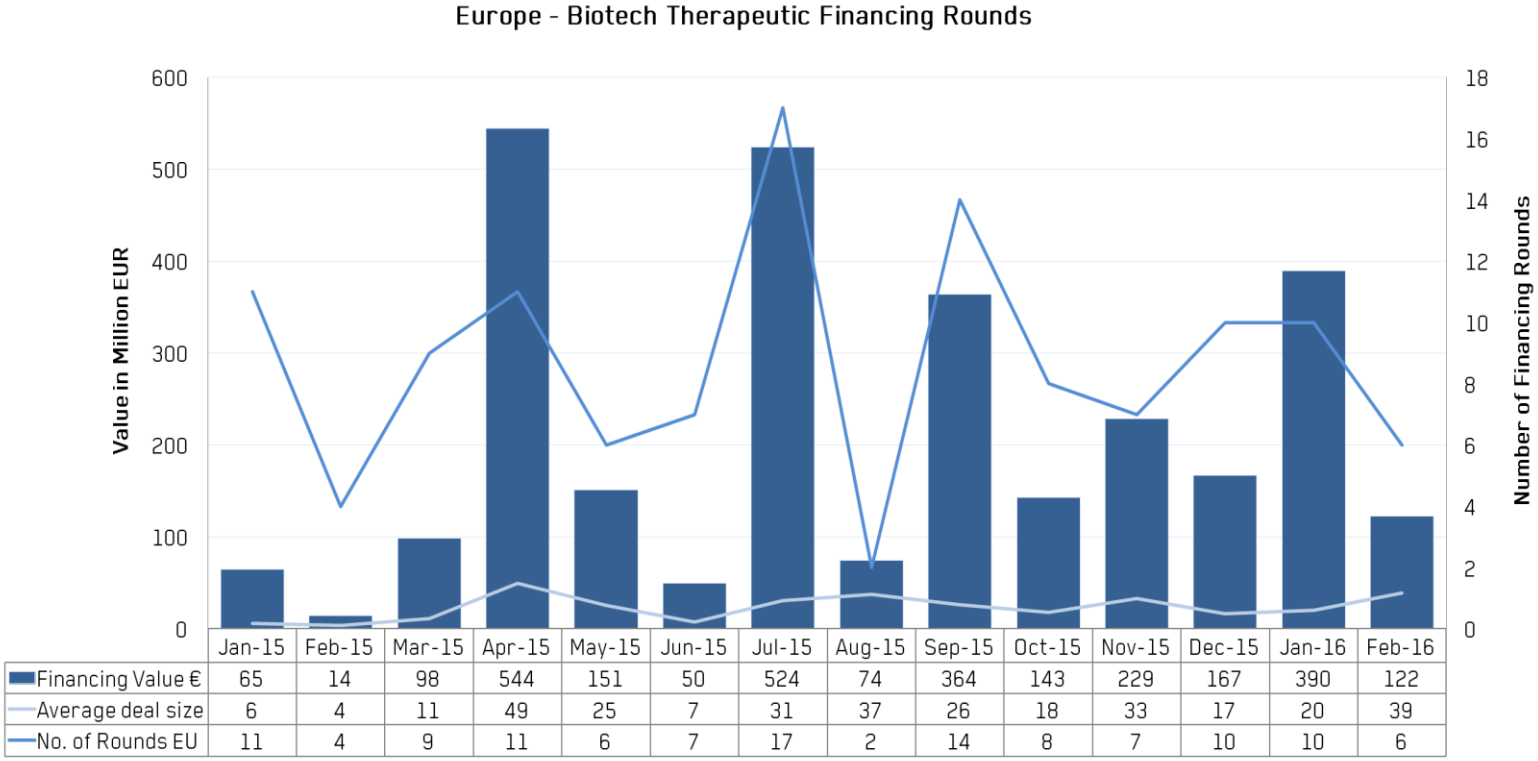
Private financing Biotech (Therapeutics and Diagnostics)



	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
Financing Value US	848	418	316	889	333	600	637	544	277	789	548	558	212
Financing Value EU	92	509	156	77	521	173	354	141	216	172	133	118	199
Number of Rounds EU	9	11	7	8	20	3	14	9	8	11	11	7	11
Number of Rounds US	32	18	11	28	17	25	19	21	17	31	17	18	13

Financing trends

Private financing Biotech (Therapeutics and Diagnostics)



	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16
Financing Value €	65	14	98	544	151	50	524	74	364	143	229	167	390	122
Average deal size	6	4	11	49	25	7	31	37	26	18	33	17	20	39
No. of Rounds EU	11	4	9	11	6	7	17	2	14	8	7	10	10	6

VENTURE VALUATION

Fit for Health 2.0

Agenda

- **Financing trends – Private financing**
- **Financing Sources**
- **Dos and Don’ts in raising money**

VENTURE VALUATION

Fit for Health 2.0

Financing Sources - Overview

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

Financing Sources – Equity Finance

	Venture Capital	Corporate Investors	Family Offices	Business Angels
Size	> EUR 3.5m	Open	Open	< USD 1.5m
Company type	High risk / potential	Strategic fit, innovative	Service component, opportunistic	Seed / early stage
Total capital requirement	High	High	Medium	Low
Exit	Set 5-10 years	M&A	Long-term partner	Medium term

VENTURE VALUATION

Fit for Health 2.0

Financing Sources – Non-Equity Finance

	Debt Financing	Grant / Government	Convertibles	Revenue, Royalty Product Financing
Size	open	< EUR 3.5m	open	> EUR 7m
Company type	Mature companies	Innovative, R&D, early stage	High growth, later stage	Mature, later stage
Total capital requirement	High	All	All	High
Exit	Repayment	None	Repay / convert	none

