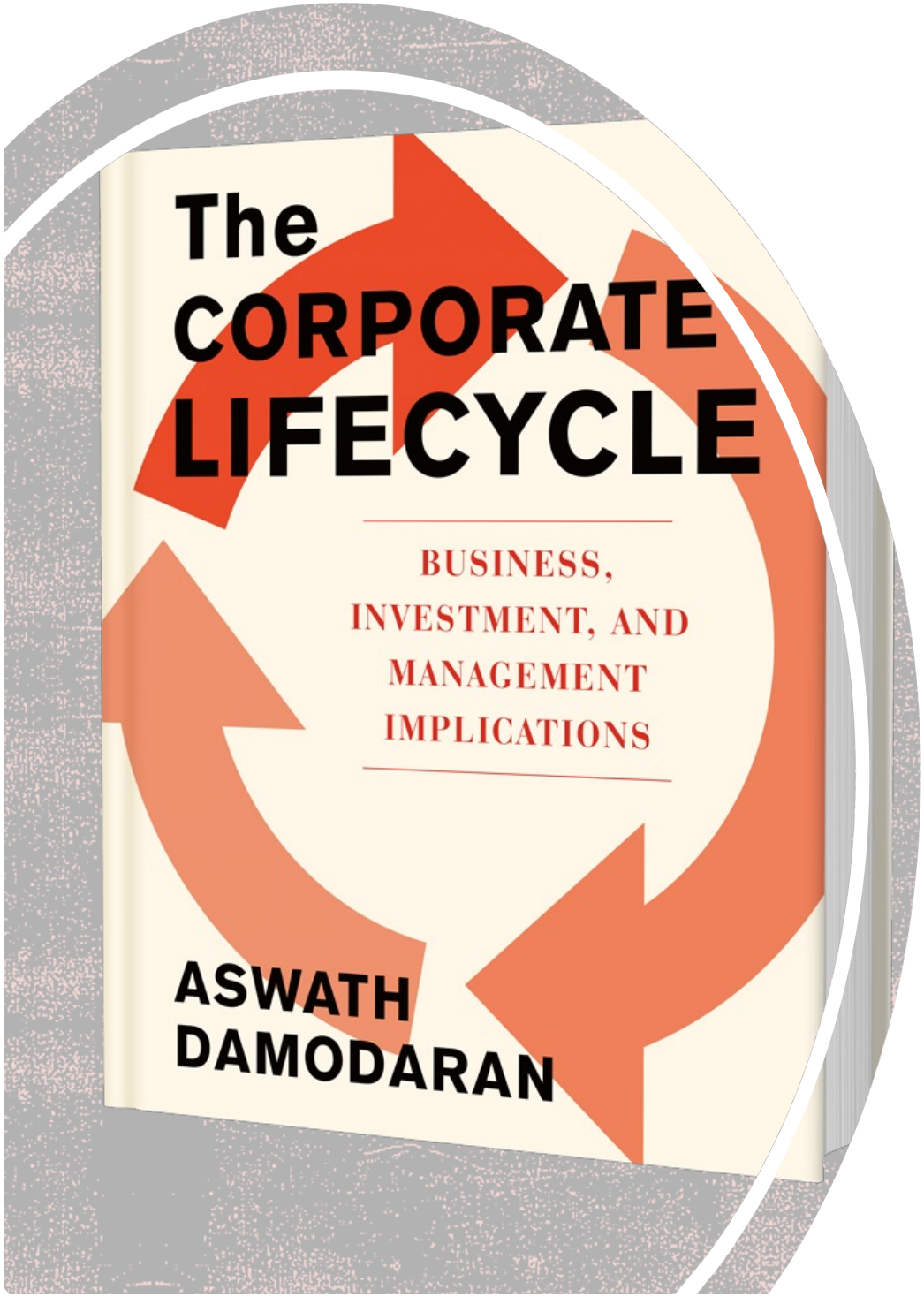
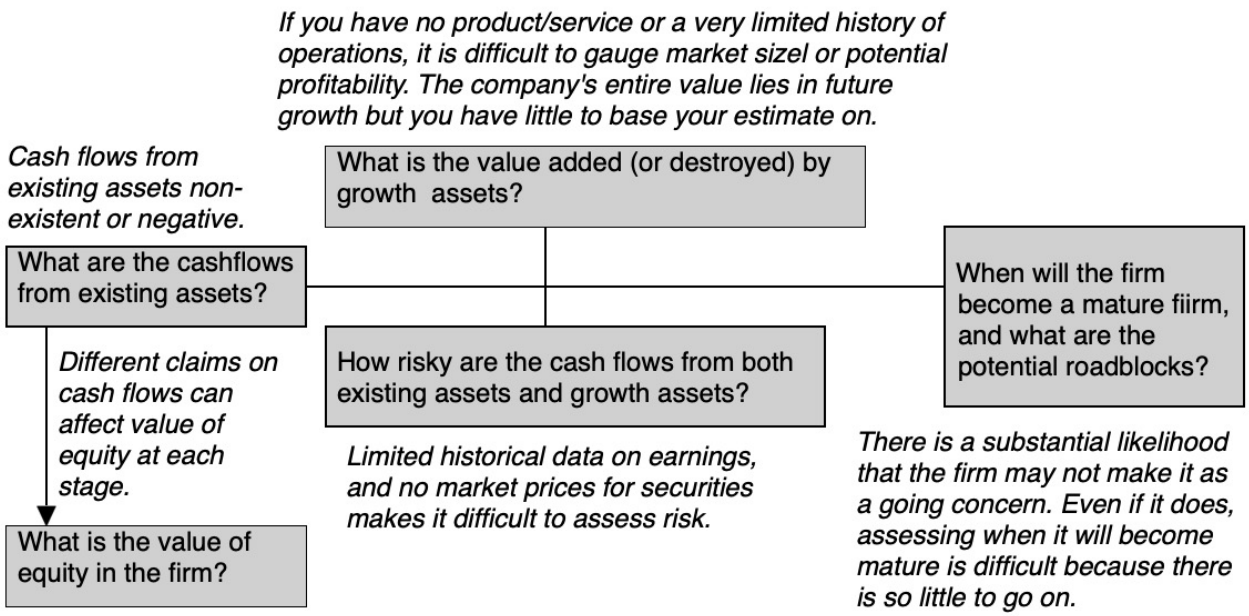
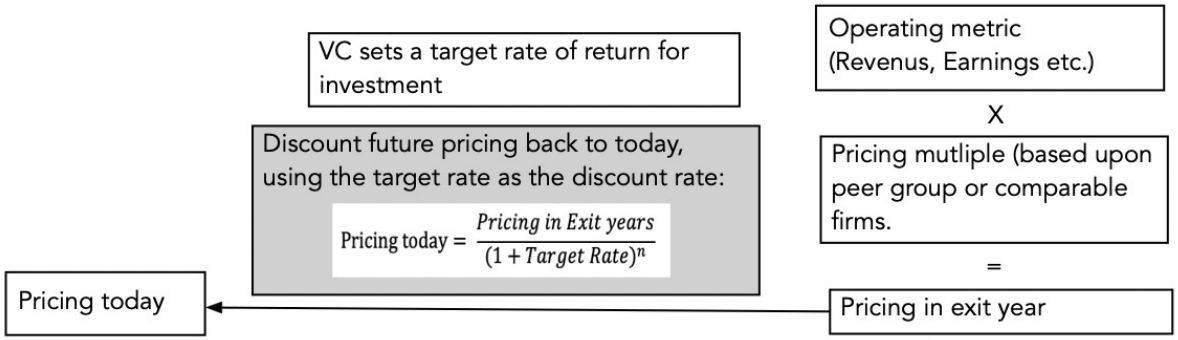


