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How to do Startup Valuations

Economics of Startup Investments

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My learnings

- 1st rule : there is no rule
- Rule of thumb
- More an art than a science
- Price is not (always) the value



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Variable World of Startup Valuations

The entrepreneur wants the investor to value the company based on its (potentially sky-high) future value. The investor wants to value it based on its (much more modest) current value.

Neither approach is objectively right or wrong.

In most cases, the valuation of a company that is still in its early days but that both founders and investors think should grow, lies somewhere in between.

What are the most important factors angel investors should consider in determining a company's value

Valuation matters to investors as they are getting the company share in lieu of the money they are going to spent.

Young companies are difficult to value for a number of reasons. These are start-up and idea businesses, with little or no revenues and operating losses.

Valuation is the cornerstone of the investment process...

Let's understand the process, methods with examples.

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Choose the company VC would invest

Company A

- In Profits
- Sales Growing Steadily
- Stable Business
- One of the many players
- Linear Predictable Growth

Company B

- In losses
- Sales Growing Exponentially
- Scalable Business
- Unique IP
- Product Market Fit Achieved

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Startup Valuations are not dependent on profit or loss

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Kunal Shah Makes A Return With New Startup 'Cred', \$30 Mn Seed Capital

Jitendra Gupta led Jupiter raises \$24 Mn seed round at \$70 Mn valuation

Exclusive: Sequoia leads Series A round in Animall; valuation jumps 7X in 6 months

Jai Vardhan November 18, 2020

Importantly, this is the third round of funding in the animal husbandry platform in the last seven months. Animall had raised Rs 15 lakhs in its pre-seed round from Pratilipi's vice president Gauri Kanekar and angel investor Rakesh Yadav to jump-start its operations. After a couple of months, Animall raised Rs 5.65 crore seed round led by Beenext Asia with an investment of Rs 3.75 crore in the month of June.

WEH ventures and Shaadi.com founder Anupam Mittal had also joined the seed round with investments of Rs 1 crore and Rs 75 lakh, respectively.

As per *Fintrackr* estimates, Animall has been valued nearly Rs 175 crore (post money) in the latest transaction. It's noteworthy that the company's valuation has scaled 7X in a span of 6 months. It was valued around Rs 25 crore when it had raised its seed funding round back in May.

Every Transaction is Arbitrary

The number ultimately agreed upon reflects the number of current customers, the total revenues, the user and revenue growth curve, the business model, the market niche, the intellectual property value, and many other factors. It also reflects the relative bargaining power of those doing the negotiating if they are second time entrepreneurs.

Which generally means— given the imbalance between the number of companies seeking investment funding and the number of investors with real money to invest—that, in the end, the valuation assigned to a company reflects the price that investors are willing to pay for it.

PRO VC VC FUNDS

Venture Funds and Their Investors Differ on Portfolio Valuation During Pandemic

Shares of scooter startup Bird Rides were marked 34% lower by a Fidelity fund, but another investor kept them unchanged

A mutual fund from Fidelity Investments, for example, marked down its holdings of electric-scooter startup Bird Rides Inc. shares in the first quarter of this year to 34% below the price at which they were purchased in 2018, according to a filing it made with the Securities and Exchange Commission. "We have a rigorous and thorough valuation process for mutual fund holdings," a Fidelity spokesman said, adding the firm doesn't comment on individual companies.

But another Bird investor, Tusk Venture Partners, didn't change the estimated value of its Bird shares in the first quarter, according to Bradley Tusk, the firm's co-founder and managing partner. He said the scooter business was clearly hurt by stay-at-home orders from governments. But at the same time, sees "real reasons for optimism" in the long-term, such as demand driven by customers who don't want to get into shared cars or public transit.

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How do investors value startups?

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Valuing the Company



An investment in a startup is a market transaction, in which each side needs to believe that it is getting appropriate value for what it is giving up.

Because the investor is putting in X amount of cash and getting Y percent of the company, the effect is to create a math equation that will let you figure out, for any given investment, what the value of the company would be today, before the investment. If you and the entrepreneur can agree on that, then you have a deal.



Real Math

For example, let's say that you, as a potential investor, offer to invest \$1 million in exchange for 25 percent ownership in a company. This means you are saying that, as of this moment, the founder has created something that is worth \$3 million dollars.

\$3 Million or \$4 Million?