VENTURE VALUATION

Fit for Health 2.0

Financing Sources – Equity vs Licensing

	Own development Equity Financing	**Out-licensing Licensing Deal**
Follow-on products (earlier stage products 3, 4, 5)	**(-)** Fund raised on later stage products Price: low/ none within portfolio	**(++)** Interesting for pharma Limited value to VC/ analyst
Lead Products (products 1&2)	**(++)** Preserve potential within company Creates main value for investors	**(+)** Reduces burn-rate Provides Cash Depending on deal terms/ value

VENTURE VALUATION

Fit for Health 2.0

Agenda

- **Financing trends – Private financing**
- **Financing Sources**
- **Dos and Don’ts in raising money**

VENTURE VALUATION

Fit for Health 2.0

Do's in public funding

- Strategy: apply only if project is in line with your strategy
- Rules: evaluate which program fits your needs, study the rules
- Partner: find the right partners completing your expertise
- Evaluation: public funded projects are evaluated, so you have to sell your project
- Support: there are different support organizations, so ask them (e.g. national contact points)

VENTURE VALUATION

Fit for Health 2.0

Don’ts in public funding

- Profit: Don’t apply to make a profit, but to get knowledge and a network; funding is for pre-competitive support
- Topic: only apply if your research fits the theme
- Partners: make sure you have reliable partners
- Scope: Don’t ask for EU funding for regional scope
- Not easy: Competition is high, don’t expect easy funding

Dos for the preparation in private funding

- Be specific. Substantiate statements with market data
- Summarize and properly structure financial information; review by outside parties
- Show how much money you need; how do you spend it
- Attractive business plan (design), but not overdone
- Network like crazy
- Choosing your VC is as choosing a co-founder
- Do reference checks on the VC (previous investments)
- Having multiple term sheets makes a difference

Don’ts for the preparation in private funding

- 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

VENTURE VALUATION

Fit for Health 2.0

Dos in the Sales pitch in private funding

- Show a clear and logical exit strategy
- Save up good news for the middle of the process
- Wait until you have significant traction
- Be direct and have a plan – VCs like to see your confidence
- Be open and honest
- Be brief – provide executive summary
- Cite clearly how much money the company will need
- Be realistic in making estimates and assessing market

Don’ts in the Sales pitch in private funding

- Don’t pitch ideal VCs first – practice
- Don’t just pitch - listen to the VC
- Don’t be defensive
- Don’t pick your investor solely on brand/name.
- Don’t plan on closing any rounds in August / December or within a short time
- Don’t engage in a bidding war.
- Don’t travel too much – stay local
- Don’t press people beyond the Thank You email after a meeting.

Thank you!

Aitana Peire | Venture Valuation

a.peire@venturevaluation.com

www.venturevaluation.com
www.biotechgate.com

VENTURE VALUATION

Fit for Health 2.0

The valuation process of life science companies

Dr. Aitana Peire

May 2016 | International Exploitation Training FFH2.0, Dublin

VENTURE VALUATION

Fit for Health 2.0

Overview

- Introduction to valuation
- Valuation of start-up companies
- Valuation of a therapeutic product
- Q & A

VENTURE VALUATION

Venture Valuation

Fit for Health 2.0

Mission

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

Company and Deals Database - Biotechgate.com

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

VENTURE VALUATION

Fit for Health 2.0

Valuation – what?

1. Valuation of a product

⇒ Licensing deal

⇒ Strategic development decision

2. Valuation of a company

⇒ Investment / Financing round

⇒ Merger / Acquisition

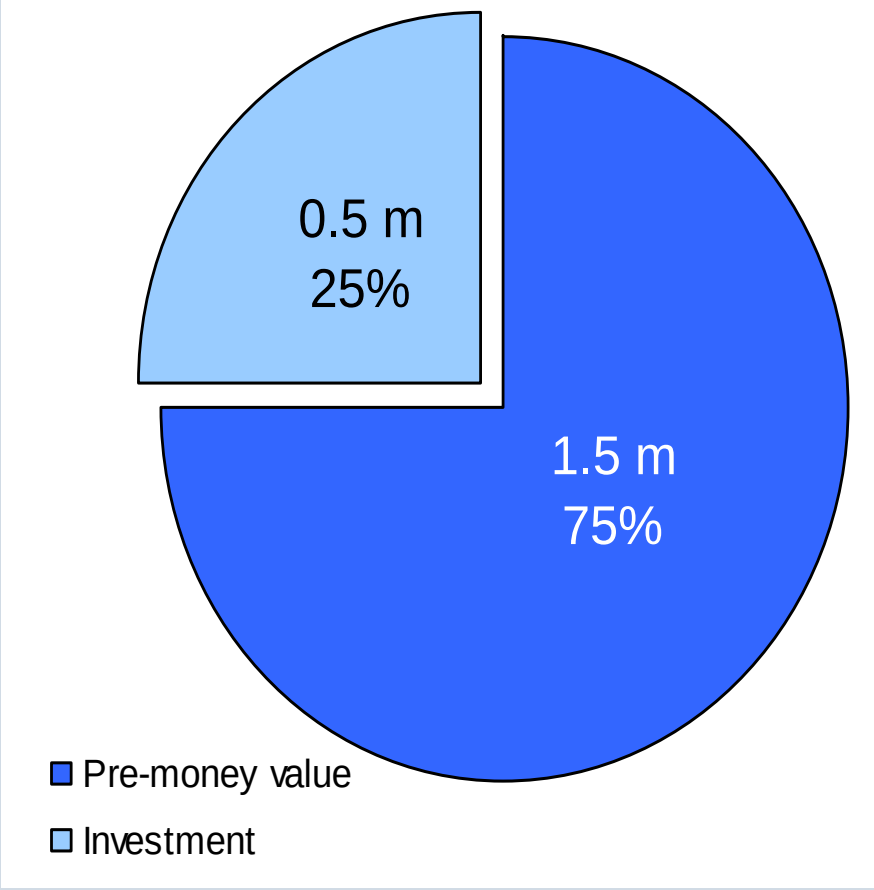
⇒ Measure success of company development

VENTURE VALUATION

Fit for Health 2.0

Valuation – why?