VALUING AND PRICING YOUNG AND START-UP FIRMS

YOUNG COMPANIES: THE CHALLENGES



ONE RESPONSE: THE VC APPROACH

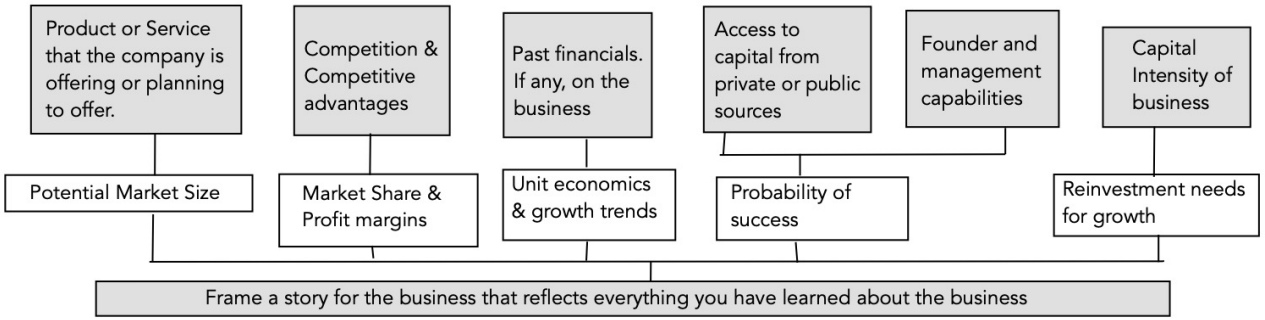


Stage of Development	*Typical Target Rates of Return*
Start-up	50 to 70%
First stage	40 to 60%
Second stage	35 to 50%
Bridge / IPO	25 to 35%

