MODULE 4

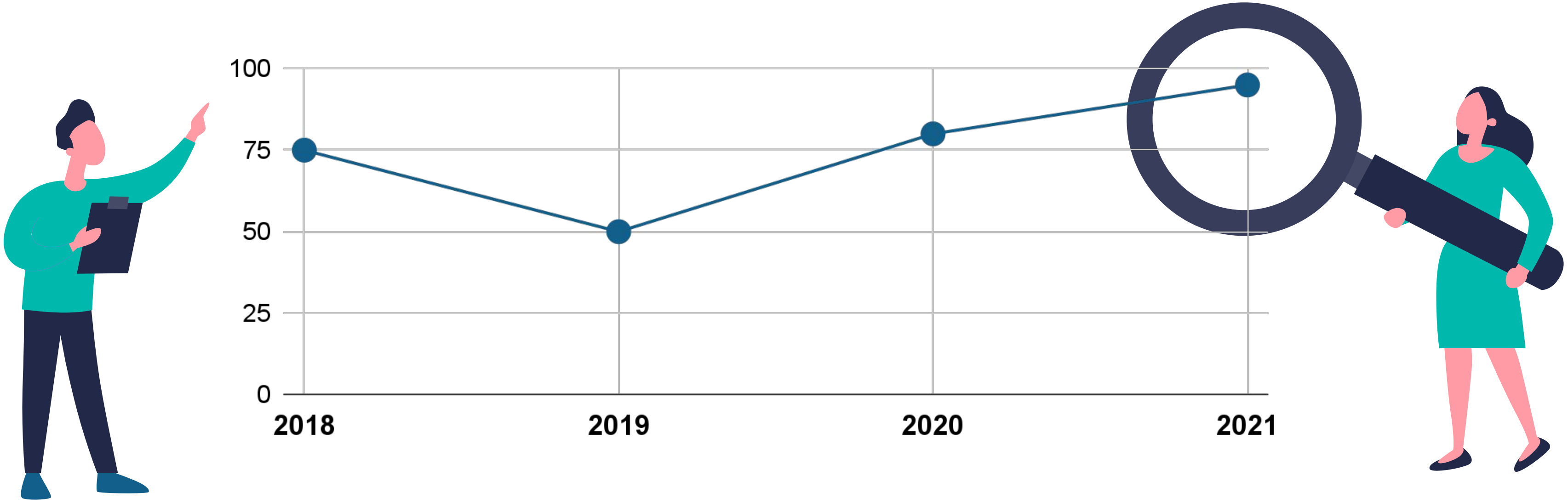
QUESTION 1

QUESTION 2

QUESTION 3

QUESTION 4

Which kinds of startup tend to raise higher amount in Angel?



We make hypotheses on which categorical/numerical factors may have correlations with metrics of success in Angel.

Which kinds of startup tend to raise higher amount in Angel?	Factors for analysis		Metrics
	Numerical	Pre-valuation amount	Total raised amount
		Operating time	Number of companies receiving funds
		Number of attempts	Median raised amount
	Categorical	Industry	Success rate (chance of being funded)
		Geography	
		Time of fundraising	

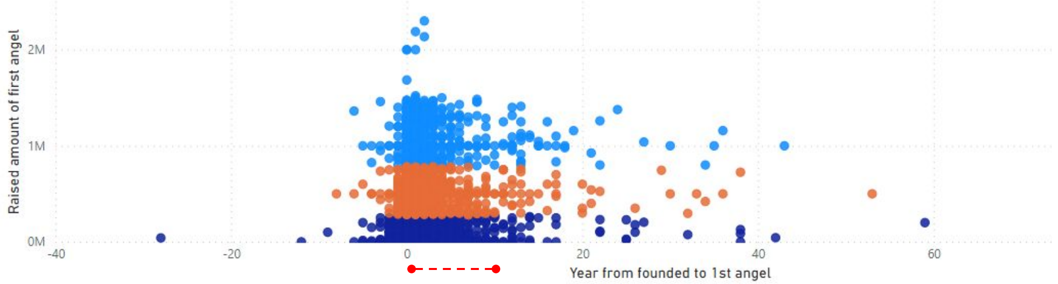
Non-correlating factors

Correlating factors

1.1 NON-CORRELATING FACTORS

Pre-valuation amount & Total raised amount in Angel

Year from founded date to 1st Angel round & Total raised amount in Angel



Pre-valuation amount

Almost all startups are valuated at $0 before Angel.. Pre-valuation amount does not affect how much a company can raise.
Data point size: post-valuation amount -> Almost all companies' valuation amount did not change after Angel.

