

Startup Fundraising

Prof. Dr. Dirk Riehle

Friedrich-Alexander University Erlangen-Nürnberg

COSS D04

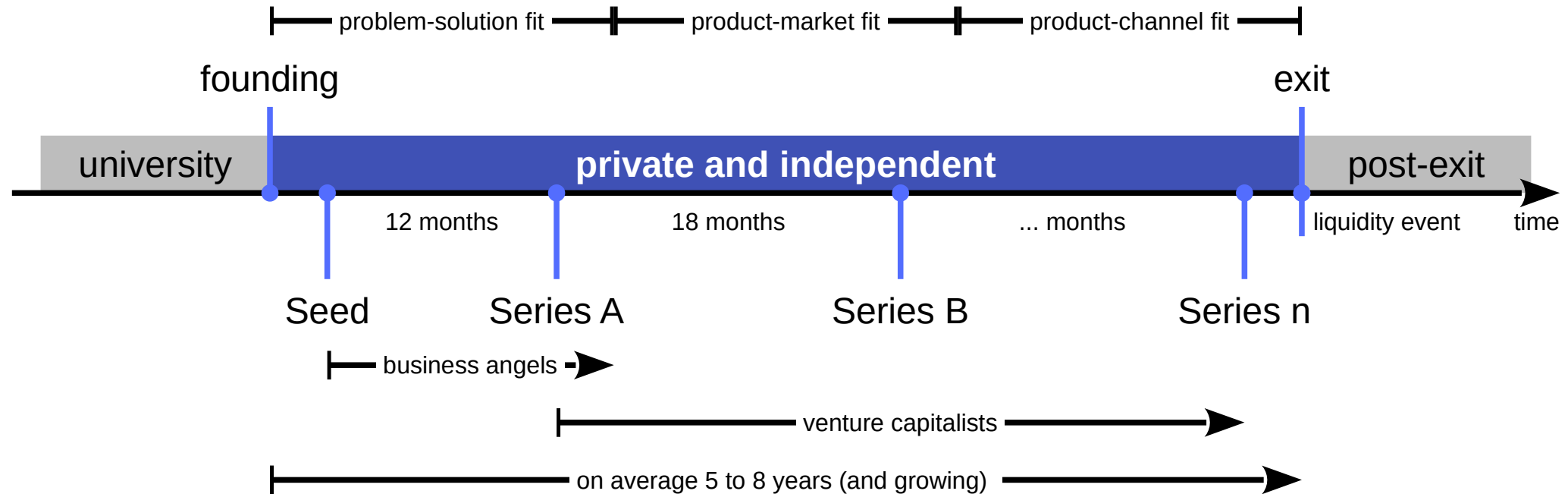
Licensed under [CC BY 4.0 International](https://creativecommons.org/licenses/by/4.0/)

Agenda

1. Startup timeline
2. Types of funding
3. The main players
4. Startup valuation
5. A funding round
6. Risk profiles

1. Startup Timeline

The Startup Timeline



Early Financial Needs Timeline

Stage	Headcount	Funding	Responsible
Research	Jane and Jim	(2 people at €80K + €30K) x 4 years	Professor
Validation	Jane, Jim, Tony	(3 people at €80K + €50K) x 2 years	Entrepreneurs
Incorporation	4	(4 people at €80K + €50K) x 2 years	Entrepreneurs
Going concern	n+	(n+ people at €80K + €30K) p.a. + ...	Entrepreneurs

2. Types of Funding

Forms of Funding

Type	Source
Gift	<ul style="list-style-type: none">• Self-exploitation• Public and NGO funders
Debt	<ul style="list-style-type: none">• Family, friends, and fools• Loans
Investment	<ul style="list-style-type: none">• Business angels• Venture capitalists
Projects	<ul style="list-style-type: none">• Public agencies• Companies

Public Funders and Programs (Recap)

#	Phase	Funder	Program	# Persons	Amount [PM p. P.]
1	Basic research	DFG ERC	Sachbeihilfe Advanced Grant	1-3 (up to 6)	36
2	Applied research	BMBF BMWi	VIP+, START interaktiv Various	1-4	18-36
3	Spinning-off	BMWi	EXIST Forschungstransfer	3-4	18
4	Starting-up	BMWi	EXIST II	3-4	6
5	...	BMWi	KMU Innovativ	...	12-24

