Startup Valuation

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How Startup Valuation Works?

- Valuing mature companies is a fairly straightforward — albeit somewhat subjective — process. Things like market capitalization and sales multiples give investors a solid foundation from which to work with when determining a company's valuation.

- For early-stage startups, however, the process looks quite different.

- Without years of financial data to rely on, startups and their investors (angels and venture capitalists) have had to rely on more creative ways to substitute for these inputs. In a nutshell, the process goes back to quantifying a bit of basic finance: '*risk versus reward*'.

- In startup terminology, it's: '*traction versus market size*'.

- As a startup founder, you will invariably face a time when you need to think about the valuation of your company.

- Whether you're pre-revenue, post-revenue, in fundraising mode, or simply granting your employees stock options, you'll need to have a valuation to operate off of.

Why Does Startup Valuation Matter?

- Valuation matters to entrepreneurs because it determines the share of the company they have to give away to an investor in exchange for money.

- At the early stage the value of the company is close to zero, but the valuation has to be a lot higher than that. Why?

- Let's say you are looking for a seed investment of around $100.000 in exchange for about 10% of your company. Typical deal. Your pre-money valuation will be $ 1 million. This however, does not mean that your company is worth $1 million now. You probably could not sell it for that amount.

- Valuation at the early stages is a lot about the growth potential, as opposed to the present value.

Why Does Startup Valuation Matter?

✓ Figure out how much money you need to grow to a point where you will show significant growth and raise the next round of investment.

• Let's say that number is $100.000 to last you 18 months. Your investor does not have a lot of incentive to negotiate you down from this number. Why? Because you showed that this is the minimum amount you need to grow to the next stage. If you don't get the money, you won't grow – that is not in the investor's interest. So let's say the amount of the investment is set.

✓ Now we need to figure out how much of the company to give to the investor. It could not be anything more than 50% because that will leave you, the founder, with little incentive to work hard.

• Also, it could not be 40% because that will leave very little equity for investors in your next round. 30% would be reasonable if you are getting a large chunk of seed money. In this case you are looking for only $100.000 a relatively small amount. So you will probably give away 5-20% of the company, depending on your valuation.

✓ As you see, $100.000 is set in stone. 5%-20% equity is also set. That puts the (pre-money) valuation somewhere between $500.000 (if you give away 20% of the company for $100.000) and $2 Million (if you give away 5% of the company for $100.000).

✓ **<u>Where in that range will it be?</u>**

1. That will depend on how other investors value similar companies and
2. How well you can convince the investor that you really will grow fast.
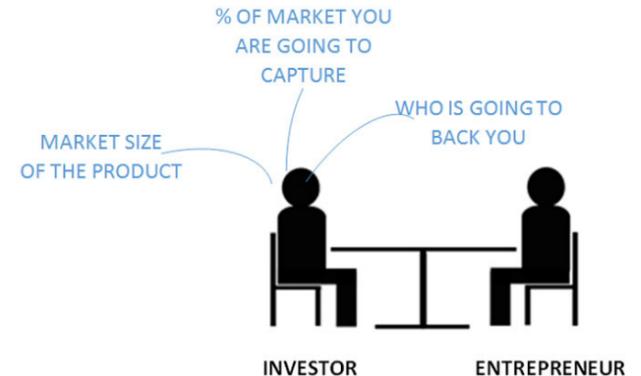
How to Determine Valuation? – Metrics Determine Value

A) Seed Stage

Early-stage valuation is commonly described as **"an art rather than a science"** which is not helpful. Let's make it more like a science and see what factors influence valuation.

- **Traction:** Out of all things that you could possibly show an investor, traction is the number one thing that will convince them. The point of a company's existence is to get users, and if the investor sees users – the proof is in the pudding.

- **Reputation:** There is the kind of reputation that someone like Jeff Bezos has that would warrant a high valuation no matter what his next idea is.

- **Revenues.** Revenues are more important for the B-to-B startups than consumer startups. Revenues make the company easier to value.