Real Math



Here's the math: If \$1 million = 25 percent of the company, then the whole company would be worth \$4 million. But since that would be after the investment—what is known as the post-money valuation—we have to back out the \$1 million that just came in, because the company after your investment is worth whatever it was worth the day before your investment, plus your million dollars that is now sitting in the company's bank account! So \$4 million – \$1 million = \$3 million...which is the pre-money valuation, or what the company is worth today, before you arrive on the scene.



Scorecard Valuation Methodology.

This method compares the target company to typical early funded startup ventures and adjusts the average valuation of recently funded companies in the region to establish a pre-money valuation of the target. Such comparisons can only be made for companies at the same stage of development—in this case, for pre-revenue startup ventures.

Factors	Max %	Target Company	Factors
Founders	30 %	125 %	0.3750
Market Size	25 %	150 %	0.3750
Product	15 %	100 %	0.1500
Competition	10 %	75 %	0.0750
Partnerships	10 %	80 %	0.0800
Business Plan	5 %	100 %	0.0500
Customer Reference	5 %	100 %	0.0500
Total			1.0750

Multiplying the sum of factors (1.075) by the average pre-money valuation of 10cr, we arrive at a pre-money valuation for the target company of about 10.75cr (rounding from the calculated at 11cr).

VC Method

The Venture Capital Method (VC Method) was first described by Professor Bill Sahlman at Harvard Business School in 1987 in a case study and has been revised since. It is one of the useful methods for establishing the pre-money valuation of pre-revenue startup ventures.

Return on Investment (ROI) = Terminal (or Harvest) Value ÷ Post-money Valuation

(in the case of one investment round, no subsequent investment and therefore no dilution)

Then: Post-money Valuation = Terminal Value ÷ Anticipated ROI



VC Method Math

Terminal value is the anticipated selling price for the company at some point down the road, assume five to eight years after investment.

Let's say that SaaS company is doing a revenue of 10 Crore revenues at the time of year of exit. Since Saas companies are valued 8 to 10 times the topline. Let us assume 90 crore as the terminal value.

Anticipated ROI, Since all early stage startup investments must demonstrate the possibility of a 10x to 30x return, let's assume 20x for purposes of this example.

We can now use this information to calculate the pre-money valuation of the company that is, what the company is worth before we invest in it.



VC Method Math

Assuming our software entrepreneur needs 50 Lacs to achieve positive cash flow and will grow organically thereafter, here's how one calculates the pre-money valuation of this transaction:

Post-money valuation = Terminal Value ÷ Anticipated ROI

= 90 Crore ÷ 20x.

Post-money valuations = 4.5 Crore							•	•	
Pre-money valuations = 4.0 Crore							•		
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Dave Berkus Method.

Start with a pre-money valuation of zero, and then assess the quality of the target company in light of the following characteristics:

Note that the numbers are the maximum for each class (not absolutes), so a valuation can be \$500K (or less) as easily as \$2.5 million. Furthermore, Dave reminds us that his method "was created specifically for the earliest stage investments as a way to find a starting point without relying upon the founder's financial forecasts."

Dave Berkus Method Math



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Visit this website to download Excel Sheets https://www.vcmethod.com/

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The Risk-Factor Summation Method.

This approach considers a much broader set of factors in determining the pre-money valuation of pre-revenue companies.

Reflecting the premise that the higher the number of risk factors, then the higher the overall risk, this method forces investors to think about the various types of risks which a particular venture must manage in order to achieve a lucrative exit.

The list of risk types to be considered when using this method includes:

- Management risk
- Stage-of-the-business risk
- Legislation/political risk
- Manufacturing risk
- Sales-and-marketing risk
- Funding/capital-raising risk
- Competition risk
- Technology risk
- Litigation risk
- International risk
- Reputation risk
- Potential lucrative exit

The Risk-Factor Summation Method.

Assign a score to each risk as follows:

- +2—Very positive for growing the company and executing a wonderful exit
- +1—Positive
- 0—Neutral
- -1—Negative for growing the company and executing a wonderful exit
- -2—Very negative

The average pre-money valuation of pre-revenue companies in India is 10 . Crore then adjusted positively by 2.5 Crore for every +1 (5 Crore for a +2) and inegatively by 2.5 Crore for every -1 (5 Crore for a -2).