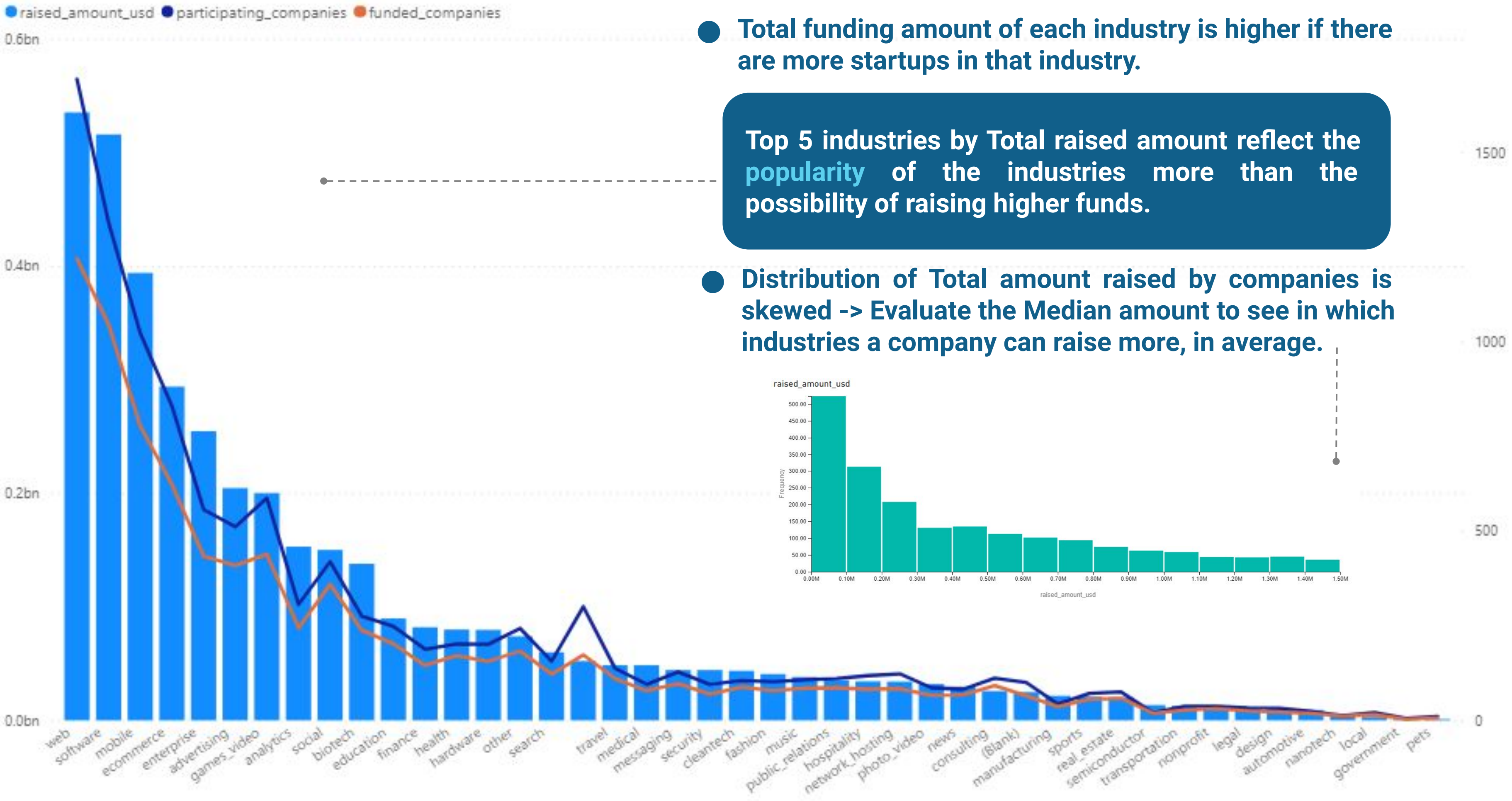
Years of operation

The majority of companies entered first Angel round after 0-7 years from foundation.
Raised amount of first Angel round varies across all operating times.

Number of attempts

Almost all companies didn't have to wait till the second Angel round to get their first flows of capital.

1.2 CORRELATING FACTORS - Industry

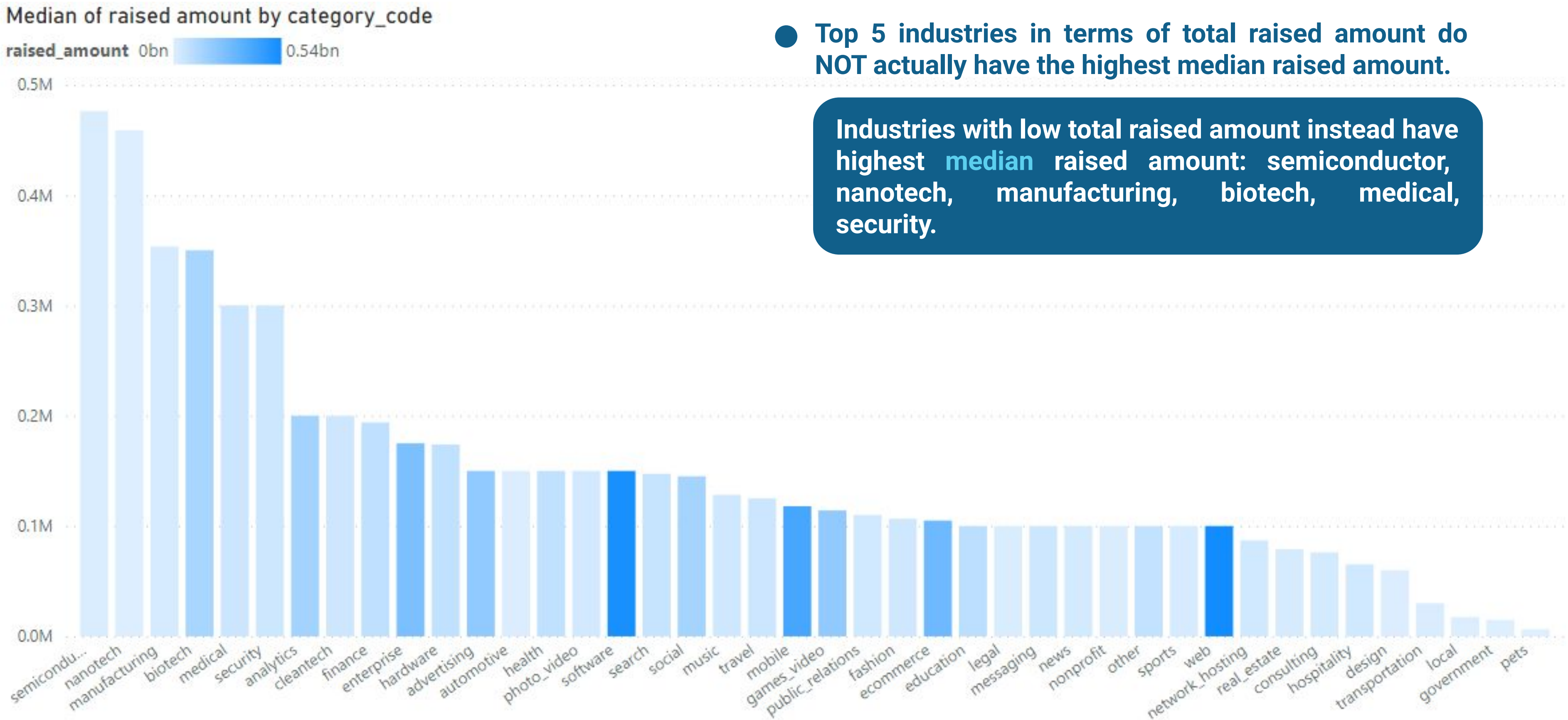


- **Total funding amount of each industry is higher if there are more startups in that industry.**

Top 5 industries by Total raised amount reflect the popularity of the industries more than the possibility of raising higher funds.