AND ITS PERILS

- VC valuation (pricing) **avoids the serious challenges of estimating operating details for the long term by cutting off the estimates prematurely** (with a short forecast period) and using a multiple that is usually based on what comparable companies are trading at currently.
- There is a **degree of sloppiness is associated with the use of a target rate** to discount the firm's future value. While the target rate is supposed to include both operating and failure risk, it is not clear how they are incorporated into the stated rates.
- In short, **a venture capital valuation is more a forward pricing**, discounted back at an arbitrarily high discount rate with no connection to the actual risk in a business.

INTRINSIC VALUE STEP 1: TELL A STORY!



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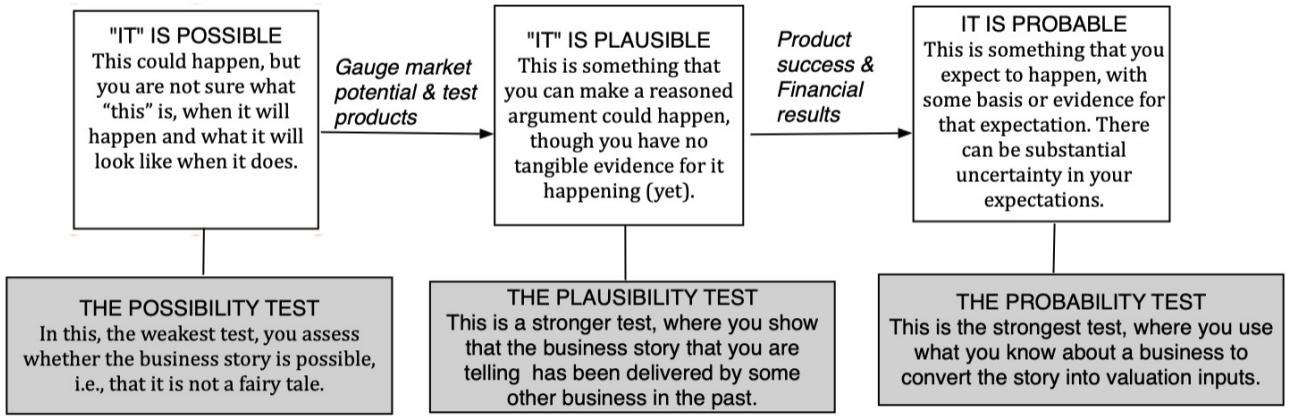
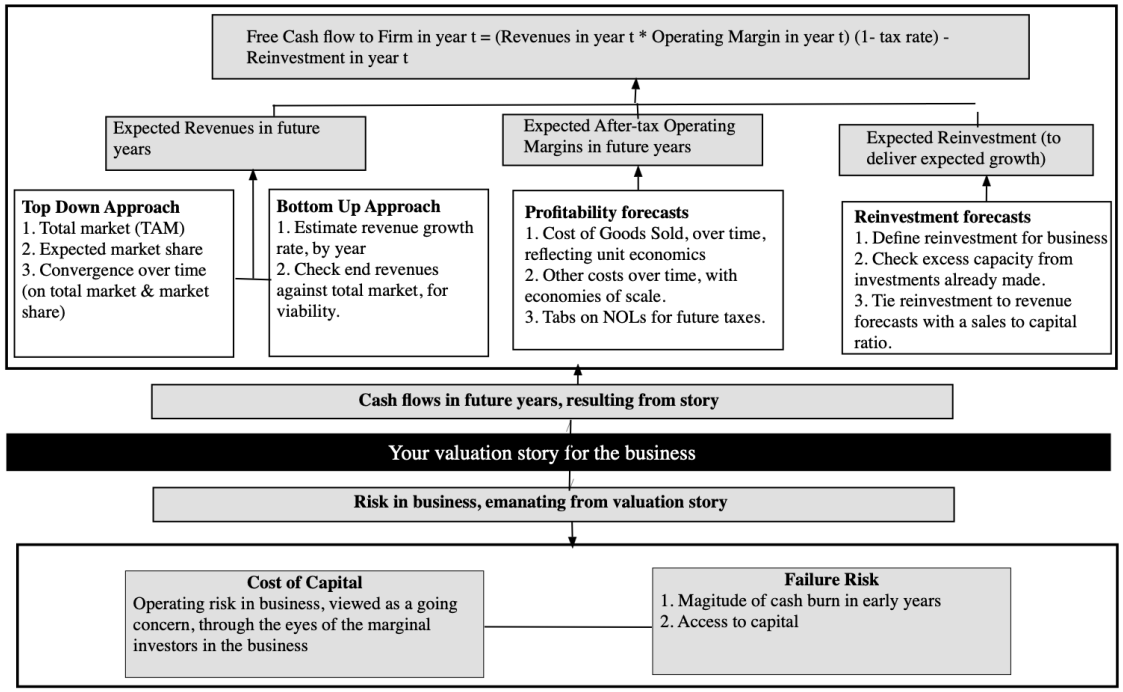
STEP 2: THE 3P TEST



