

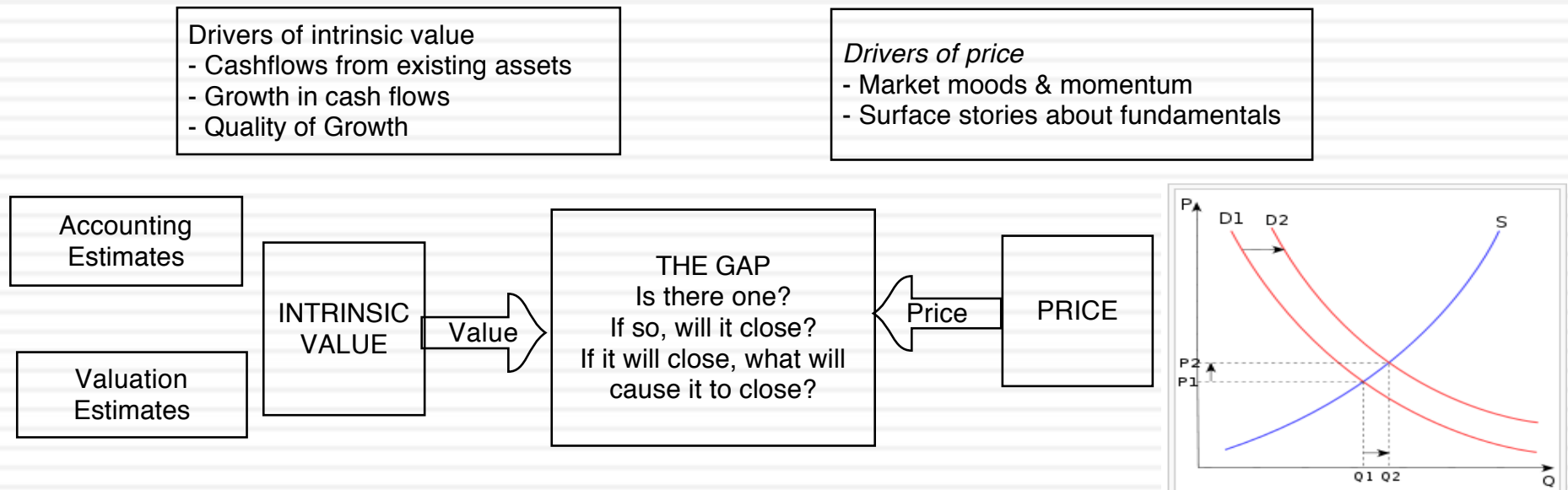


**NARRATIVE AND NUMBERS:
EVERY VALUATION TELLS A
STORY!**

Stories and Numbers

Setting the Stage: Value is not Price

2



And don't assume that $D+CF = DCF$

3

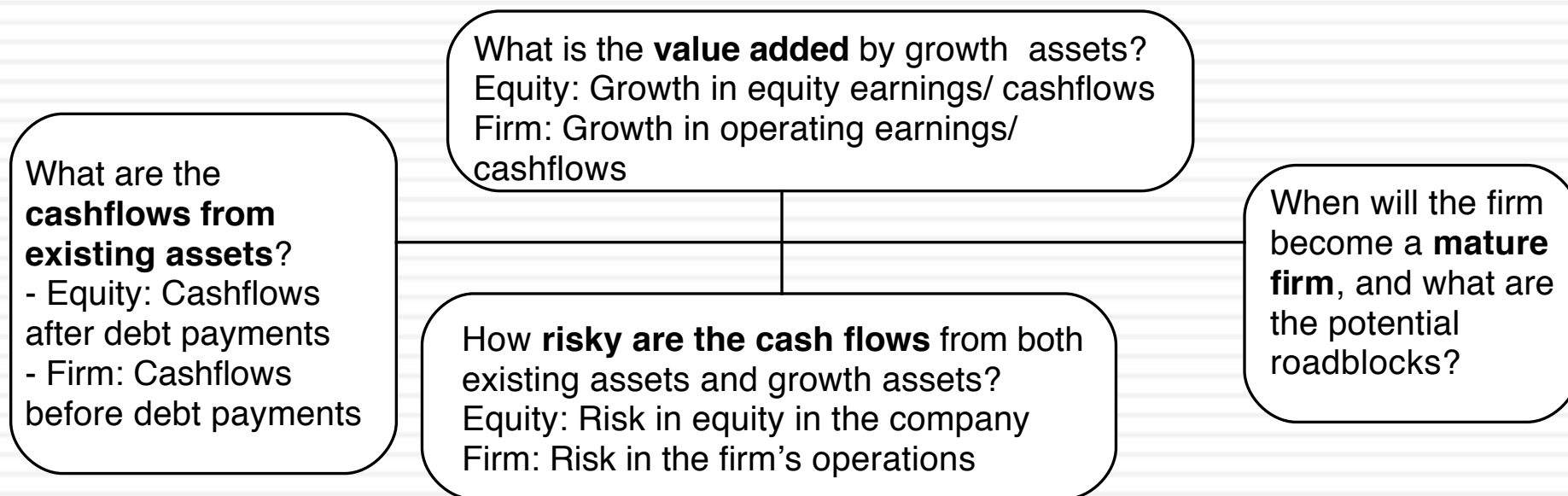
- The value of a risky asset can be estimated by discounting the expected cash flows on the asset over its life at a risk-adjusted discount rate:

$$\text{Value of asset} = \frac{E(CF_1)}{(1+r)} + \frac{E(CF_2)}{(1+r)^2} + \frac{E(CF_3)}{(1+r)^3} \dots + \frac{E(CF_n)}{(1+r)^n}$$

1. *The IT Proposition:* If “it” does not affect the cash flows or alter risk (thus changing discount rates), “it” cannot affect value.
2. *The DUH Proposition:* For an asset to have value, the expected cash flows have to be positive some time over the life of the asset.
3. *The DON'T FREAK OUT Proposition:* Assets that generate cash flows early in their life will be worth more than assets that generate cash flows later; the latter may however have greater growth and higher cash flows to compensate.

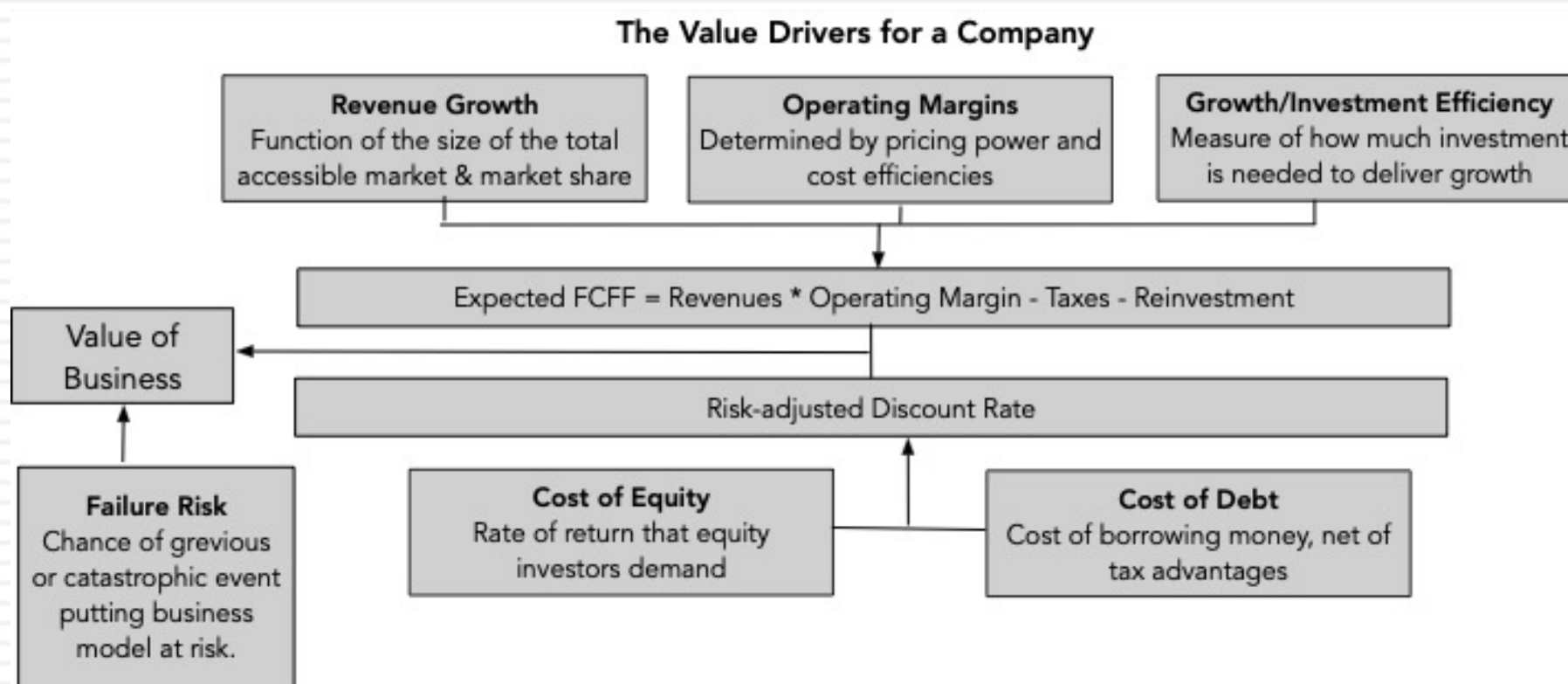
The Key Questions in valuation...