- **Distribution of Total amount raised by companies is skewed -> Evaluate the Median amount to see in which industries a company can raise more, in average.**

1.2 CORRELATING FACTORS - Industry

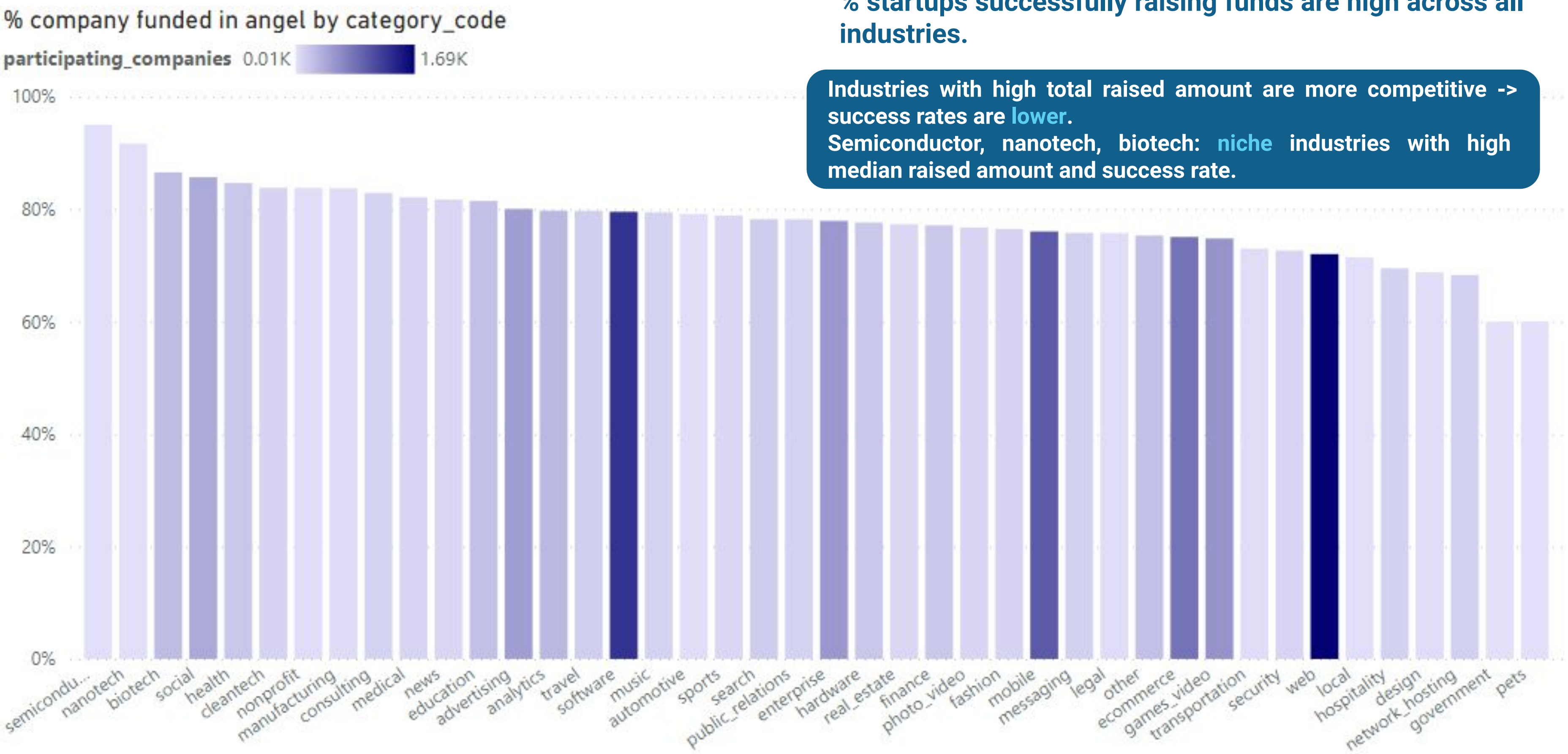


- **Top 5 industries in terms of total raised amount do NOT actually have the highest median raised amount.**

Industries with low total raised amount instead have highest median raised amount: semiconductor, nanotech, manufacturing, biotech, medical, security.

1.2 CORRELATING FACTORS - Industry

- Angel rounds are observed to be relatively easy, as the % startups successfully raising funds are high across all industries.

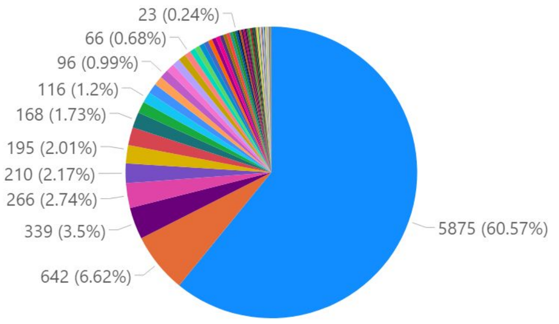


Industries with high total raised amount are more competitive -> success rates are lower.
Semiconductor, nanotech, biotech: niche industries with high median raised amount and success rate.

1.2 CORRELATING FACTORS - Geography

By Country

Number of Participating companies by Country

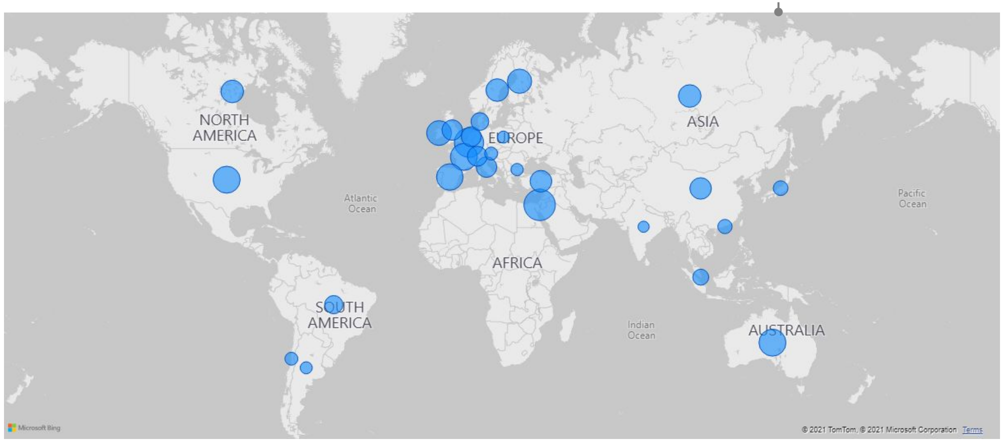


Uneven sample size between countries.

Nations where a startup can raise the highest median fund: US, European countries, Israel, Australia.

Germany is the economy in which startups face significant difficulties in getting money from Angel investors.