- Value before investment (pre - money value): USD 1,5 m
- Investment: USD 0,5 m
- Value after investment (post-money value): USD 2,0 m
- Share Investor: 0,5 m / 2,0 m = 25%



VENTURE VALUATION

Fit for Health 2.0

Valuation – why?

- Out-licensing of a phase II 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

VENTURE VALUATION

Fit for Health 2.0

Valuation – when?

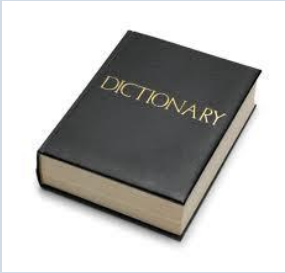
- Think ahead
- Be prepared for negotiations
- Know the fundamentals
- What assumptions have been used
- Out-licensing or financing round?

=> Ongoing exercise

VENTURE VALUATION

Fit for Health 2.0

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

VENTURE VALUATION

Fit for Health 2.0

Rational on Valuation

Why assessment and valuation of high growth companies?

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

VENTURE VALUATION

Fit for Health 2.0

Trends in Valuation

- Pharma companies have gap in pipeline
- Biotech industry has become more mature
- Market for available phase II products is dried up
- Pharma want to be involved from pre-clinical stage
- New demand: generics, Asia
- New deal and collaboration forms: options

=> Increasing demand for projects

VENTURE VALUATION

Fit for Health 2.0

Mindset of investors

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

=> Different investors for different projects (less VCs more alternative sources)

	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%

VENTURE VALUATION

Fit for Health 2.0

Mindset of Pharma

- Fuel pipeline
- Portfolio approach
- Sales force for specific therapeutic areas
- Compete with Investors
- Collaboration vs. acquisition

VENTURE VALUATION

Fit for Health 2.0

Assessment

1. Understand the fundamentals
2. Assumptions drive the valuation

=> Assessment/assumptions are key

Assessment:

1. Management
2. Market
3. Technology

VENTURE VALUATION

Fit for Health 2.0

Overview

- Introduction to valuation
- **Valuation of start-up companies**
- Valuation of a therapeutic product
- Q & A

VENTURE VALUATION

Fit for Health 2.0

Valuation approaches

1. Operations-based methods:
   ⇨ *business plan, fundamentals*
2. Market-based methods:
   ⇨ *price, trends, comparison difficulties*

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

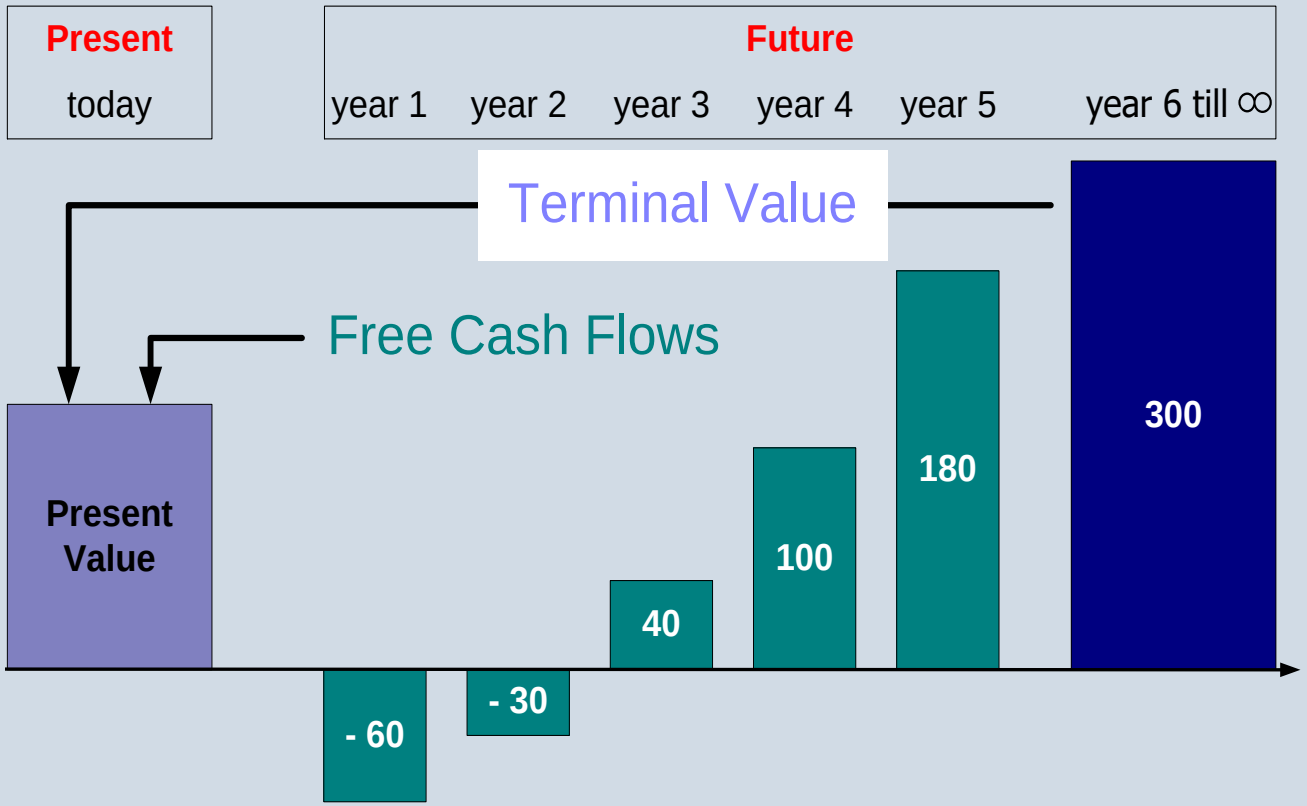
=> there is no “the right method”