✓ For consumer startups having a revenue might lower the valuation, even if temporarily. There is a good reason for it. If you are charging users, you are going to grow slower. Slow growth means less money over a longer period of time.

- **Distribution Channel:** Even though your product might be in very early stages, you might already have a distribution channel for it. For example you might have run a Facebook page of cat photos with 12 million likes, now that page might become a distribution channel for your cat food product.

- **Hotness of industry**. Investors travel in packs. If something is hot, they may pay a premium.

B) Series A Stage

- The main metric here is **growth.**

- How much have you grown in the last 18 months?

- Growth means traction. It could also mean revenue. Usually, revenue does not grow if the user base does not grow (since there is only so much you can charge your existing customers before you hit the limit).

- Investors at this stage determine valuation using the multiple method, also called the comparable method. The idea is that there are companies out there similar enough to yours.

- Since at this stage you already have a revenue, to get your valuation all we need to do is find out how many times valuation is bigger than revenue – or in other words, what the multiple is. That multiple we can get from these comparable companies. Once we get the multiple, we multiply your revenue by it, which produces your valuation.
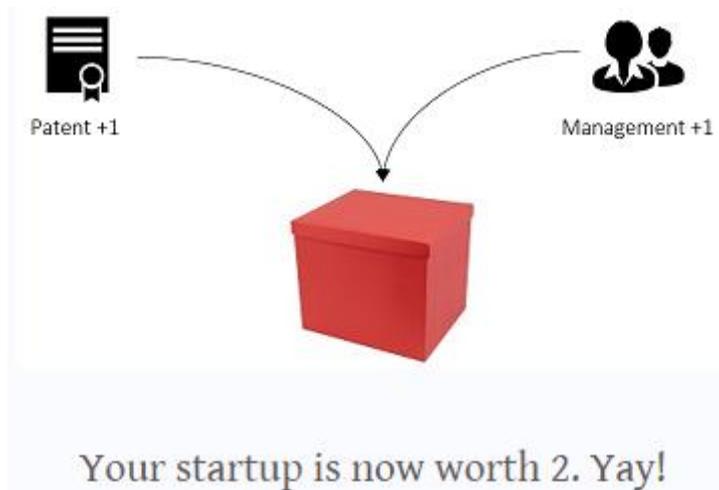
✓ It is important to understand what the investor is thinking as you lay down on the table everything you have got.

• The first point they will think is the **exit** – how much can this company sell for, several years from now. I say sell because IPOs are very rare and it is nearly impossible to predict which companies will.

• Like Instagram, your company will sell for $1 Billion. (This is just an example.)

• Next they will think how much total money it will take you to grow the company to the point that someone will buy it for $1 Billion.

• In Instagram's case they received a total of 56 Million in funding. This helps us figure out how much the investor will make in the end. $1 Billion – $56= $ 940 million That is how much value the company created.

• Let's assume that if there were any debts, they were already deducted, and the operational costs are taken out as well. So everyone involved in Instagram collectively made $940 Million on the day Facebook bought them.

Finding a value!

True value

- A startup is like a box. A very special box.

- The box has a value. The more things you put in the box, the more its value increases. Add a patent in the box, the value increases. Add a talented management team in the box, the value increases.

Patent +1   Management +1

The box is also magic. When you put $1 inside, it will return you $2, $3 or even $10!

Your startup is now worth 2. Yay!

$1 ⟶ 🟥 ⟶ $3

You want to build one of those little boxes for yourself!

- Problem is, building a box can be very expensive. So you need to go and see people with money—let's call them investors—and offer them a deal that sounds a bit like this:

"Give me $1M to build a box, and you get X% of everything that comes out of it" But how much should "X" be?

- It depends on the Pre-Money Valuation, e.g. the value of the box at the moment of the investment.

- But calculating the Pre-Money Valuation is tricky. There are commonly used 8 different valuation methods to determine Pre-Money Valuation.