Median raised amount in Angel by Country
(only countries with >= 50 participating companies)

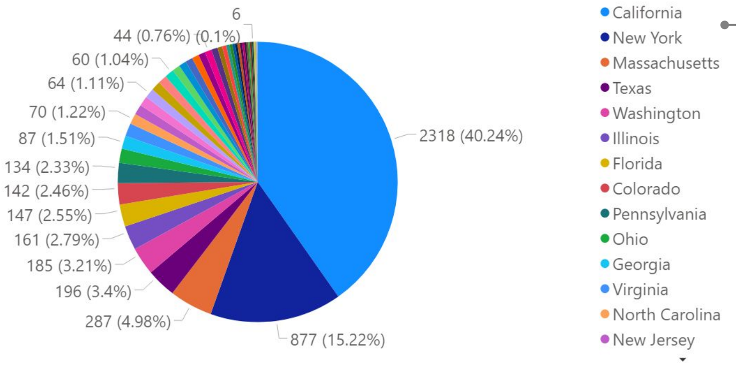


Country	participating_companies	% company funded in angel
Argentina	66	89.39%
Australia	122	88.52%
Spain	195	82.56%
Singapore	108	82.41%
Ireland	87	81.61%
Canada	339	81.12%
United States	5875	79.37%
Russian Federation	82	78.05%
Netherlands	96	77.08%
Denmark	56	76.79%
United Kingdom	642	75.55%
France	191	75.39%
Italy	116	75.00%
Israel	168	74.40%
Sweden	54	74.07%
Brazil	97	73.20%
Switzerland	58	67.24%
Japan	80	65.00%
India	210	62.38%
Austria	50	60.00%
Germany	266	50.38%

1.2 CORRELATING FACTORS - Geography

By US State

Number of Participating companies by State



Uneven sample size between states.

States with high median raised amount are coastal ones.
West Coast is a more robust environment for startups.

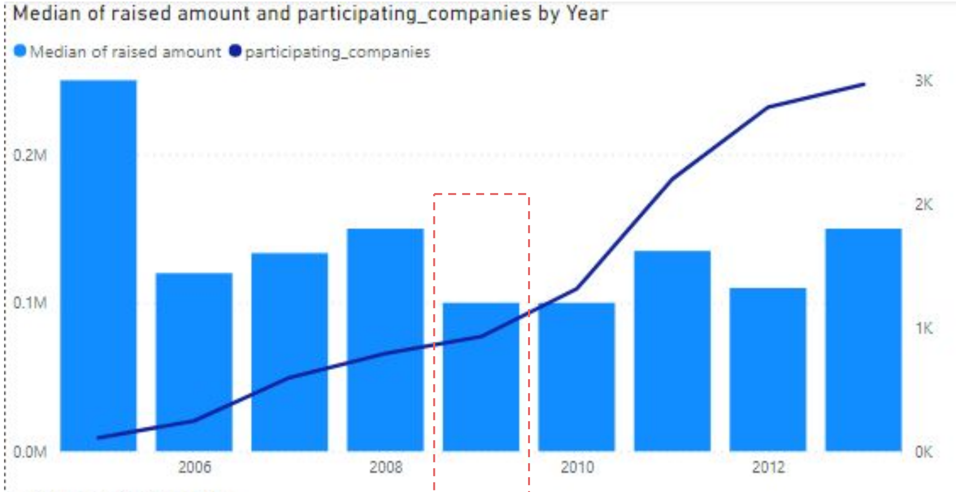
California, despite being the largest hub for Angel investments, has the lowest % of companies being funded in Angel rounds.

Median raised amount in Angel by State
(only states with >= 50 participating companies)

State	participating_companies	% company funded in angel
Oregon	62	95.16%
Tennessee	60	95.00%
Ohio	94	94.68%
Maryland	64	92.19%
Pennsylvania	134	91.04%
Connecticut	60	90.00%
North Carolina	70	90.00%
New Jersey	68	86.76%
Florida	147	85.71%
Illinois	161	83.85%
Colorado	142	83.80%
Texas	196	83.16%
Missouri	65	83.08%
New York	877	82.21%
Georgia	87	81.61%
Virginia	86	81.40%
Utah	53	81.13%
Washington	185	81.08%
Massachusetts	287	79.79%
California	2318	72.35%

1.2 CORRELATING FACTORS - Fundraising time

Startups should consider when to raise funds: avoid regression periods of the economy.



Only years with >=100 participating companies are chosen for analysis.

Through years, number of startups and raised amount steadily increased, however median raised amount fluctuated.

2009: participating companies did not decrease >< total raised amount & median raised amount dropped. => Great Recession 2007-2009

SUMMARY & RECOMMENDATIONS

1. It doesn't matter if the startup is young and newly founded, or is not valuated highly prior to their Angel rounds, as these facts do not affect their fundraising amounts.

2. It is quite easy for startups to raise funds successfully in Angels, right on their first attempt. How much they can raise is what truly matters though (more in Question 2)

3. Technology/Internet sectors are booming industries for startups and investors, however more niche sectors like Healthcare, Biology, Semiconductor show higher funds and success rate.

4. Startups should consider where and when to raise funds: ideally in developed & startup-culture enriched economies, and avoiding regression periods of the economy.