=> combination of different methods

VENTURE VALUATION

Fit for Health 2.0

Basic DCF

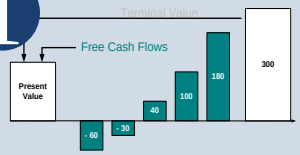


VENTURE VALUATION

Discounted Cash Flow

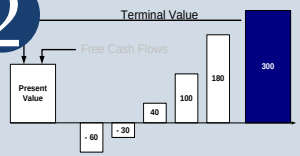
Fit for Health 2.0

1



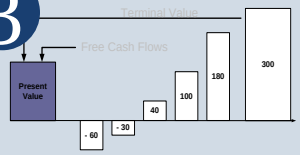
FCF

2



Terminal Value

3



Discount to PV

4

$$$$

Add FCF

Determine Free Cash Flows for year 1 to 5 or 3/10

↓

Calculate Terminal Value

↓

Discount with Discount Rate

↓

Sum of Free Cash Flows

VENTURE VALUATION

Fit for Health 2.0

Comparables method

Company Value:
USD 10 m

50 employees

Ratio

- Revenues
- Earnings
- EBITDA
- Employees
- R&D
- Company specific factors

10 employees

⇒ Company Value:

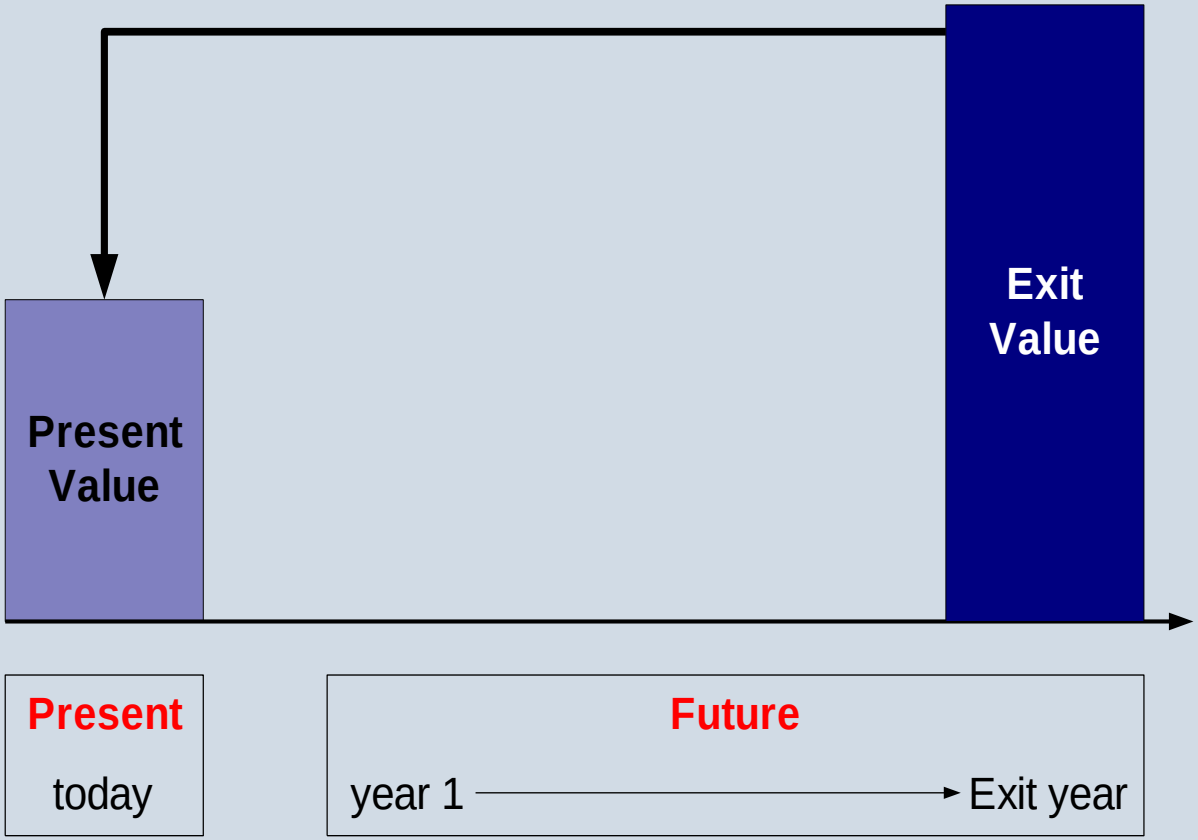
USD 2 m*

* (10/50) x 10 m = 2 m

VENTURE VALUATION

Fit for Health 2.0

Venture capital method



VENTURE VALUATION

Fit for Health 2.0

Overview

- Introduction to valuation
- Valuation of start-up companies
- **Valuation of a therapeutic product**
- Q & A

VENTURE VALUATION

Fit for Health 2.0

Product valuation

- Licensing deal
- Strategic development decision
- Expenses included are only those relevant to the product
- Product not industry comparables required
- Management risks not taken into account

VENTURE VALUATION

Fit for Health 2.0

Introduction

Input

- Development cost and timelines
- Production / Marketing cost
- Market / expected sales
- Success rate based on historical data