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Art or Science

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Ownership Method

Investors need to own a material enough piece of a company in order to generate the appropriate returns.

- 1. Market Demand & Supply, Is the sector hot with lot of momentum. Does it have tailwinds.
- Cost of Reaching to the next MileStone How much money will be required to prove the product market fit, to scale revenues to become attractive to being able to raise the next round of funding. You can determine the valuations with 20 to 35% equity dilution.
- Capital required to sustain business for 24-36 months First 12 months deployment of capital and 6 months to see the outcome and start the next round funding process which would take another 6-12 months time.



Mapping Investment Thesis

- Do you have an equity target ownership range? Min 15%
- Do you typically like to lead and do you ever follow? Always Lead Deals
- Are there firms you like to co-invest with? We welcome co-investments
- Does the fundraising size sound reasonable to you? If it is in range of 5-15 Crore
- What are concerns or showstoppers when you do valuations of a company? If founders benchmark themselves to global or silicon valley startups.

Understand the Investor Profile

Financial Investors

- Sequoia Capital
- SoftBank

Financial Investors like to lead the round and dictate terms. They have proven history with financial success. They keep reserves for follow on rounds.

Strategic Investors

- Reliance Industries
- Facebook

Strategic investors don't like to lead rounds and they don't like to name a price. Having a price helps them to evaluate the deal better.



How valuation multiples work

As early stage, growth investors who believe in companies executing big, risky visions, always look at how long a company could grow at a high rate when assessing potential investments. This growth could be a function of product differentiation, go-to-market operations, sheer market size, new geographies, and expansion into adjacent categories.

Powerful effects of growth persistence.

CRM applications market was \$7B in 2004 when Salesforce went public. Since then, the company has expanded its scope, earning \$17B revenue (and still growing nearly 30% year-over-year) in just the last fiscal year alone. Salesforce investor could have made ~70x returns: equivalent to ~30% IRRs over a 16 year period.

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· · ·	(\$m)	2020	2021	2022	2023	2024	2025	_
	Company Good							
	Revenue	\$20	\$28	\$36	\$46	\$55	\$63	
	Growth	50%	40%	30%	25%	20%	15%	

Company Awesome

Revenue	\$20	\$45	\$90	\$162	\$259	\$389
Growth	150%	125%	100%	80%	60%	50%

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Where high growth runway comes in

The management teams of both companies may want to be valued at 15x 2020 revenue — in other words, both companies would be worth \$300 million. But would that be a good deal for the shareholders entering at this stage? Let's assume the below is the probability-weighted likely scenario over the next five years.

If we believe both companies will trade at ~10x revenue upon exit in 2025, Company Good would be worth ~\$630 million and Company Awesome would be worth nearly \$3.9 billion. Ignoring dilution and balance sheet changes, Company Awesome would have made investors ~13x, while Company Good would only have returned ~2x. Because Company Awesome maintained growth at a much higher rate, its investors would have had a much better return.

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(\$m)	2020	2021	2022	2023	2024	2025
Company Good						
Revenue	\$20	\$36	\$59	\$92	\$138	\$200
Growth	100%	80%	65%	55%	50%	45%
Gross Profit	\$4	\$10	\$20	\$35	\$58	\$90
<i>Margin</i>	20%	<i>27%</i>	<i>33%</i>	<i>38%</i>	42%	45%
Operating Expenses	(\$8)	(\$15)	(\$26)	(\$40)	(\$58)	(\$70)
EBITDA	(\$4)	(\$5)	(\$6)	(\$5)	\$0	\$20
Margin	<i>(20%)</i>	<i>(15%)</i>	<i>(10%)</i>	<i>(5%)</i>	<i>0%</i>	10%
Company Awesome						
Revenue	\$20	\$36	\$59	\$92	\$138	\$200
<i>Growth</i>	100%	<i>80%</i>	65%	55%	50%	<i>45%</i>
Gross Profit	\$4	\$13	\$30	\$55	\$97	\$150
<i>Margin</i>	20%	35%	50%	60%	<i>70%</i>	<i>75%</i>
Operating Expenses	(\$8)	(\$15)	(\$26)	(\$40)	(\$58)	(\$70)
EBITDA	(\$4)	(\$3)	\$4	\$16	\$39	\$80
Margin	<i>(20%)</i>	<i>(7%)</i>	7%	17%	28%	40%

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Long-term margin structure impact

Let's go back to our hypothetical of Company Good and Company Awesome, and change a different variable. Imagine two \$20 million revenue companies that are largely identical — same revenue scale, same growth rate, same current gross margin, same operating expenses, same cash and debt on the balance sheet. This time, though, while the growth rates remain the same, the only significant difference is the core product for Company Good is **software-enabled hardware**, while the core product for Company Awesome is **software**.