MODULE 4

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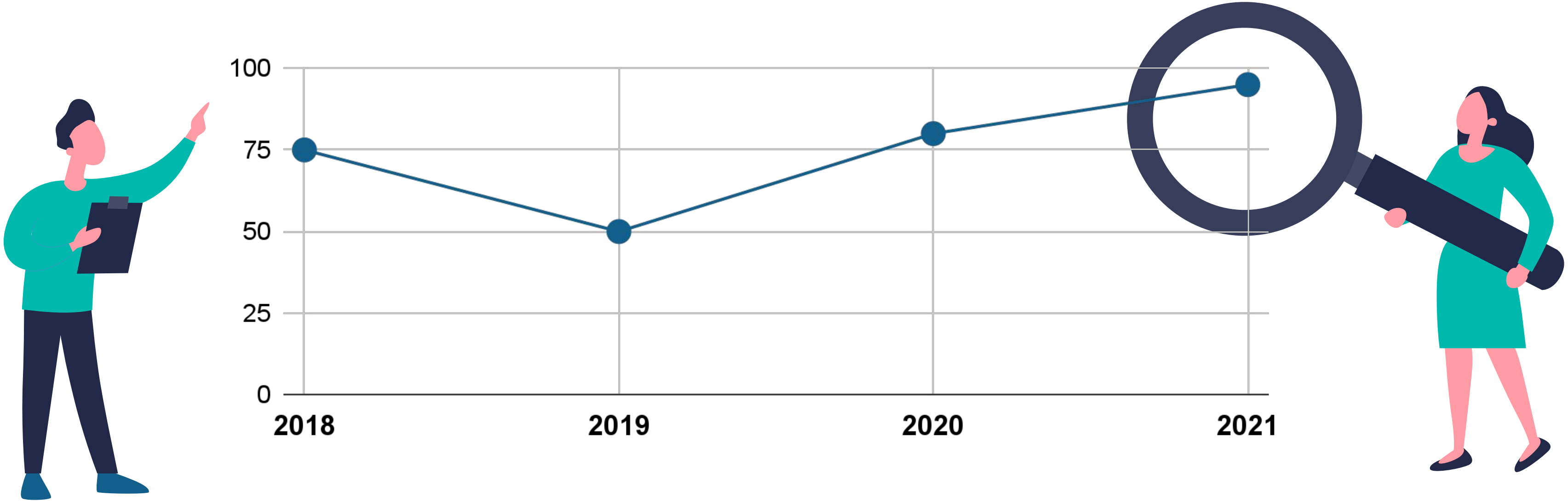
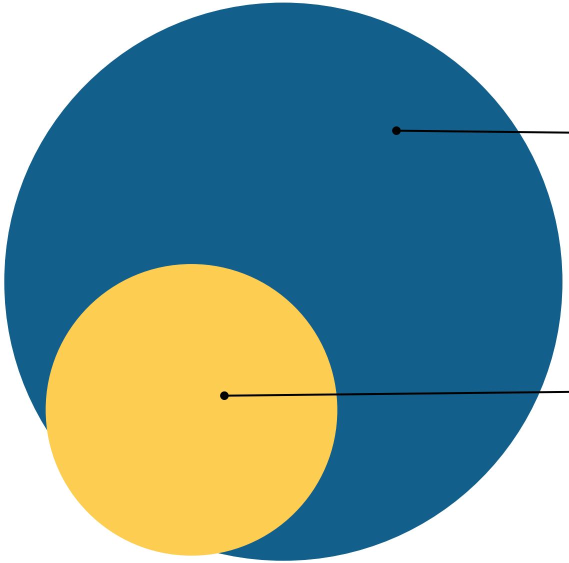
What are the differences between startups proceeding to Series A and those who did not?



OVERVIEW

Startups stand an extremely low chance of successfully go to Series A rounds after their initial Angels.



10,972

companies participated in **Angel** rounds in total

13.43%

went to **Series A** afterwards

The low probability implies **great challenges** startups have to face when ambitioning to gain higher funding, and poses questions on **what can potentially increase their success rate** in conversion.

KEY FINDINGS

1. Companies raising higher Angel funds are more likely to convert to Series A.
2. Companies making it to series A are less vulnerable to closure than those who stopped at Angel.
3. Probability of startups advancing to series A varies across different industries.
4. Companies raising funds from more investors in Angel rounds are more likely to go to series A. Funding from top investors does not necessarily mean higher conversion rate.
5. Generally, chance of entering Series A got slimmer over the years as competition increased.

1. Companies that raised more funds in Angel rounds are more likely to enter Series A

making_to_series_a	No of companies	Succeeded in Angel	Success rate in Angel	Median raised in Angel
no	9499	7273	76.57%	$131,780
yes	1473	1141	77.46%	$500,000

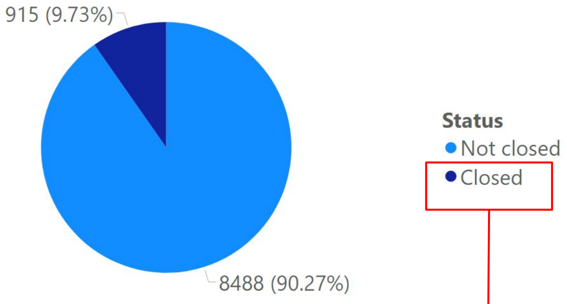
Despite roughly the same chance of getting funded during Angels, companies which later moved to series A were funded much more.

2-3 mil USD appears to be the benchmark for a significantly higher chance of getting to Series A.

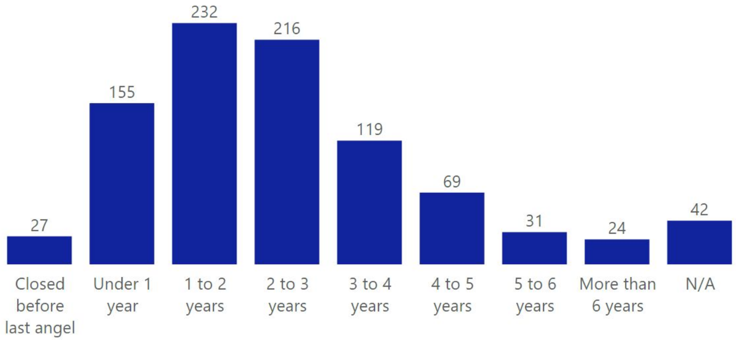
- Companies are funded more if their business ideas and early-stage operation plans are more convincing and appealing to investors. -> Good foundation makes them go further easier.
- Raising more in angel rounds is a good strategy to survive past the first years before the business grows large enough to raise more funds.

2. Companies making it to series A are less vulnerable to closure than those who stopped at Angel

Stopped at Angel



Number of companies by Time from Last Angel to Closed date

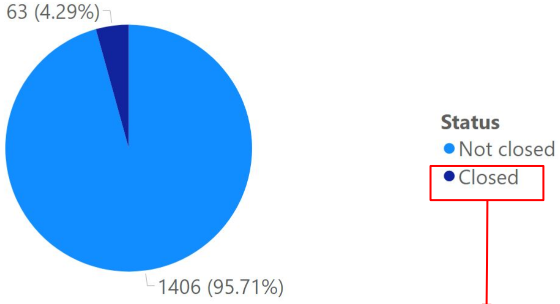


Only <5% of companies reaching Series A have been shut down, while this rate for companies only taking Angel is up to 10%.

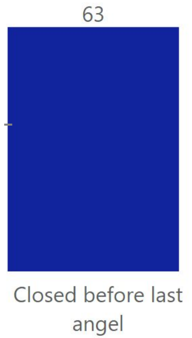
All closed companies from "Went to Series A" Group still have their last Angel round after their close date.