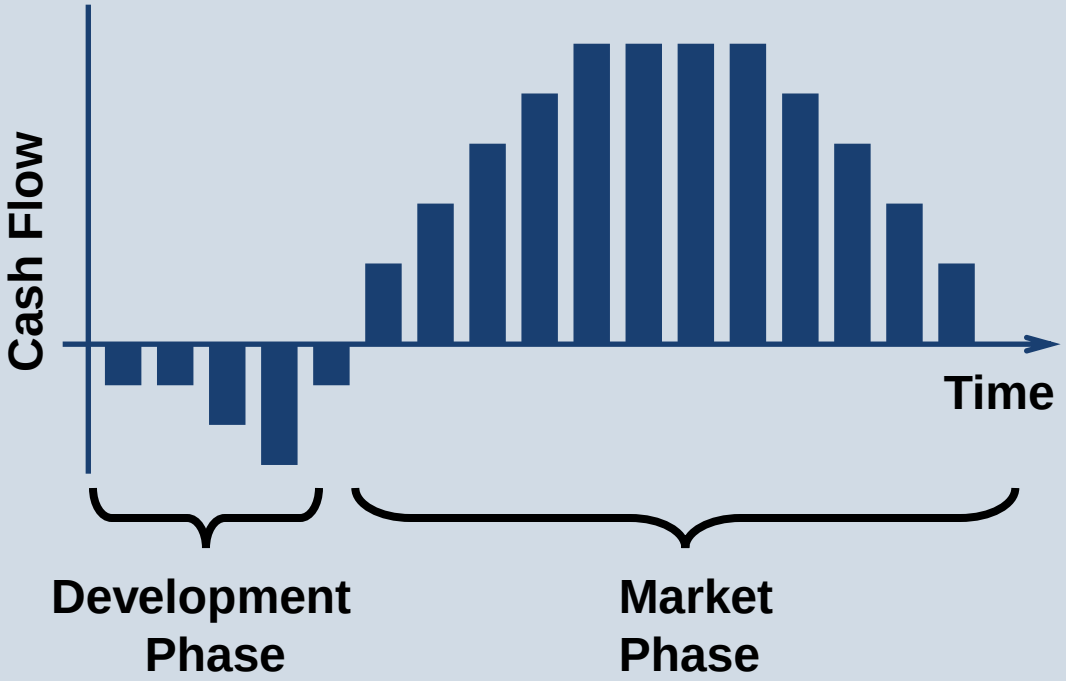
Output

- Expected annual discounted cash flows

VENTURE VALUATION

Fit for Health 2.0

Valuation components



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

VENTURE VALUATION

Fit for Health 2.0

Risk adjusted NPV

$$\sum_{i=1}^{7} \rho_i \sum_{t=1}^{T} \frac{DCF_{it}}{(1+r_d)^t} + \rho_7 \sum_{j=1}^{5} q_j \sum_{t=1}^{T} \frac{CCF_{jt}}{(1+r_c)^t}$$

Risk adjusted Net Present Value

- Also called eNPV
- Method of choice for Big Pharma

Benefits:

- Helps understand accurate value and maximises deal options
- Adjusts value for Development risk and Discount rate

$\Rightarrow$ Risk is split in two components

1) Product Risk (attrition rate)
2) General Risk (discount rate)

VENTURE VALUATION

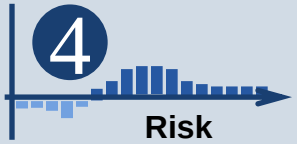
Fit for Health 2.0

Five-step process

Determine Cash Flows in **Development** Phase

Determine Cash Flows in **Market** Phase

Discount with **Discount rate**



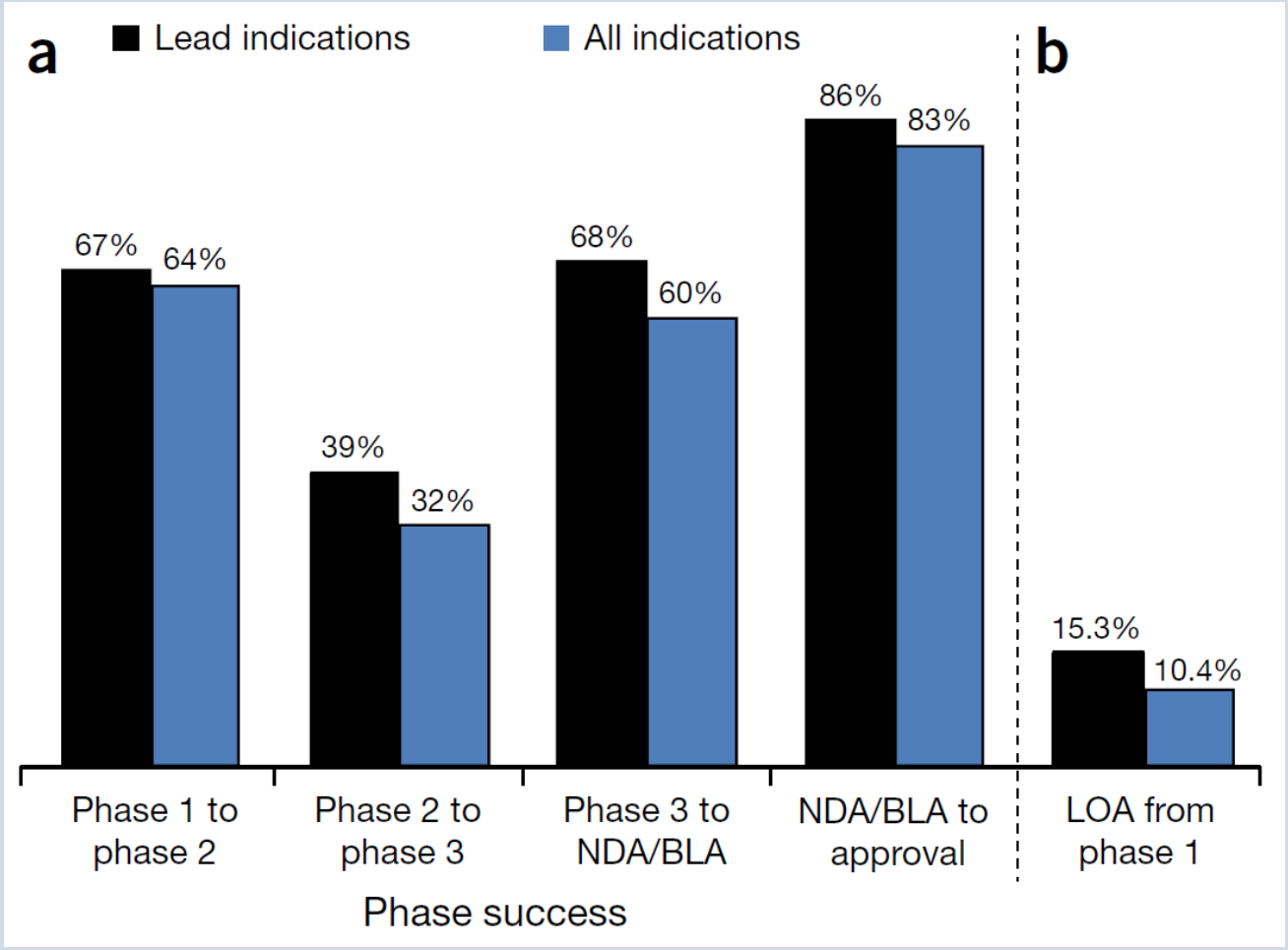
Adjust for **Risk** (success rates)