1. The Berkus Method

- The Berkus Method is a simple and convenient rule to estimate the value of your box. First, you have to know how much a similar box is worth. Then, you assess how you perform in the 5 key criteria for building boxes.

- This will give you a rough idea of how much your box is worth and more importantly, what you should improve.

- Note that these numbers are maximums that can be "earned" to form a valuation, allowing for a pre-revenue valuation of up to $2 million (or a post rollout value of up to $2.5 million), but certainly also allowing the investor to put much lower values into each test, resulting in valuations well below that amount.

- Once a company is in revenues for any period of time, this method is no longer applicable, as most everyone will use actual revenues to project value over time.

The Berkus Method
Given a max. value of $2M for a similar box

1.	Sound idea (basic value)	**$300k**/$400k
2.	Prototype (technology)	**$100k**/$400k
3.	Quality management team (execution)	**$300k**/$400k
4.	Strategic relationships (go-to-market)	**$200k**/$400k
5.	Product rollout or Sales (production)	**$100k**/$400k

BOX VALUATION $1,000,000

The Berkus Method is meant for pre-revenue startups.

2. The Risk Factor Summation Method

- The Risk Factor Summation Method or RFS Method is a slightly more evolved version of the Berkus Method. First, you determine an initial value for your box. Then you adjust said value for 12 risk factors inherent to box-building.

- Initial value is determined as the average value for a similar box in your area, and risk factors are modelled as multiples of $250k, ranging from $500k for a very low risk, to -$500k for a very high risk. The most difficult part here, and in most valuation methods, is actualy finding data about similar boxes.

The Risk Factor Summation Method

INITIAL VALUE			$1,500,000
1. MANAGEMENT RISK	Very low	+$500,000	$2,000,000
2. STAGE OF THE BUSINESS	Normal		
3. LEGISLATION/POLITICAL RISK	Normal		
4. MANUFACTURING RISK	Normal		
5. SALES AND MANUFACTURING RISK	Normal		
6. FUNDING/CAPITAL RAISING RISK	Normal		
7. COMPETITION RISK	Very high	-$500,000	$1,500,000
8. TECHNOLOGY RISK	Low	+$250,000	$1,750,000
9. LITIGATION RISK	Very low	+$500,000	$2,250,000
10. INTERNATIONAL RISK	Normal		
11. REPUTATION RISK	Very low	+$500,000	$2,750,000
12. POTENTIAL LUCRATIVE EXIT	Normal		
BOX VALUATION			$2,750,000

- The Scorecard Valuation Method is a more elaborate approach to the box valuation problem. It starts the same way as the RFS method i.e. you determine a base valuation for your box, then you adjust the value for a certain set of criteria. Except that those criteria are themselves weighed up based on their impact on the overall success of the project.

The Scorecard Valuation method

		Weight	vs. average project
1.	TEAM CAPACITY	40%	125%
2.	PRODUCT/TECHNOLOGY READINESS	30%	100%
3.	MARKET SIZE	20%	15%
4.	COMPETITION	10%	75%

***

INITIAL VALUE	$1,500,000
MULTIPLIER	117,5%
BOX VALUATION	**$1,760,250**

- Your box is 17,5% better than an average similar box

- The Scorecard Valuation Method is meant for **pre-revenue startups**.

- Depending on the type of box you are building, you want to find an indicator which will be a good proxy for the value of your box. This indicator can be specific to your industry:

- Monthly Recurring Revenue (Saas), HR headcount (Interim), Number of outlets (Retail), Patent filed (Medtech/Biotech), Weekly Active Users or WAU (Messengers). Most of the time, you can just take lines from the P&L : sales, gross margin, EBITDA, etc.