4

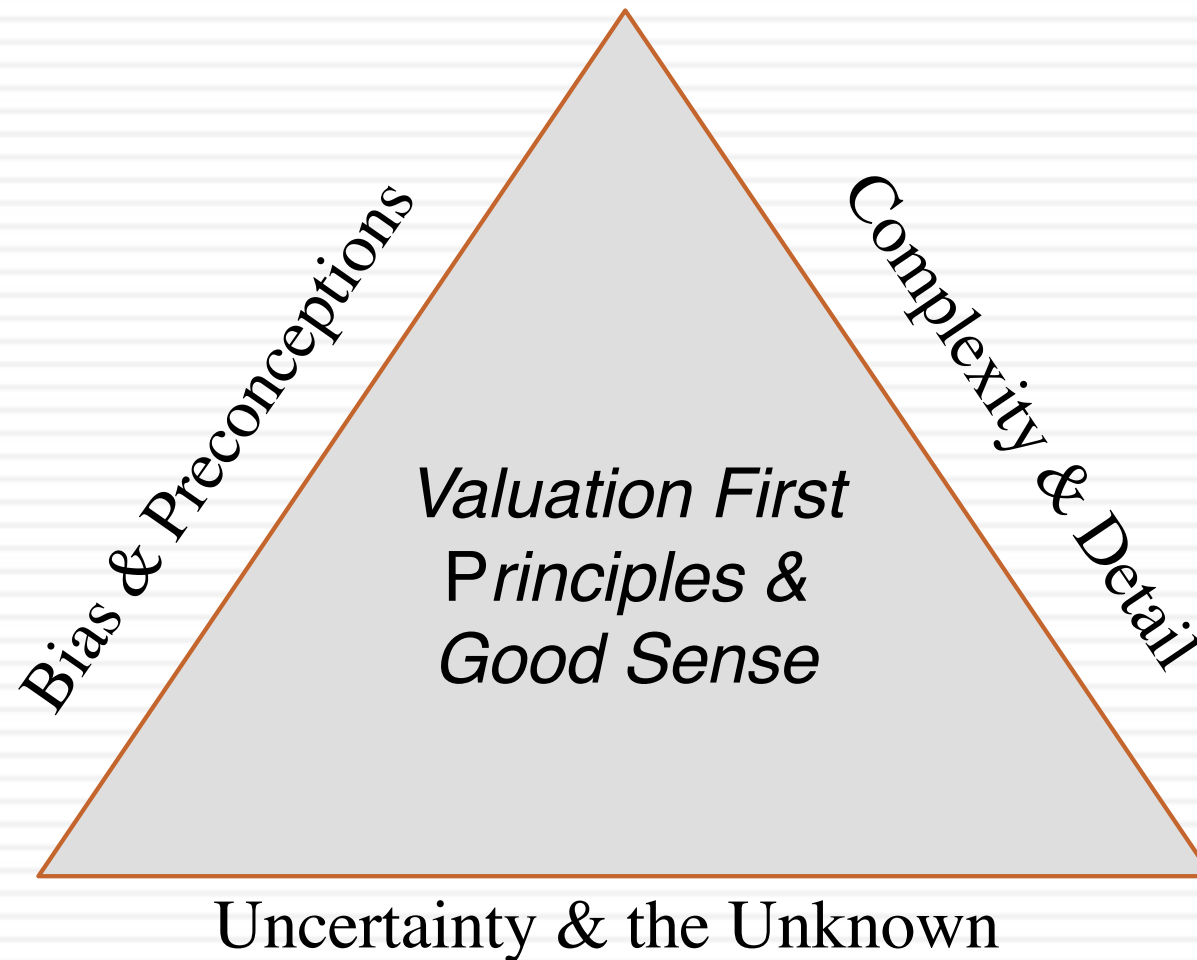


And Business Drivers that determine value...