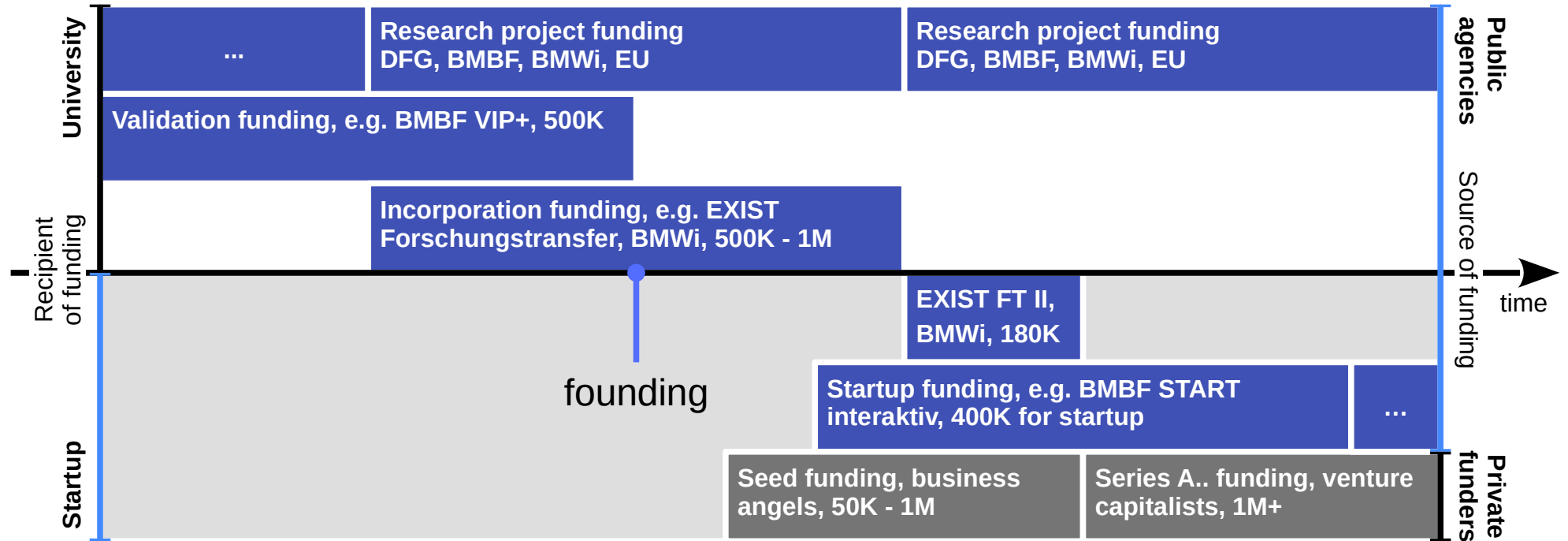
Business Angels

- A business angel
 - Is typically an individual investing their own money
 - May bring in other business angels
 - Is sometimes specialized, but more often general purpose
- Value proposition
 - Is typically money + personal involvement (expertise, network, etc.)
 - Personal involvement may or may not be a good idea

Venture Capital Firms

- A venture capital firm
 - Is a financial service firm that promises its investors outsized returns from startup investments
 - May invest in your startup if you fit their bill
 - Is sometimes general purpose, but more often specialized
- Value proposition
 - Is to bring money and more money through partners
 - Sometimes comes with useful services
- Venture capitalists = general partners at venture capital firm

Example Funding Strategy and Time-line



3. The Main Players

The Ecosystem and Its Main Players

- Investors
 - Business angels
 - Venture capital firms
- Facilitators
 - Lawyers
 - Professional organizations
- Enablers / resources
 - Professors
 - Universities

4. Startup Valuation

Valuation Methods

- Cost of replacement (pre-seed)
- Revenue multiples (Series A onwards)
- Discounted cash flows (later)

Cost of Replacement Method

Asset	Cost of Replacment
Source code	# person months x labor rate
Machinery	Price according to price list Price according to market place
Skilled labor	Recruiting costs

Revenue Multiples Method

- Value of company = Revenue x Multiple
 - Revenue is typically annual (maybe extrapolated) revenue
 - Multiple is a negotiated factor based on growth rate and industry

Category [1]	Percentage [YoY]	Multiple
Slow growth	<10%	1x – 2x
Stable growth	10% - 30%	2x – 5x
High growth	30% - 100%	5x – 10x
Super high growth	100% - 300%	10x – 15x
Hyper growth	300%+	15x – 25x

[1] See <https://microcap.co/startup-valuation-revenue-multiple>

Net Present Value / Discounted Cash Flow Method

- The net present value (NPV) of a firm is
 - The sum of all future cash-flows
 - Brought back in value to today
- NPV = sum of (future cash flows at time t / $(1 + \text{discount rate})$ to the power of t)
 - The discount factor is the expected rate of return of comparable investments

$$\text{NPV}(i, N) = \sum_{t=0}^N \frac{R_t}{(1 + i)^t}$$

5. A Funding Round

Company Valuation Pre- and Post-Money

Step	Value
Pre-money valuation	€4M
Investment by investor	€1M
Post-money valuation	€5M
Equity stake to investor	20%