The Comparable Transactions Method

	Sold for	Revenue multiple	WAU multiple
SIMILAR BOX #1	$957	3,0 x	2,3 x
SIMILAR BOX #2	$647	3,3 x	6,4 x
SIMILAR BOX #3	$327	1,9 x	1,5 x
SIMILAR BOX #4	$737	5,4 x	0,2 x
SIMILAR BOX #5	$6,248	8,6 x	5,7 x
SIMILAR BOX #6	$39,087	7,3 x	4 x
SIMILAR BOX #7	$6,576	12,1 x	31 x
SIMILAR BOX #8	$4,258	8,3 x	3,5 x
SIMILAR BOX #9	$3,798	3,4 x	1,1 x

***

	Revenue	WAU
MY BOX INDICATORS	$900	1,000
WEIGHTED AVERAGE MULTIPLES	7,6	6,7
BOX VALUATION BASED ON...	**$685**	**$6,736**

The Comparable Transactions Method

	Somebody elses's box	Your box
Number of users	100,000	55,000
Valuation	$100M	?

Depending on the comparables considered, the box is worth $685 or $6,736

- The book value refers to the net worth of the company i.e. the tangible assets of the box i.e. the "hard parts" of the box.

Tangible assets: ok

Lands   Buildings   Furniture

Intangible assets: 0

Brands   Patent   Database

Liabilities: 0
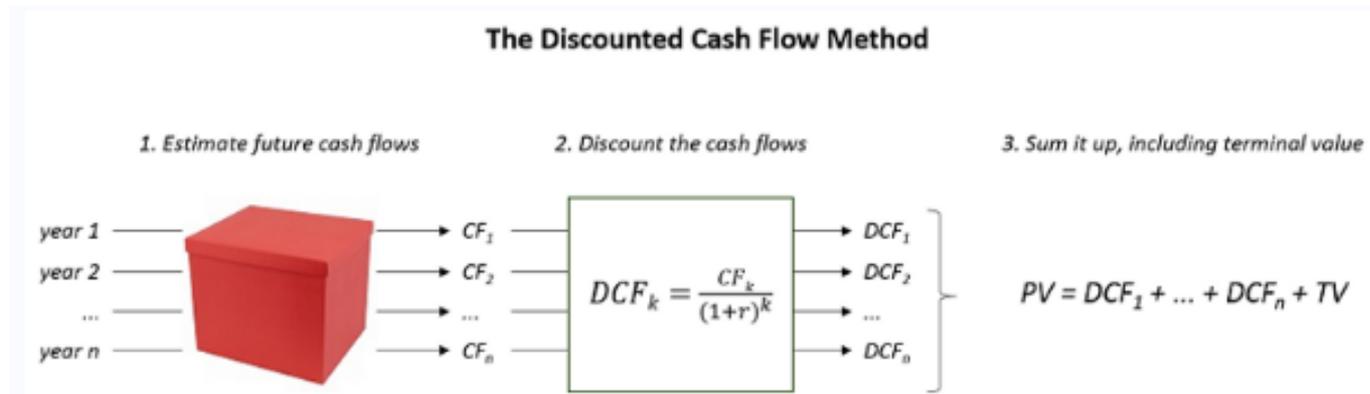
Debts   Accounts payable   Preferred stocks

- The Book Value Method is particularly irrelevant for startups as it is focused on the "tangible" value of the company, while most startups focus on intangible assets : RD (for a biotech), user base and software development (for a Web startup), etc.

6. The Discounted Cash Flow (DCF) Method

- If your business works well, it brings in a certain amount of cash every year. Consequently, you could say that the current value of the box is the sum of all the future cash flows over the next years. And that is exactly the reasoning behind the DCF method.

- For most startups – especially those that have yet to start generating earnings – the bulk of the value rests on future potential. Discounted cash flow analysis then represents an important valuation approach.

- DCF involves forecasting how much cash flow the company will produce in the future, and then, using an expected rate of investment return, calculating how much that cash flow is worth.

- A higher discount rate is typically applied to startups, as there is a high risk that the company will inevitably fail to generate sustainable cash flows.