STEP 3: STORY PIECES TO VALUE INPUTS



STEP 4A: VALUE THE BUSINESS – KEY INDICATORS

1. Cash flow patterns: The expected cash flows that underpin your valuation **will reflect assumptions made about revenue growth, operating margins, and reinvestment**. Specifically, businesses with high revenue growth and negative margins that are slow to turn positive, will be saddled with negative earnings in the early years, and incorporating the reinvestment needed to deliver the revenue growth will make cash flows more negative.

2. Discount rate check: Separating **the risk in a young business into operating and failure risk**, we estimate a cost of capital to reflect only the former. Thus, you should not be surprised to see costs of capital in young company valuation that are much lower than the target rates that venture capitalists concoct, and more reflective of costs of capital of established companies in public markets, if investors are diversified.

3. Failure risk: The **failure risk is the input that reflects the likelihood that many young businesses will not make it**, either because they run out of cash and lose access to fresh capital or because their business models never turn to profitability.

STEP 4B: FROM BUSINESS TO EQUITY VALUE

Discount estimated free cash flows during the forecast period at the discount rates that you estimated for the business.	**Value of business as going concern** = PV of cash flows during forecast period + PV of terminal value at the end of forecast period.
Estimate the value at the end of the forecast period, assuming constant growth forever or a finite period, and discount the terminal value back to today.	
Adjust the value for the likelihood of failure, by estimating the probability of failure and the value of the business, upon failure.	**Value of business adjusted for failure** = Going concern value (Probability of staying going concern) + Failure value (Probability of failure)
Add cash, marketable securities and the value of minority holdings in other businesses, if any.	**Value of business, with cash & non-operating assets =** Value of business adjusted for failure + Cash + Value of Cross holdings (if any)
Subtract out debt, including lease and other contractual commitments, and minority interests in consolidated entities (if using consolidated financials)	**Value of equity in business =** Value of business with cash & cross holdings - Debt Commitments - Minority Interest in consolidated entities
Value all equity options due, using an option pricing model, and net the value of the optiosn from equity value.	**Value of equity in common shares =** Value of equity in business - Value of extant equity options.
Adjust share count for restricted shares, if any, and for vesting probability, if unvested.	**Value of equity per share =** Value of Equity in common shares / Number of shares outstanding