**If this is data error, no companies in this group were actually closed.*

Went to Series A



Number of companies by Time from Last Angel to Closed date



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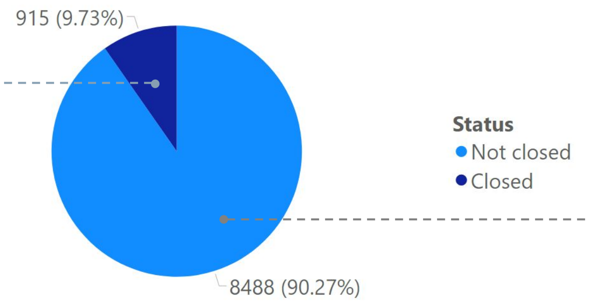
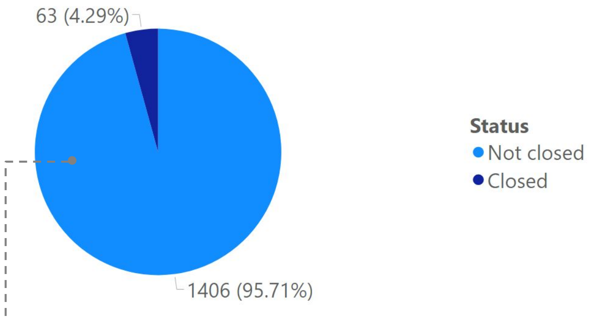
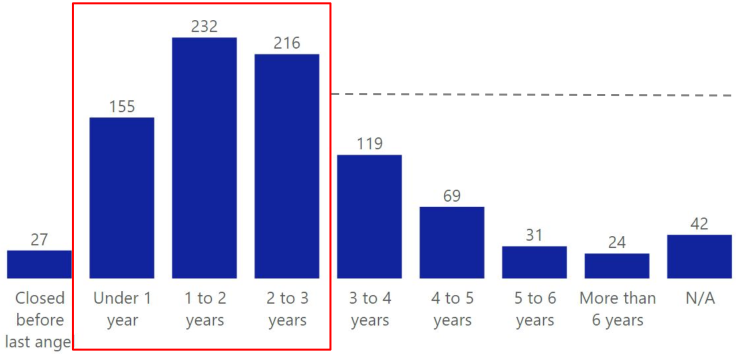


Went to Series A



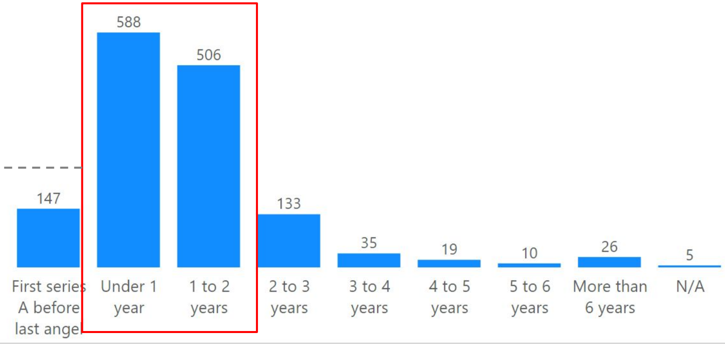
Not going to Series A does not equal failure. Either the companies are still looking for opportunities, or they don't actually need more funds.

Number of companies by Time from Last Angel to Closed date

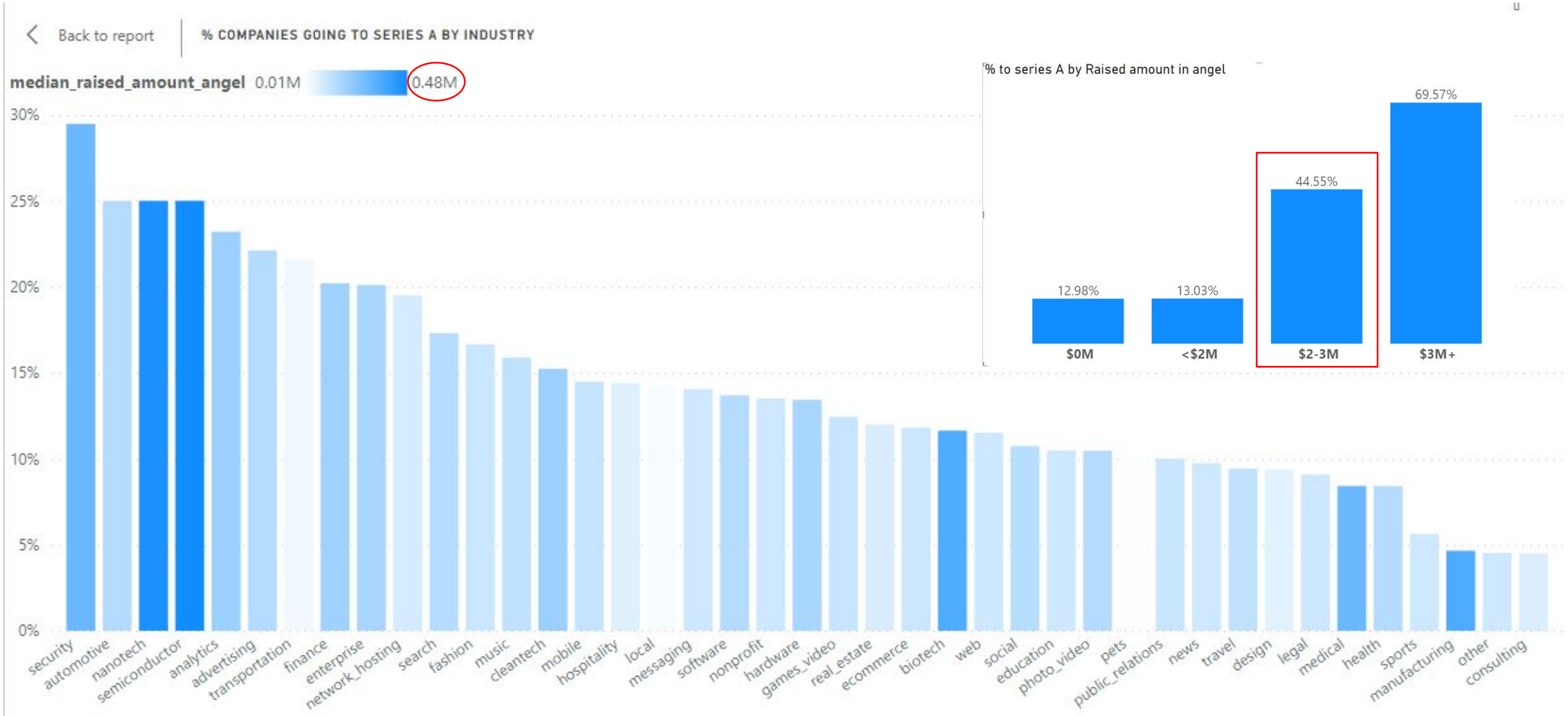


Same time span from the last angel round: strong companies can raise new capital quickly, while weak startups didn't survive past 3 years.