Example Term Sheet 1 /2 [1]

Company:	[_____], a Delaware corporation.
Securities:	Series A Preferred Stock of the Company (“ Series A ”).
Investment Amounts:	<p>\$[] million from [_____] (“Lead Investor”) \$[] million from other investors</p> <p>Convertible notes and safes (“Convertibles”) convert on their terms into shadow series of preferred stock (together with the Series A, the “Preferred Stock”).</p>
Valuation:	\$[] million post-money valuation, including an available option pool equal to []% of the post-Closing fully-diluted capitalization.
Liquidation Preference:	1x non-participating preference. A sale of all or substantially all of the Company’s assets, or a merger (collectively, a “ Company Sale ”), will be treated as a liquidation.
Dividends:	6% noncumulative, payable if and when declared by the Board of Directors.
Conversion to Common Stock:	At holder’s option and automatically on (i) IPO or (ii) approval of a majority of Preferred Stock (on an as-converted basis) (the “ Preferred Majority ”). Conversion ratio initially 1-to-1, subject to standard adjustments.

[1] See https://www.ycombinator.com/series_a_term_sheet/

Example Term Sheet 2 / 2

Voting Rights:

Approval of the Preferred Majority required to (i) change rights, preferences or privileges of the Preferred Stock; (ii) change the authorized number of shares; (iii) create securities senior or pari passu to the existing Preferred Stock; (iv) redeem or repurchase any shares (except for purchases at cost upon termination of services or exercises of contractual rights of first refusal); (v) declare or pay any dividend; (vi) change the authorized number of directors; or (vii) liquidate or dissolve, including a Company Sale. Otherwise votes with Common Stock on an as-converted basis.

Drag-Along:

Founders, investors and 1% stockholders required to vote for a Company Sale approved by (i) the Board, (ii) the Preferred Majority and (iii) a majority of Common Stock [(excluding shares of Common Stock issuable or issued upon conversion of the Preferred Stock)] (the “**Common Majority**”), subject to standard exceptions.

Other Rights & Matters:

The Preferred Stock will have standard broad-based weighted average anti-dilution rights, first refusal and co-sale rights over founder stock transfers, registration rights, pro rata rights and information rights. Company counsel drafts documents. Company pays Lead Investor’s legal fees, capped at \$30,000.

Board:

[Lead Investor designates 1 director. Common Majority designates 2 directors.]

Founder and Employee Vesting:

Founders: [_____].
Employees: 4-year monthly vesting with 1-year cliff.

The Cap(italization) Table [1]

Company GmbH/AG

Finance Round

Investment Pre- Money

Price Per Share

Seed Financing 1. Closing

€ 1.950.000,00

€ 39,00

[1] See <https://standardsinstitute.de/term-sheet/>

Shareholder	Establishment Of the Company		Financing Round A		Total without Options		Total with Options	
	Shares	in %	Investment	Shares	Shares	in %	Shares	in %
Founder 1	12.500	25,00 %		0	12.500	24,38 %	12.500	21,7%
Founder 2	12.500	25,00 %		0	12.500	24,38 %	12.500	21,7%
Founder 3	12.500	25,00 %		0	12.500	24,38 %	12.500	21,7%
Founder 4	12.500	25,00 %		0	12.500	24,38 %	12.500	21,7%
Investor 1			€ 50.000	1.282	1.282	2,50 %	1.282	2,2%
Investor 2								
Investor 3				0	0	0,00 %	0	0,0%
Investor 4				0	0	0,00 %	0	0,0%
Investor 5								
Options							6.433	11,1%
Total	50.000	100,00 %	€ 50.000	1.282	51.282	100,00 %	57.715	100,00 %

6. Risk Profiles

Risk Profiles and Conflicts of Interest

- Founders
- Investors
 - Business angels
 - Venture capital
 - Private equity

Summary

1. Startup timeline
2. Types of funding
3. The main players
4. Startup valuation
5. A funding round
6. Risk profiles

Thank you! Questions?

dirk.riehle@fau.de – <https://oss.cs.fau.de>

dirk@riehle.org – <https://dirkriehle.com> – [@dirkriehle](#)

Legal Notices

- License
 - Licensed under the [CC BY 4.0 International](#) license
- Copyright
 - © 2020-2022 Dirk Riehle, some rights reserved