STEP 5: KEEP THE FEEDBACK LOOP OPEN

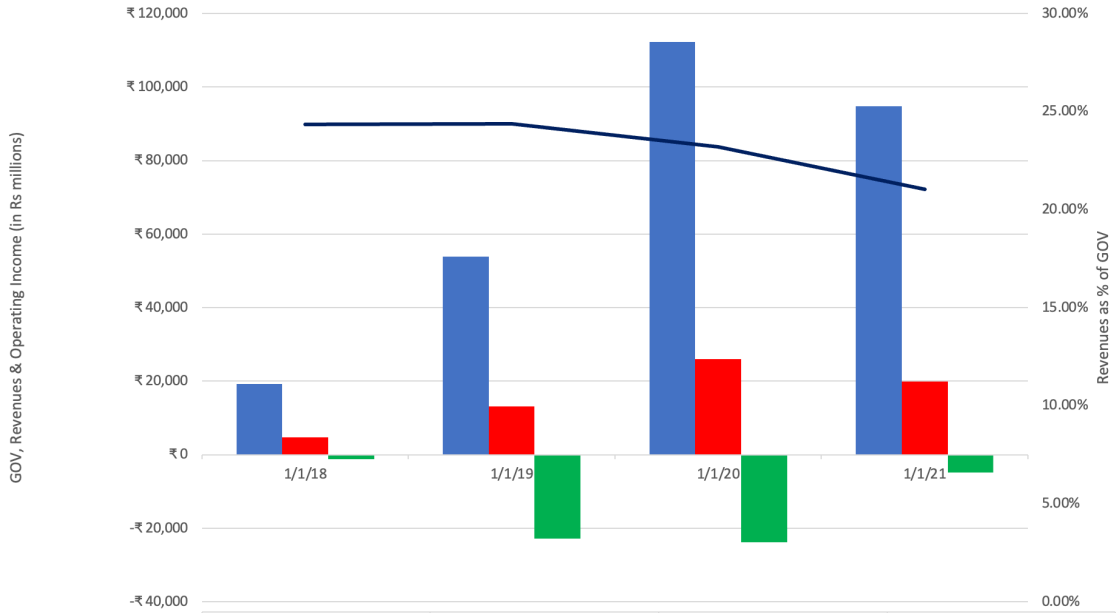
- When building a valuation story and converting that story into inputs and a value, especially with a young growth business or start up, **it is often easy to develop blind spots, and get attached to your own stories.**
- As a final step in the process, we would recommend keeping the feedback loop open, **seeking out feedback from people who think least like you and sometimes are better versed in the business details of the company you are valuing.**
- Rather then become defensive, incorporate what you learn from others into your story.

VALUING ZOMATO FOR ITS IPO – BACKGROUND INFORMATION

- **Transaction fees**, from food ordering and delivery, as the company keeps roughly 20-25% of the total order value for itself
- **Advertising**, since restaurants listed on Zomato also spend more on advertising, based upon customer visits and resetting revenues, to get additional visibility.
- **Subscription services**, with 1.5 million members, where in return for a subscription fee, they get discounts and special deals
- **Restaurant raw materials**, through HyperPure, a service directed at restaurants, offering groceries and meats that are source-checked for quality

ZOMATO – HISTORICAL DATA

Figure 10.6: Zomato's Pre-IPO History



	3/31/18	3/31/19	3/31/20	3/31/21
Gross Order Value (GOV)	₹ 19,154	₹ 53,870	₹ 112,209	₹ 94,829
Total Revenue	₹ 4,660	₹ 13,126	₹ 26,047	₹ 19,938
Operating Income	-₹ 1,198	-₹ 22,865	-₹ 23,887	-₹ 4,803
Revenues as % of GOV	24.33%	24.37%	23.21%	21.03%

MY ZOMATO STORY

- In our Zomato story, **the Indian food delivery/restaurant market will grow, as Indians become more prosperous and have increased online access**, and this market will be dominated by a handful of players, with **Zomato as one of the dominant players**.
- As an **intermediary with strong unit economics**, Zomato will be see **high operating margins**, over time, and be able to continue to grow with relatively little reinvestment, most of it in the form of acquisitions.
- The **operating risk in Zomato will be average**, but as a money-losing company, there remains a non-trivial chance of failure, albeit **one that will be low because of the cash buffer that the company will have after the IPO**.

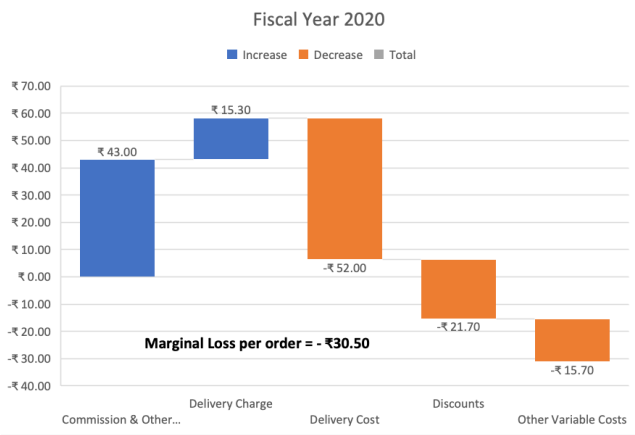
1. REVENUE GROWTH

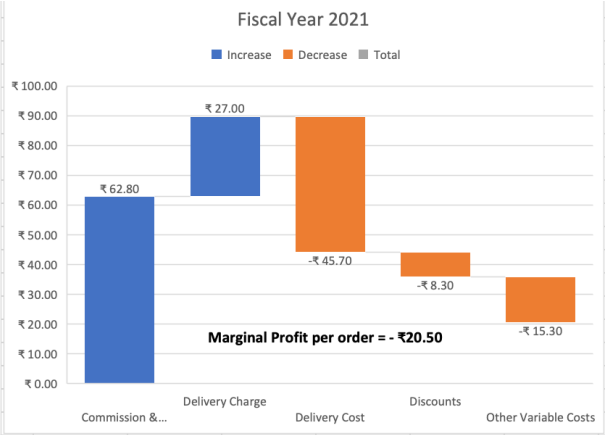
- The Indian food delivery market will **grow**:

	Indian Per Capita GDP as % of China Per Capita GDP			
	25%	50%	75%	100%
Current Internet access	$5,417	$10,834	$16,250	$21,667
China-level Internet access	$7,936	$15,872	$23,809	$31,745
US-level Internet access	$11,085	$22,171	$33,256	$44,342

- We believe that the networking benefits inherent in the online food delivery business will lead to concentration and **that Zomato will be one of the dominant players.**
- In the base case, we will estimate the total market for online food delivery will increase to $25 billion in a decade, with Zomato commanding a 40% market share in steady state, and that

II. OPERATING MARGINS – UNIT ECONOMICS





	Relative Order Size (to starting year)				
Cohort Group	2017	2018	2019	2020	2021
FY 2017	1.0	1.6	2.2	3.0	2.9
FY 2018		1.0	2.0	2.7	2.4
FY 2019			1.0	1.6	1.1
FY 2020				1.0	0.7

- In the base case, we assume that the pre-tax operating margin for Zomato will trend towards 35%, as the company approaches maturity.

III. REINVESTMENT

- To estimate the reinvestment that Zomato will need to deliver its expected growth, we will assume that **the company will remain an intermediary and that its reinvestment will continue to take the form of acquisitions and investments in technology.**
- In the base case, we will assume that the company will be able to deliver Rs 5 for every rupee of capital invested next year, largely due to the rebound from COVID, before **becoming Rs 3 for every rupee invested in years 2-5, before and settling in at Rs 2.5 for every rupee invested beyond.**

IV. RISK

- On the operating risk dimension, Zomato will remain primarily an Indian company, dependent on Indian macroeconomic growth to succeed, and the cost of capital should reflect that risk.
- Zomato is a money losing company, but it is not a start-up, facing imminent failure.
  - On the plus side, its **size and access to capital**, as well as its post-IPO augmented cash balance, push down the risk of failure.
  - On the minus side, this is a company that is still **burning through cash** and will need access to capital in future years to continue to survive.
- In the base case, we will give Zomato a Rupee Cost of capital of 10.25% in the early years, before adjusting it down to about 9% in steady state, and attach a likelihood of failure of 10%, to the company.

ZOMATO: IPO EQUITY VALUE

Zomato						Jul-21
The Story						
Zomato will benefit as the Indian food delivery market grows, driven by overall economic growth and more digital access, and it will be one of a few (two or three) players who will dominate the market; there will be a near term COVID bouncecback effect. While Amazon Food remains the wild card, economies of scales will allow the company to generate high operating margins, and the company will continue to reinvest (acquisitions and technology) as it grows. The risk of failure is low, given the company's post-IPO cash balance and access to capital and its operating risk reflects its exposure to Indian country risk.						
The Assumptions						
	Base year	*Next year*	*Years 2-5*	*Years 6-10*	*After year 10*	*Link to story*
Indian Food Delivery	₹225,000	₹337,500	30.00%	15.27%	₹1,961,979	Indian food market rebounds in 2021 and grows to about $25 billion in year 10
Market Share	42.15%	41.72%	→	40.00%	40.00%	Zomato is one of two or three lead players in Indian food delivery market
Revenues as % of GOV	21.03%	22.00%			22.00%	Revenue slice stays stable over time
Revenues (a)	₹19,937.89	₹30,975	Total Market * Market Share* Revenue as % of GOV		₹172,654	COVID rebound in 2021 + Growth in food delivery market in India long term
Operating margin (b)	-24.10%	-10.0%	-10.00% →	35.00%	35.00%	Margins improve as growth wanes
Tax rate	25.00%		25.00% →	25.00%	25.00%	Indian corporate tax rate over time
Reinvestment (c)		5.00	2.50	3.00	35.42%	Acquisitions & technology investments needed to sustain growth
Return on capital	-7.15%	Marginal ROIC =	127.01%		12.00%	Newworking benefits allow for high ROIC, near and long term.
Cost of capital (d)			10.25% →	8.97%	8.97%	Cost of capital reflects Indian country risk
The Cash Flows						
	Total Market	*Market Share*	*Revenues*	*EBIT (1-t)*	*Reinvestment*	*FCFF*
1	₹337,500	41.72%	₹30,974.78	-₹3,097.48	₹2,207.38	-₹5,304.86
2	₹438,750	41.29%	₹39,852.91	₹498.16	₹3,551.25	-₹3,053.09
3	₹570,375	40.86%	₹51,270.19	₹3,293.45	₹4,566.91	-₹1,273.46
4	₹741,488	40.43%	₹65,951.07	₹6,182.91	₹5,872.35	₹310.56
5	₹963,934	40.00%	₹84,826.17	₹11,531.06	₹6,291.70	₹5,239.36
6	₹1,203,471	40.00%	₹105,905.47	₹16,065.01	₹7,026.43	₹9,038.57
7	₹1,440,555	40.00%	₹126,768.85	₹26,253.32	₹6,954.46	₹19,298.86
8	₹1,650,156	40.00%	₹145,213.72	₹38,118.60	₹6,148.29	₹31,970.31
9	₹1,805,271	40.00%	₹158,863.81	₹41,701.75	₹4,550.03	₹37,151.72
10	₹1,881,995	40.00%	₹165,615.52	₹43,474.07	₹2,250.57	₹41,223.50
Terminal year	₹1,961,979	40.00%	₹172,654.18	₹45,321.72	₹16,051.44	₹29,270.28
The Value						
Terminal value			₹620,133.03			
PV(Terminal value)			₹241,972.24			
PV (CF over next 10 years)			₹56,739.02			
Value of operating assets =			₹298,711.25			
Adjustment for distress			₹14,935.56	Probability of failure =		10.00%
- Debt & Minority Interests			₹1,591.72			
+ Cash & Other Non-operating assets			₹135,959.70	Includes cash proceeds from IPO of		₹90,000
Value of equity			₹418,143.67			
- Value of equity options			₹73,244.53			
Number of shares			7,946.68			
Value per share			₹43.40	Stock was offered at =		₹70.00