Number of companies by Time from Last Angel to First Series A



3. Probability of startups advancing to series A varies across different industries.



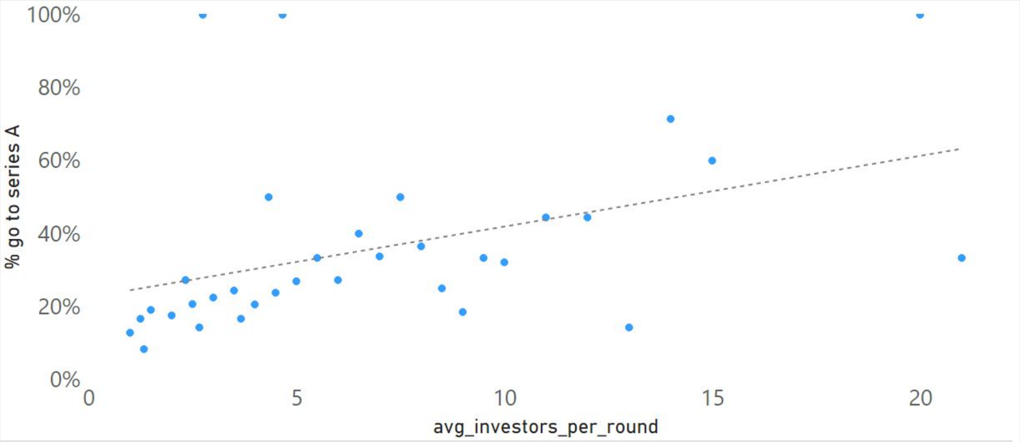
Industries in which startups can raise the highest Angel funds do not necessarily promise higher chance of advancing to Series A, as the majority of startups do not reach the benchmark of $2-3M.

4. Companies raising funds from more investors in Angel rounds are more likely to go to series A.

making_to_series_a	No of companies (with investor data)	Total investors	Median investors
no	5574	12950	1.00
yes	1333	7749	4.00

Generally, each company in group “Yes” raised fund from more investors than group “No” in Angel rounds.

% go to series A by Average investors per Angel round



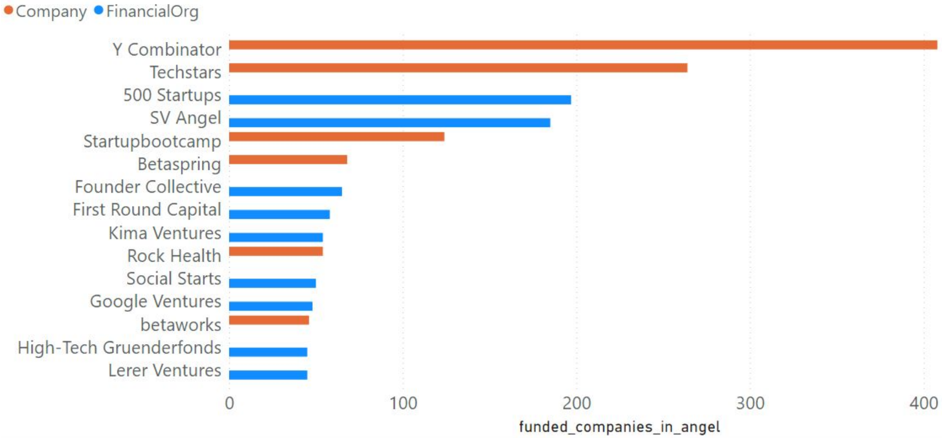
The more investors participating in an Angel round, the higher possibility a startup makes it to Series A afterwards.

The more investors a company seeks for during early funding rounds, the more help they receive upon defining a plan for Series A. Wider relationships also mean investors can connect to, and advise companies on potential later-stage investors.

4. Raising Angel funds from top investors does not necessarily mean higher conversion rate.

For practicality of the analysis, we include only investors who had funded at least 10 companies & made the last investment in at most 1 year from the time this dataset was collected (2013).

Top 15 investors by Total companies funded in Angel

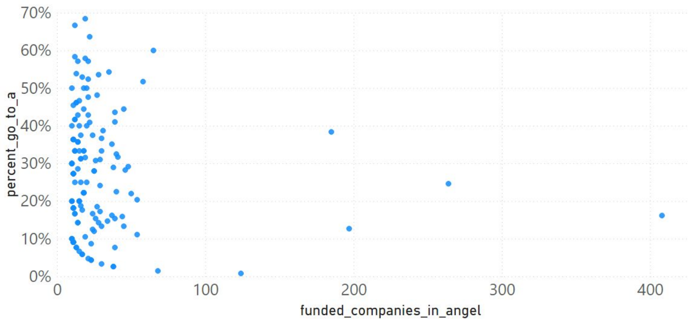


angel_investor	funded_companies_in_angel	percent_go_to_a	success_rate_rank
Y Combinator	408	16.18%	63
Techstars	264	24.62%	49
500 Startups	197	12.69%	69
SV Angel	185	38.38%	28
Startupbootcamp	124	0.81%	85
Betaspring	68	1.47%	84
Founder Collective	65	60.00%	4
First Round Capital	58	51.72%	13
Kima Ventures	54	20.37%	54
Rock Health	54	11.11%	72
Social Starts	50	22.00%	53
Google Ventures	48	29.17%	42
betaworks	46	28.26%	45
High-Tech Gruenderfonds	45	13.33%	68
Lerer Ventures	45	44.44%	20

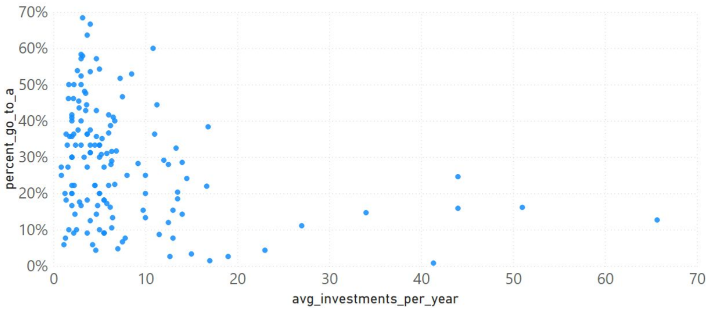
The 15 investors who funded most companies in Angel rounds actually have fairly low percentage of their fund recipients continuing to Series A, as well as low Series A success rankings among 147 sample investors.