The Discounted Cash Flow Method

1. Estimate future cash flows	2. Discount the cash flows	3. Sum it up, including terminal value

year 1 → CF_1

year 2 → CF_2

... → ...

year n → CF_n

$$DCF_k = \frac{CF_k}{(1+r)^k}$$

→ DCF_1

→ DCF_2

→ ...

→ DCF_n

$$PV = DCF_1 + ... + DCF_n + TV$$

- Let's say you are projecting cash flows over n years. What happens after that? This is the question addressed by the Terminal Value (TV).

- **Option 1:** you consider the business will keep growing at a steady pace, and keep generating indefinite cash flows after the n years period. You can then apply the formula for Terminal Value :
$$TV = CF_{n+1}/(k-g)$$

- **Option 2:** you consider an exit after the n year period. First, you want to estimate the future value of the acquisition, for example with the comparable method transaction. Then, you have to discount this future value to get its net present value.

$$TV = \text{exit value}/(1+k)^n$$

- Although technically, you could use it for post-revenue startups, it is just not meant for startup valuation.
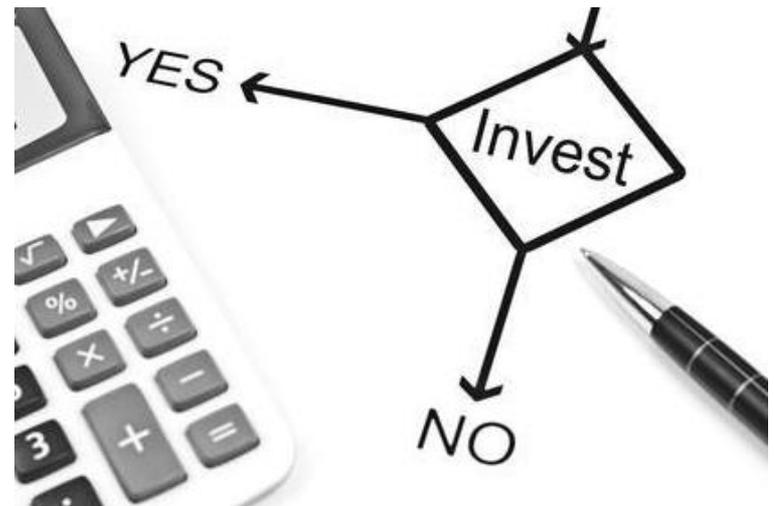
- The First Chicago Method answers to a specific situation: what if your box has a small chance of becoming huge? How to assess this potential?

- The First Chicago Method (named after the late First Chicago Bank) deals with this issue by making three valuations: a worst case scenario (tiny box), a normal case scenario (normal box), a best case scenario (big box).

- SUMPRODUCT, where the magic happens.

- Each valuation is made with the DCF Method (or, if not possible, with internal rate of return formula or with multiples). You then decide of a percentage reflecting the probability of each scenario to happen. Your valuation according to the First Chicago Method is the weigthed average of each case.

- The First Chicago Method is meant for post-revenue startups.

The First Chicago Method

Scenarios	Probability	Valuation
$10M	20%	
$70M	70%	$81M
$300M	10%	
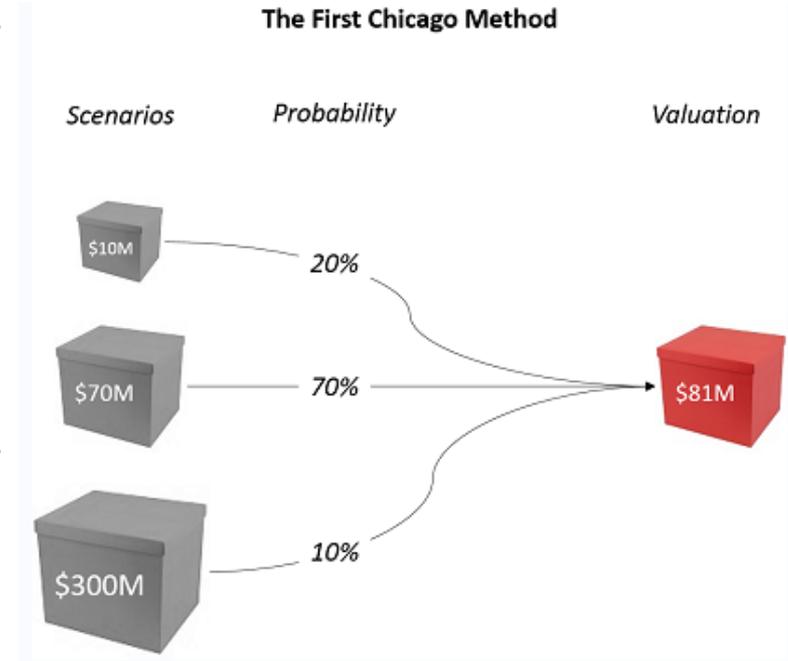
8- The Venture Capital Method