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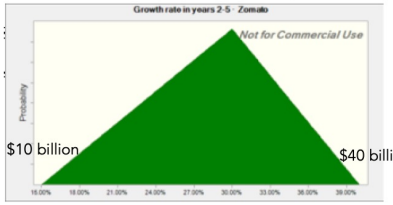
ADD-ONS AND AUGMENTATIONS 1. MONTE CARLO SIMULATIONS

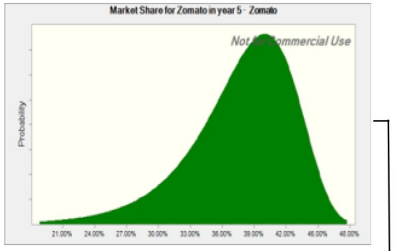
- Determine "probabilistic" variables: In any analysis, there are potentially dozens of inputs, some of which are predictable and some of which are not. It makes sense to focus attention on a few variables that have a significant impact on value.
- Define probability distributions for these variables: You can use a mix of historical data, industry averages and common sense.
- Check for correlation across variables: When there is strong correlation, positive or negative, across inputs, you have two choices.
  - One is to pick only one of the two inputs to vary; it makes sense to focus on the input that has the bigger impact on value.
  - The other is to build the correlation explicitly into the simulation; this does require more sophisticated simulation packages and adds more detail to the estimation process.
- Run the simulation: For the first simulation, you draw one outcome from each distribution and compute the value based upon those outcomes. This process can be repeated as many times as desired, though the marginal contribution of each simulation drops off as the number of simulations increases.

ZOMATO SIMULATION

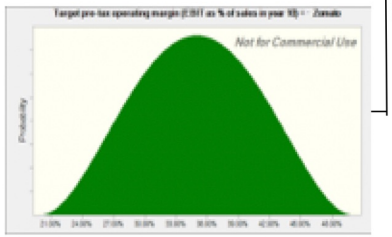
Growth in Indian Food Delivery Market



Zomato's Market Share

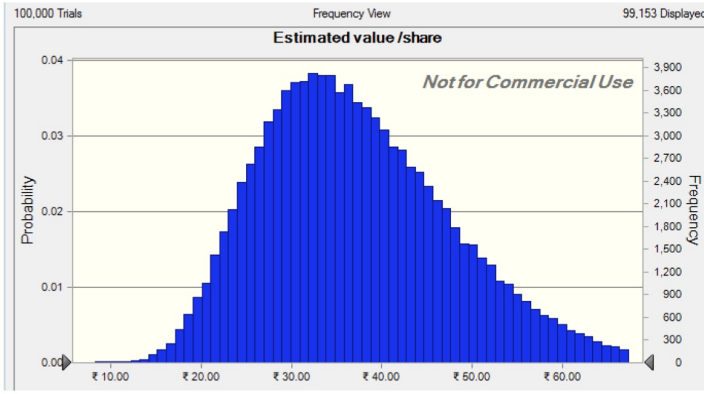


Zomato's Operating Margin (Pre-tax)