Sum cash flows

VENTURE VALUATION

Fit for Health 2.0

Success risk



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

VENTURE VALUATION

Fit for Health 2.0

Success risk II

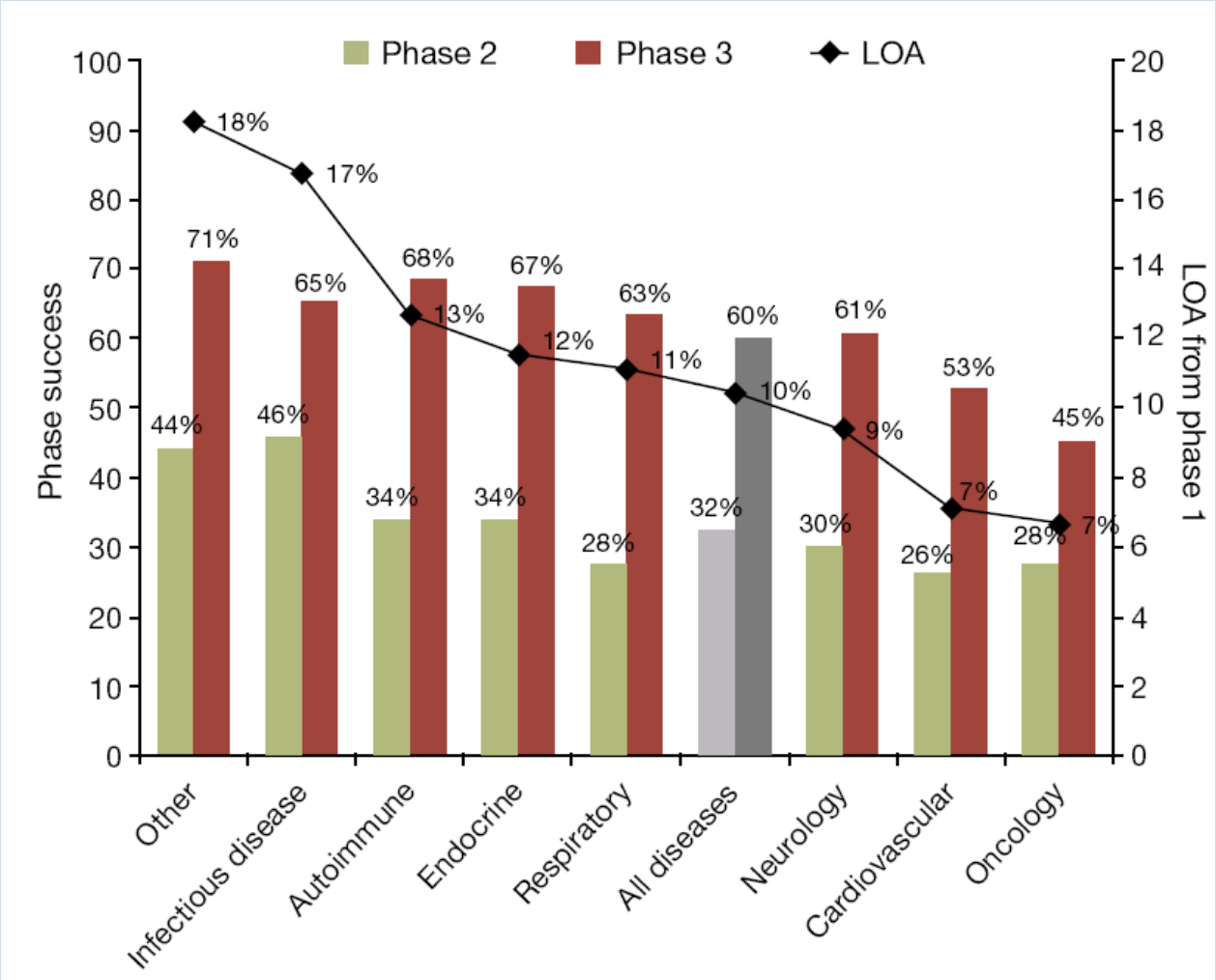
1 Devel.