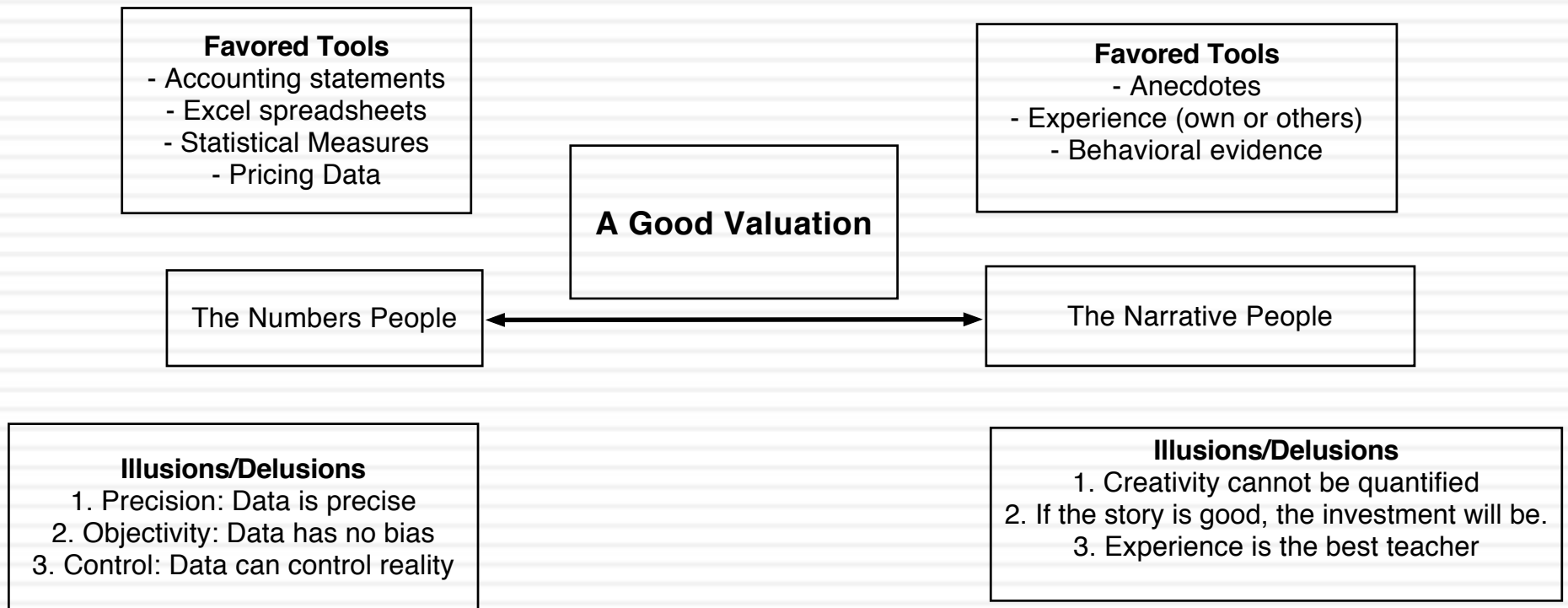
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