Correlation = 0.50

Zomato: Monte Carlo Simulation of Value/Share



Percentile	*Value per share*
0%	-₹ 0.22
10%	₹ 24.49
20%	₹ 27.96
30%	₹ 30.74
40%	₹ 33.35
50%	₹ 36.02
60%	₹ 38.86
70%	₹ 42.11
80%	₹ 46.07
90%	₹ 51.92
100%	₹ 91.69

Aswath Damodaran

2. OPTIONALITY

- There is a potential upside to the uncertainty that you face, when valuing young businesses, and that comes from the possibility that if the stars align, and the products offered by the business find wider acceptance than expected, it can use that success to enter new businesses that do not seem viable today or are not even in consideration.
- This "optionality" will add a premium to the value that you estimate for the business, and that premium will increase, as uncertainty becomes more rampant.
  - There is some truth to the argument, but its weight rests on not just the number of users and subscribers on the platform, but also in **how loyal they are to the platform and how intense their usage is**.
  - It also depends on whether the platform company is accumulating data on the users that can be used as a competitive advantage when entering other businesses, with more **data more exclusive to the company**, creating more value than data that others have access to.

ZOMATO'S OPTIONALITY?

- Zomato's platform has the benefit of large numbers, but it falls short on both intensity and proprietary data. Thus, Zomato app users are on the system only when they order food, and the engagement is often restricted to food ordering and delivery.
- If Zomato plans to expand its offerings to its platform-users, it is very likely that these add-on businesses will be food-related, perhaps extending into grocery shopping, creating some option value.
- Even if you believe that there is optionality, attaching a numerical value to that option is one of the most difficult tasks in investment.
- In short, if we were tempted to pay a premium over the intrinsic valuation (₹43) that we estimated for Zomato earlier, to reflect its large user base and optionality, that premium should be small, given user characteristics.

PRICING CHALLENGES

- Standardized Price: For a metric to be used as a scalar, it has to have a positive value, at the minimum, and have a close connection to business value, even if positive. That requirement crimps your choices when pricing young companies.
- Peer Group Assembly: With start-ups and very young businesses, almost all of the peer group businesses can be privately owned, and the pricing information on these businesses will reflect their most recent venture capital rounds (which can be both dated and misleading). Even as these companies advance on the life cycle, and become publicly traded, defining them narrowly can make it difficult to find peer groups.
- Controlling for Differences: Assuming that you can find a scalar for pricing and are able to assemble a peer group of businesses like yours that are priced, you will still have to determine what it is that investors are looking at, when setting prices, and then figure out how to control for differences on those determinants.

THE RESPONSES

- Standardized Price: One alternative is to use an operating metric that you can observe at the business that you believe will provide you with the pathway to revenues and profitability. Another alternative is to forecast the financials of a business and use the forecasted values as your scalar.
- Peer Group Assembly: If you are pricing a start-up that is still privately owned and all the peer group is also privately owned, you often have no choice but to stick with the flawed and often stale pricing from more recent venture capital rounds at the peer group. Once a start-up is publicly traded, we would recommend defining its business broadly and loosening the criteria for "similar" firm, to get more companies in the peer group, even if it means bringing in companies from other markets or sectors.
- Controlling for Differences: The problem is that outside of revenue growth, young businesses have profit margins and reinvestment measures that are unreliable and shifting. If your intent is to find out what the market is pricing into young businesses, you can use statistical tools to eke out correlations between market prices and observable variables.

PRICING ZOMATO

	Doordash (2020)	Doordash (2030 Forecast)	Zomato (2020)	Zomato (2030 Forecast)
Market Capitalization	$57,860		$8,600	
Enterprise Value	$53,640		$7,500	
Gross Bookings	$18,897	$72,072	$1,264	$10,038
Revenues	$3,601	$9,009	$266	$2,208
Gross Income	$1,864	$4,955	$140	$1,325
EBIT	-$412	$1,802	-$64	$773
Platform Users	20	50	40	200
	Current	Forward	Current	Forward
EV/GOV	2.84	0.74	5.93	0.75
EV/Revenues	14.90	5.95	28.20	3.40
EV/ Gross Income	28.78	10.83	53.57	5.66
EV/ User	2682.00	1072.80	187.50	37.50