Once again, the management teams of both companies want to be valued at 15x their 2020 revenue — in other words, both companies would be worth \$300 million.

Long-term margin structure impact

If we believe both companies will trade at ~30x EBITDA upon exit in 2025, Company Good would be worth ~\$600 million and Company Awesome would be worth \$2.4 billion. Ignoring dilution and balance sheet changes, Company Awesome would have made investors ~8x while Company Good would only return ~2x. Because Company Awesome with its software business experienced much higher gross margin expansion, its investors would have had a much better return.

What is Rule of 40

- The Rule of 40 states that, at scale, a company's revenue growth rate plus
- profitability margin should be equal to or greater than 40%. SaaS management teams are often driving towards either rapid growth or increased profitability, and the Rule of 40 has become a construct for framing the balance of these two phenomena.

Investors are often willing to tolerate low profits or net losses as long as a company is demonstrating strong growth. Conversely, as growth slows the company should focus on improving profitability by reducing some of that spending.

GP Ratio = **Growth** rate + **Profit**

The math is easy

- **Growth** = 100% you can have a burn rate of 60%
- **Growth** = 50% you can have a burn rate of 10%
- **Growth** = 40% you can't burn cash, you have to break even
- **Growth** = 20% you should have a 20% profit margins
- **Growth** = Flat 0% you should have 40% profit margins

This is a simple rule of thumb to measure and track technology startups. It solves the complex question for founder on how to balance growth and profitability.

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Does the Valuation Really Matter?

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Consider two scenarios

Dropbox vs. Instagram.

Both Dropbox and Instagram started as a one-man show. Both of them were or are valued over \$1 Billion. But they started with very different valuations:

- Drew Houston went to Y-Combinator, where he received about \$20K in exchange for 5% of Dropbox. Valuation 400K (pre-money).
- Kevin Systrom went to Baseline Ventures and received \$500k in exchange for about 20% of Brbn (predecessor of Instagram). Valuation \$2.5M.

Why were the valuations so different? And, more importantly, did it matter in the end?

Valuation Divergence

A typical funding proposal from an entrepreneur says,

"I will sell you 10 percent of my venture for \$1 million, and in five years when I sell my venture for \$150 million, you will receive \$15 million (10 percent of \$150 million). That is 15x what you invested and a terrific return." In reality, even if the venture achieves an exit value of \$150 million in five years, the investor will be fortunate to get back \$3 million to \$5 million—a 3x to 5x return.

Return for an equity investor in an early-stage venture is based on the increase in valuation of the shares the investor received. But as the valuation of a venture increases, the valuation of the shares increases at a much lower rate or might even decrease. This disparity in valuation increase is called "valuation divergence."

Round	Angels	vc	SP # 1	SP # 2	IPO
Date	Jan-96	Sep-96	May-97	Sep-98	Jul-99
\$ per Share	0.74	1.80	4.78	7.65	74.81
Pre-money (\$X million)	4.6	17.0	69.4	135.1	1,802.7
Money (\$X million)	2.0	8.0	10.1	21.0	73.5
Post-money (\$X million)	6.6	25.0	79.5	156.1	1,876.2
Angel Equity %	30.3%	19.5%	16.3%	13.2%	10.8%

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Focus on Price Per Share at Exit

More typical, this return is clearly far below what entrepreneurs generally anticipate for investors. Entrepreneurs who understand the concept of "divergence" usually expect more modest valuations.

The columns represent the data from five funding rounds. In the first round angels invested \$2 million and received 30.3 percent of the equity, with shares at \$0.74. At the close of the IPO, the venture's valuation was \$1.876 billion, an increase of 284x (\$1.876 billion \div \$6.6 million), and the price per share was \$74.8125, an increase of 101x ($$74.8125 \div $.74$)—both keyed to the post-money valuations of the angel round. The "divergence" is the ratio of increase in respective valuation of the venture versus investor shares. In this case, the divergence was 2.8 (284x \div 101x).



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