- 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. The concept is simply…since

- **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**

✓ **Terminal Value** is the anticipated selling price (or investor harvest value) for the company at some point down the road; let's assume 5-8 years after investment.

✓ **Anticipated ROI:** Since investors do not know which of the ten will be the homerun, all investments must demonstrate the possibility of a 10X-30X return. Let's assume 20X for purposes of this example.
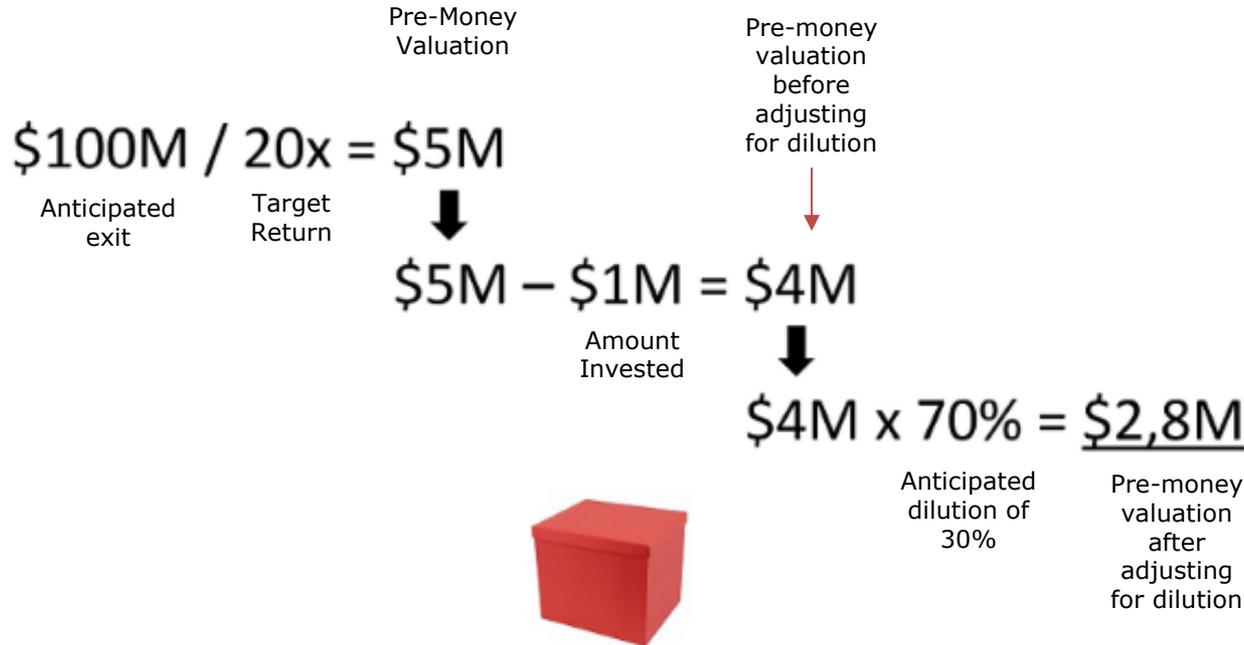
- Assuming our software entrepreneurs needs **$500.000** to achieve positive cash flow and will grow organically thereafter, here's how we calculate the Pre-money Valuation of this transaction:

- From above:

✓ **Post-money Valuation** = Terminal Value ÷ Anticipated Return on Investment= $42.5 million ÷ 20X

✓ **Post-money Valuation** = $ 2.125 million

✓ **Pre-money Valuation** = Post-money Valuation – Investment = $2.125 – $0.5 million

✓ **Pre-money Valuation** = $1.625 million

Venture Capital Method

Pre-Money Valuation

Pre-money valuation before adjusting for dilution

$$\$100M / 20x = \$5M$$

Anticipated exit

Target Return

$$\$5M - \$1M = \$4M$$

Amount Invested

$$\$4M \times 70\% = \underline{\$2,8M}$$

Anticipated dilution of 30%

Pre-money valuation after adjusting for dilution

The Venture Capital Method is meant for pre- and post-revenue startups.

- An investor is always looking for a specific return on investment, let's say 20x.

- Besides, according to industry standards, the investor thinks that your box could be sold for $100M in 8 years.

- Based on those two elements, the investor can easily determine the maximum price he or she is willing to pay for investing in your box, after adjusting for dilution.

- **What is Dilution?**

- As founders of startups raise money from investors, their share of the company gets "diluted". Therefore before determining company's value you adjust for dilution.

8- The Venture Capital Method

- Venture capital investors like this approach, as it gives them a pretty good indication of what the market is willing pay for a company. Basically, the market multiple approach values the company against recent acquisitions of similar companies in the market.

- Let's say mobile application software firms are selling for five-times sales. Knowing what real investors are willing to pay for mobile software, you could use a five-times multiple as the basis for valuing your mobile apps venture, while adjusting the multiple up or down to factor for different characteristics.

- The market multiple approach, arguably, delivers value estimates that come closes to what investors are willing to pay. Unfortunately, there is a there is hitch: comparable market transactions can be very hard to find. It's not always easy to find companies that are close comparisons, especially in the start-up market.
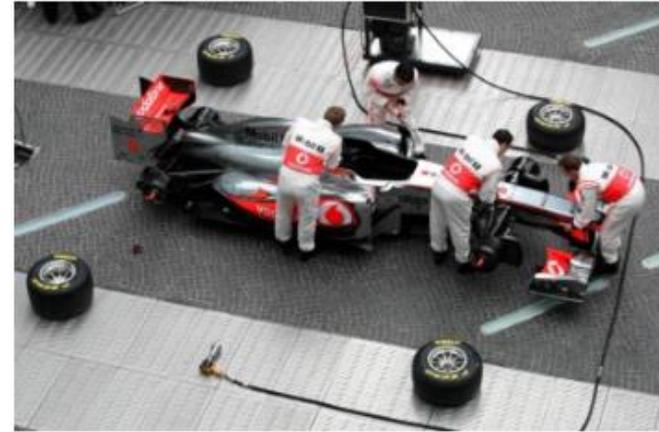
The Best Valuation Method?

- First, keep in mind that the only methods really used by VCs are comparables and a rough estimate of how much dilution is acceptable by the founders—e.g. giving out 15% to 25% for a seed round comprised between €300k and €500k, or making sure that the founders remain majority shareholders after a Series A.

A seed-stage startup

A startup well positioned for its series A

- Second, valuations are nothing but formalized guesstimates. Valuations never show the true value of your company. They just show two things: (1) how bad the market is willing to invest in your little red box, and (2) how bad you are willing to accept it.

- The optimal amount raised is the maximal amount which, in a given period, allows the last dollar raised to be more useful to the company than it is harmful to the entrepreneur.

- Valuations are a good starting point when considering fundraising. They help building up the reasoning behind the figures and objectify the discussion. But in the end, they are just the theoretical introduction to a more significant game of supply and demand.

The Real Company Value Only Known At Exit!

Thank You!