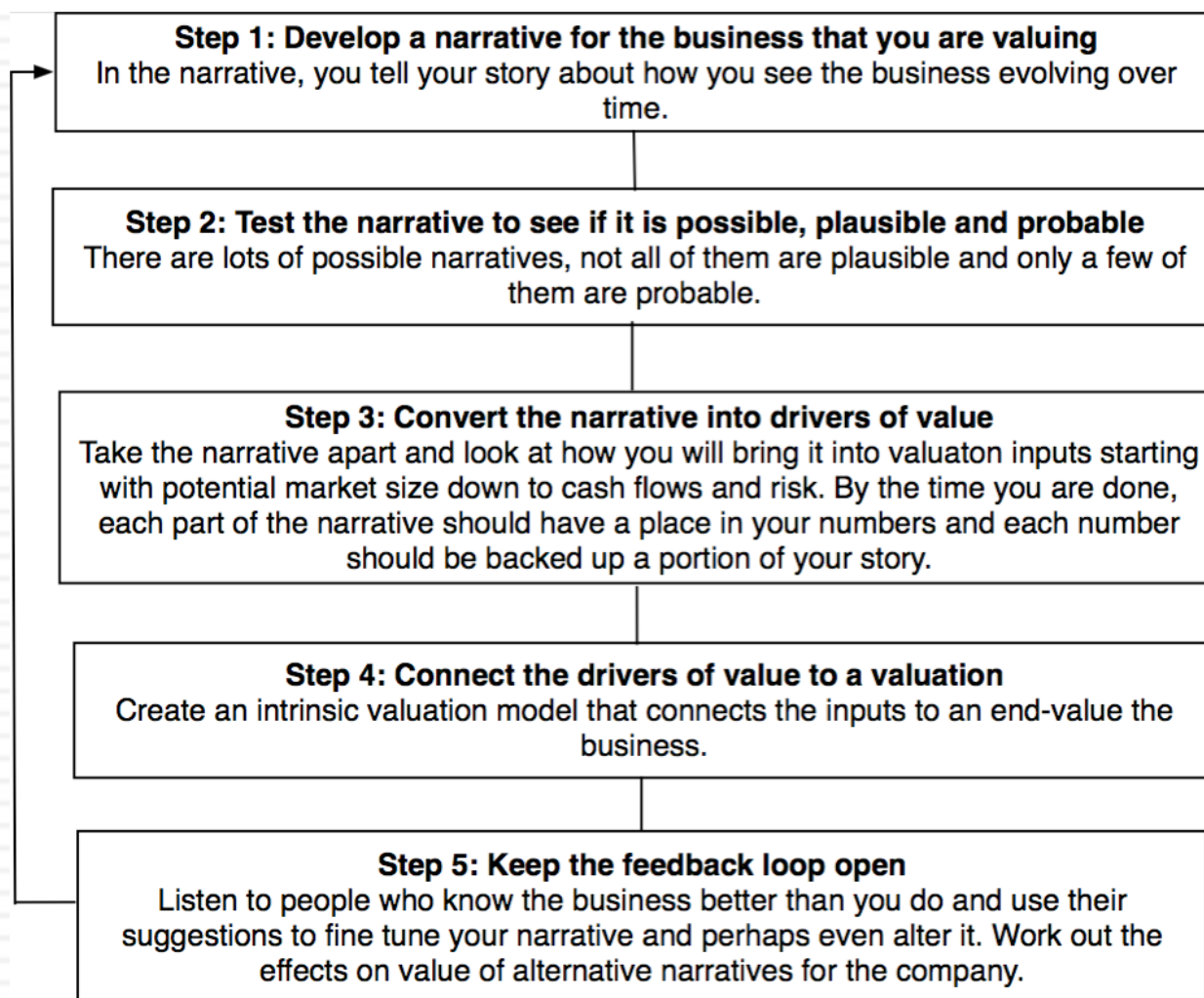
The Bermuda Triangle of Valuation