2 Market

3 Discount rate

4 Risk

5 $$$$$



Source: Nature Biotechnology; Clinical development success rates for investigational drugs; January 2014
LOA: Likelihood of approval

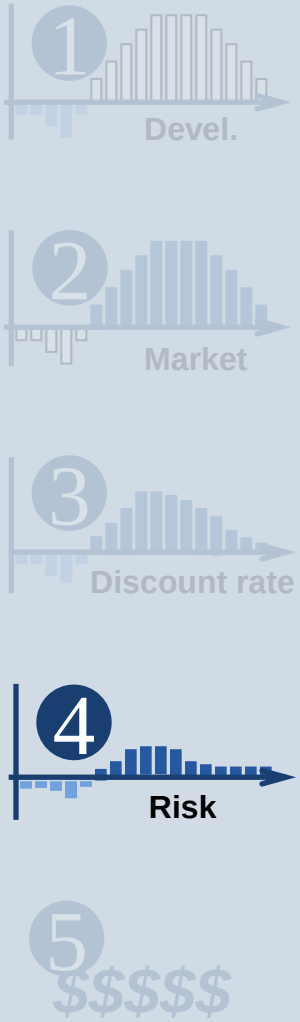
VENTURE VALUATION

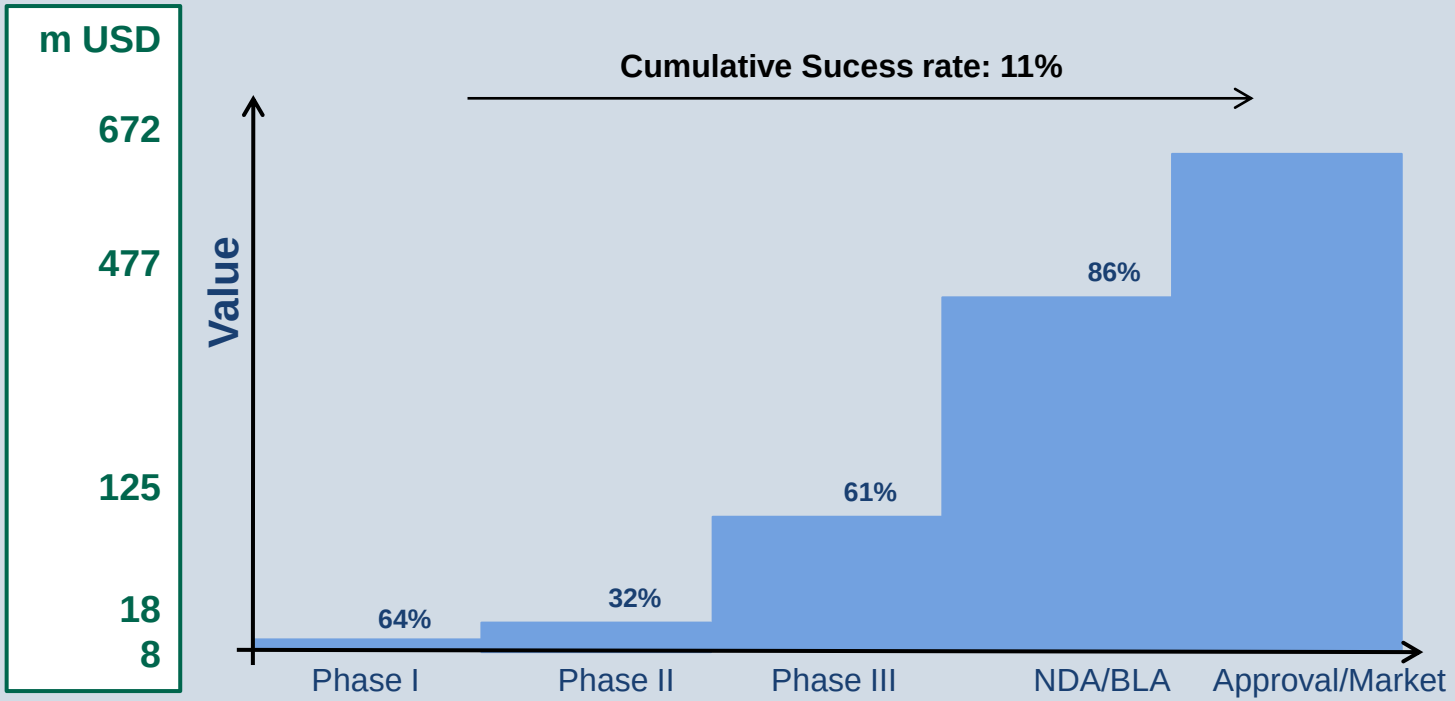
Fit for Health 2.0

Success risk III

The relation between Risk and Value

- Completion of a phase ➡ Direct value increase





VENTURE VALUATION

Fit for Health 2.0

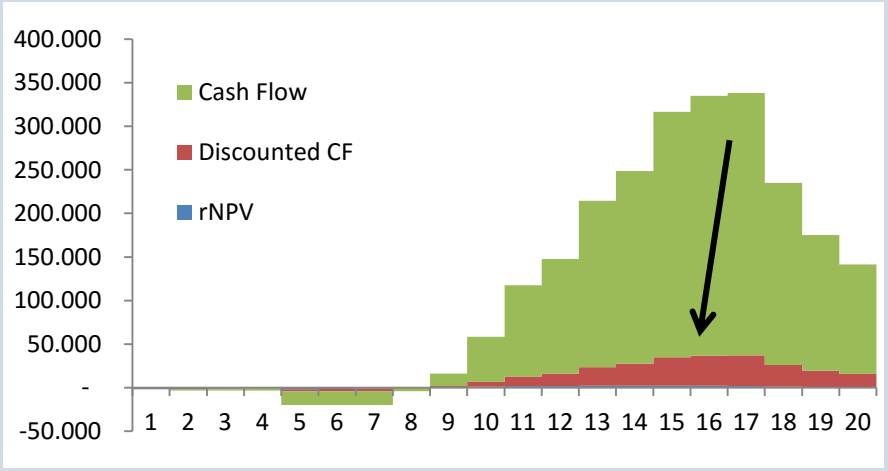
rNPV – Example

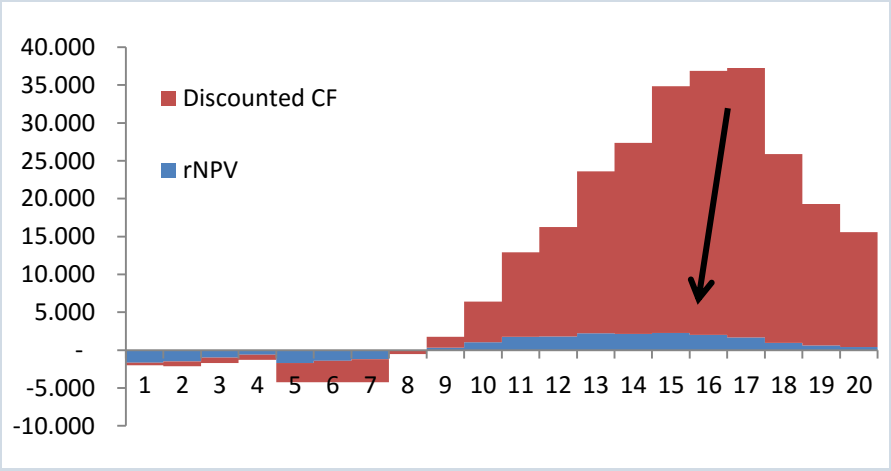
- Phase 1, single product company
- 20% discount rate
- 11% Probability of success (p1 to market)

⇒ CF: USD 2’269m

⇒ DCF: USD 127m

⇒ rNPV: USD 8m

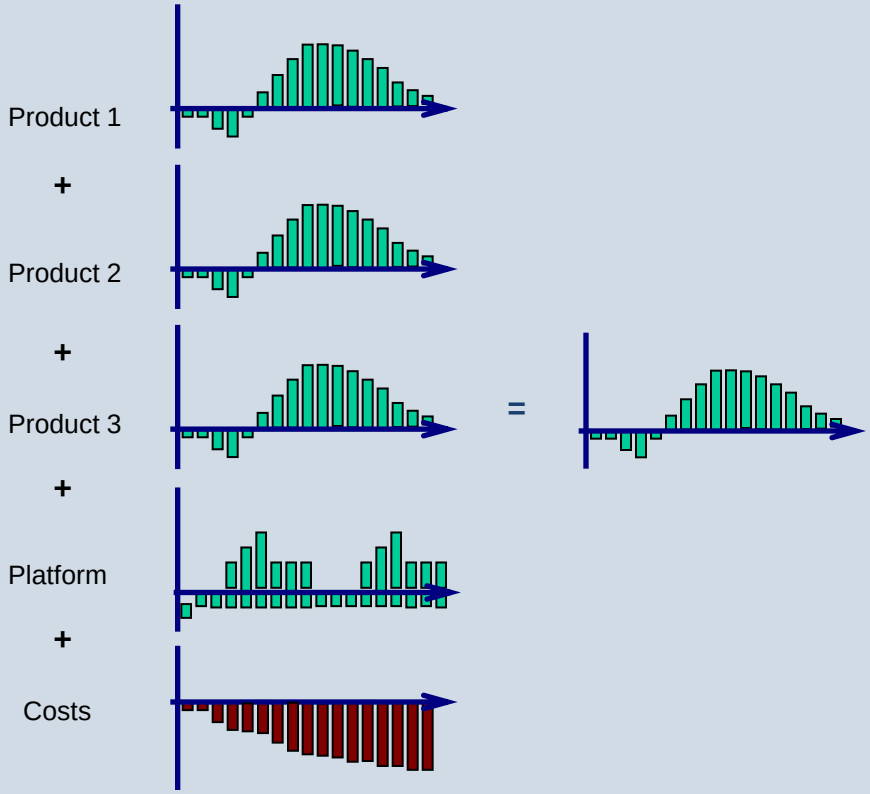




VENTURE VALUATION

Fit for Health 2.0

Company valuation



Early stage company

Sum-of parts valuation

Total value of project

VENTURE VALUATION

Fit for Health 2.0

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)
Up-front	1 m	1 m
Finish Pre-clinical	1 m	0.44 m
Finish Phase I	1 m	70’000
Finish Phase II	1 m	17’000
Finish Phase III	1 m	8’000
Approval / Enter market	1 m	5’000
Royalties	1%	0.70 m

*** Time value of money and Risk adjusted**

VENTURE VALUATION

Fit for Health 2.0

Timing of payments

- Two very different deal structures can look identical

Cash Flow

- Non-discounted, non-risk adjusted

1

rNPV

- 25 million upfront
- 300 million milestones
- 5% royalties

2

rNPV

- 5 million upfront
- 50 million milestones
- 12% royalties

VENTURE VALUATION

Fit for Health 2.0

Conclusion

- Valuation is key in the development of a start-up
- Valuation is not easy
- Value ≠ Price
- Its all about the assumptions
- Deal ≠ Deal
- Be prepared

VENTURE VALUATION

Fit for Health 2.0

Thank you for listening!

Tel.: +41 43 321 86 60
www.venturevaluation.com
a.peire@venturevaluation.com

Venture Valuation
Switzerland

VENTURE VALUATION

Fit for Health 2.0

Overview

- Introduction to valuation
- Valuation of start-up companies
- Valuation of a therapeutic product
- **Q & A**