4. Raising Angel funds from top investors does not necessarily mean higher conversion rate.

% companies to series A & Total companies funded in Angel by Investor



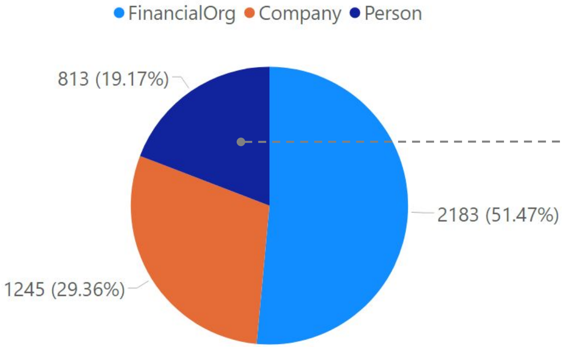
% companies to series A & Avg. Angel investments per year by Investor



Number of startups an investor funded do not correlate to the success rate of its receivers.

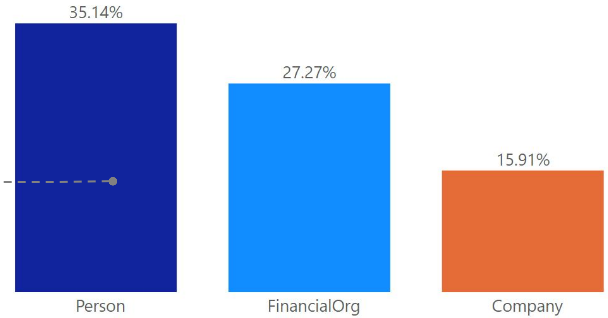
On the other hand:

Total companies funded in Angel by Investor Type



Investor entities as Person, though did not fund many startups, are the investor group in which highest % of their investees went to Series A.

Median conversion rate to Series A by Investor Type



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Top 15 investors by Total companies funded in Angel

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Google Ventures	48	29.17%	42
betaworks	46	28.26%	45
High-Tech Gruenderfonds	45	13.33%	68
Lerer Ventures	45	44.44%	20

Top 15 investors by % funded companies go to Series A

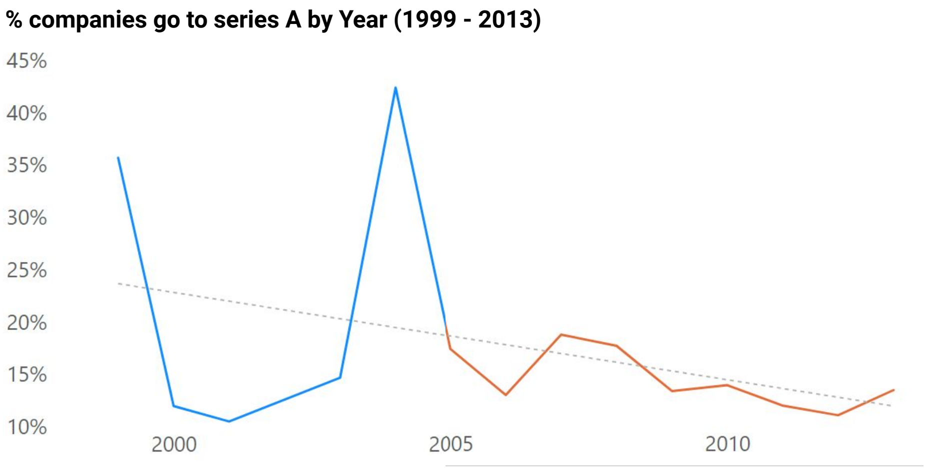
angel_investor	funded_companies_in_angel	percent_go_to_a	success_rate_rank
Auren Hoffman	19	68.42%	1
Ashton Kutcher	12	66.67%	2
Keith Rabois	22	63.64%	3
Founder Collective	65	60.00%	4
Neu Venture Capital	12	58.33%	5
Chris Sacca	19	57.89%	6
Baseline Ventures	21	57.14%	7
ff Venture Capital	14	57.14%	7
Felicis Ventures	35	54.29%	8
Jason Calacanis	13	53.85%	9
Esther Dyson	28	53.57%	10
Webb Investment Network	17	52.94%	11
Dharmesh Shah	21	52.38%	12
First Round Capital	58	51.72%	13
Accel Partners	18	50.00%	14
Reid Hoffman	20	50.00%	14
XSeed Capital	10	50.00%	14

➡ *Investor type: Person*

Founder Collective is within Top 10 of both criteria, which we regard as the best investor for early-stage funding.

Individual investors, though do not invest in as large scale as institutional investors, seem to provide closer mentoring and are more engaged to their investees towards the expansion of those businesses.

5. Generally, chance of entering Series A got slimmer over the years as competition increased.



year_of_series_a	angel_companies_in_year	companies_to_series_a	percent_to_series_a
1999	14	5	35.71%
2000	25	3	12.00%
2001	19	2	10.53%
2003	34	5	14.71%
2004	33	14	42.42%
2005	109	19	17.43%
2006	246	32	13.01%
2007	596	112	18.79%
2008	790	140	17.72%
2009	926	124	13.39%
2010	1312	183	13.95%
2011	2201	264	11.99%
2012	2781	308	11.08%
2013	2967	400	13.48%

Conversion rate fluctuated through 1999 to 2013, yet during 2005-2013 when the fundraising landscape got significantly more competitive (>100 companies raising Angel funds each year), % making it to Series A saw a downtrend.

SUMMARY & RECOMMENDATIONS

1. Very few startups can enter Series A, and it's even getting harder to qualify for Series A over the years. Startups in different industries do not stand equal chances to go to Series A.

2. Startups should consider raising higher amount right in early Seed stages, to give themselves more resources to live by and grow until they make it to higher funding rounds.

3. The more feasible the companies' business models are, the more money investors are willing to invest, and the more chance the business will persist through times.

4. Startups should consider how many investors, and who to raise funds from.