Valuation = Stories + Numbers



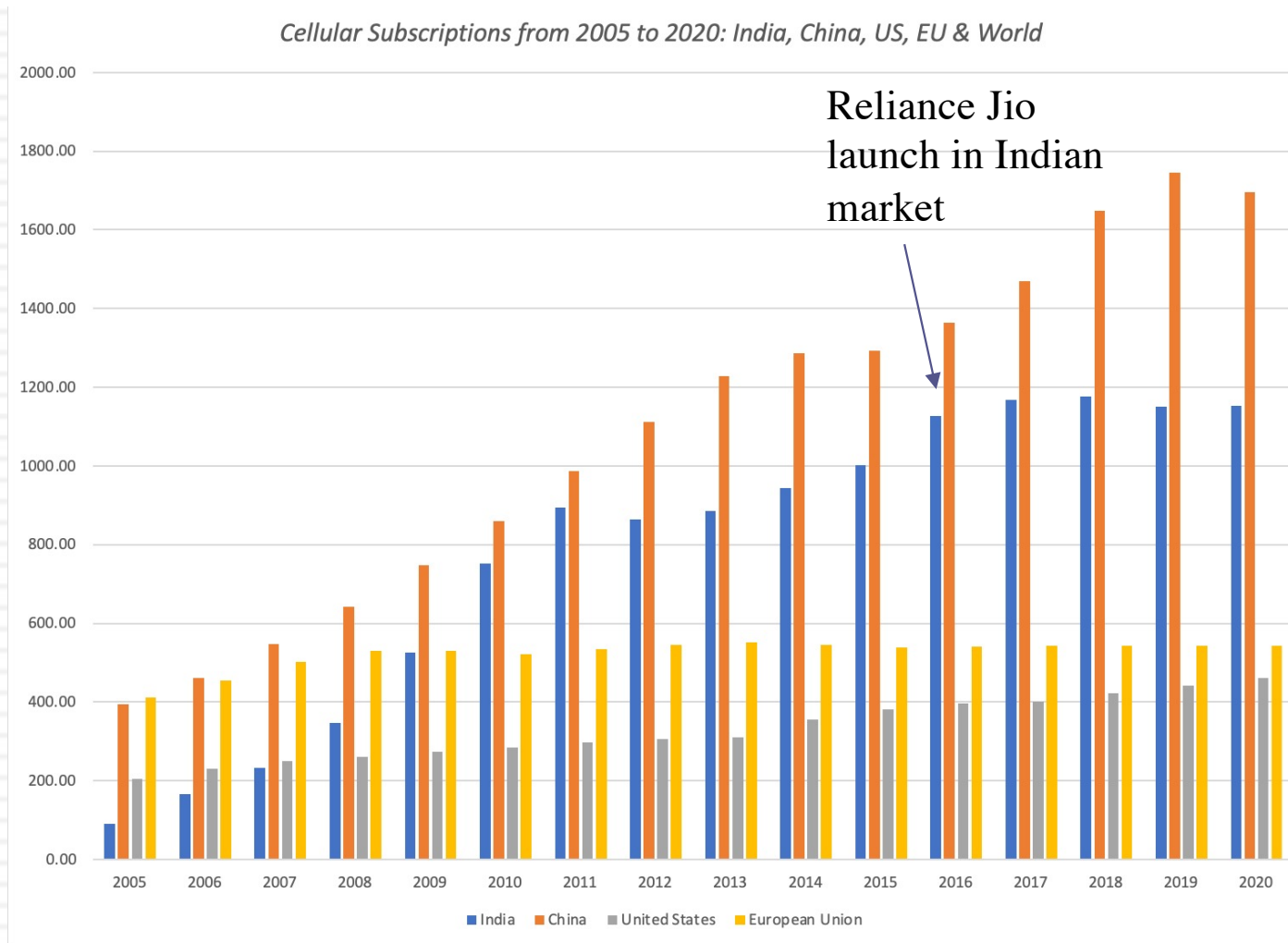
From Story to Numbers: The Steps



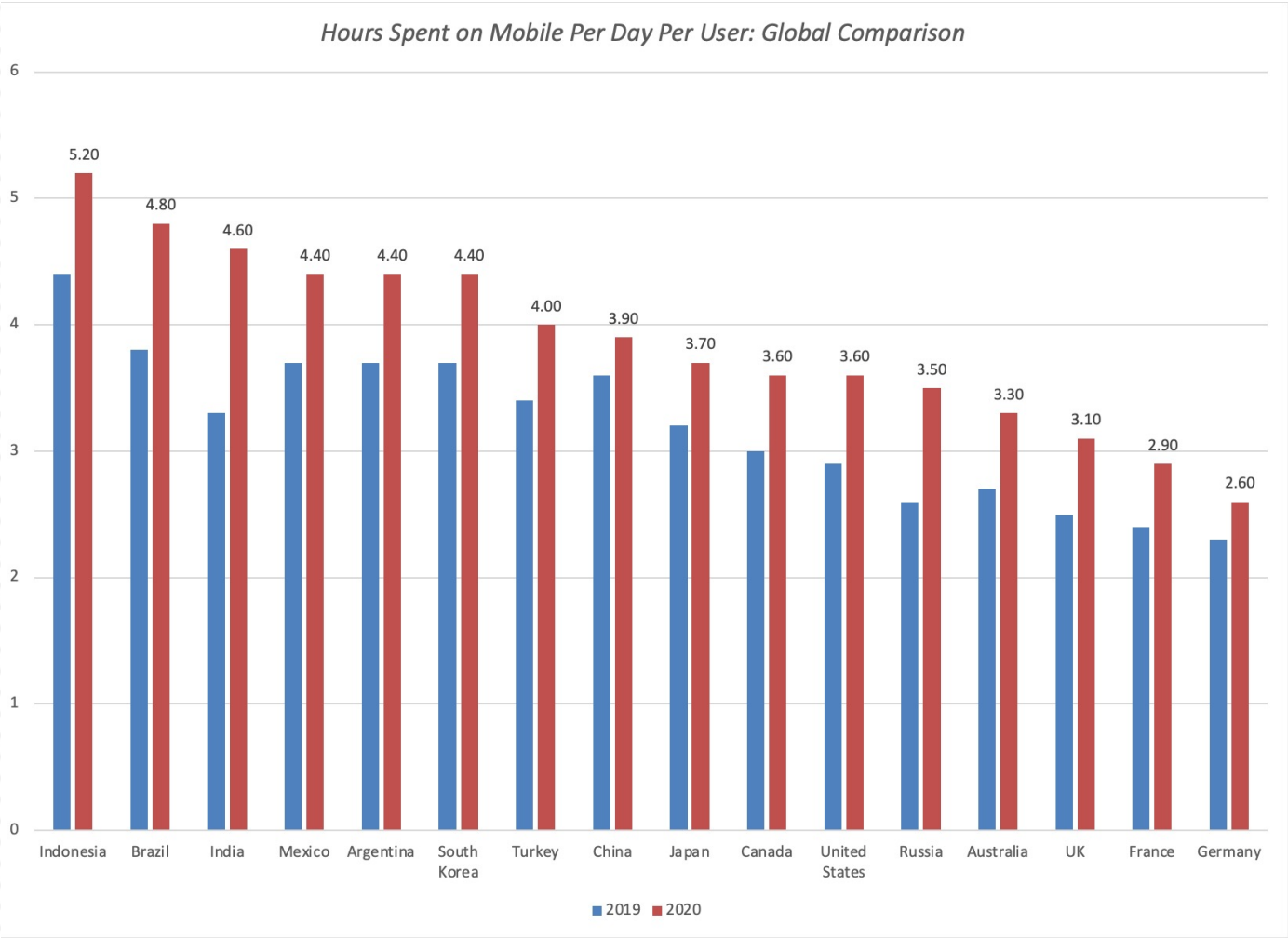
India's Biggest IPO

- ❑ A few weeks ago, I valued Zomato, the Indian online food delivery company, just prior to its IPO, and argued that the excitement about its potential was tied to the potential for growth in India and the shifting habits of Indian consumers. Since its public offering, Zomato's stock price has reflected that excitement, more than doubling from its offering price of 74 rupees per share.
- ❑ Waiting in the wings to go public, is Paytm, a company that in many ways is even more closely tied to India's macro story, drawing on the growth of online commerce in India and a willingness of Indian consumers to use mobile payment mechanisms.
- ❑ I will look at the levers that drive Paytm's value, and you can make your judgments on where you think this offering will lead in terms of valuation and pricing.

Setting the Stage: The Growth of Smartphones

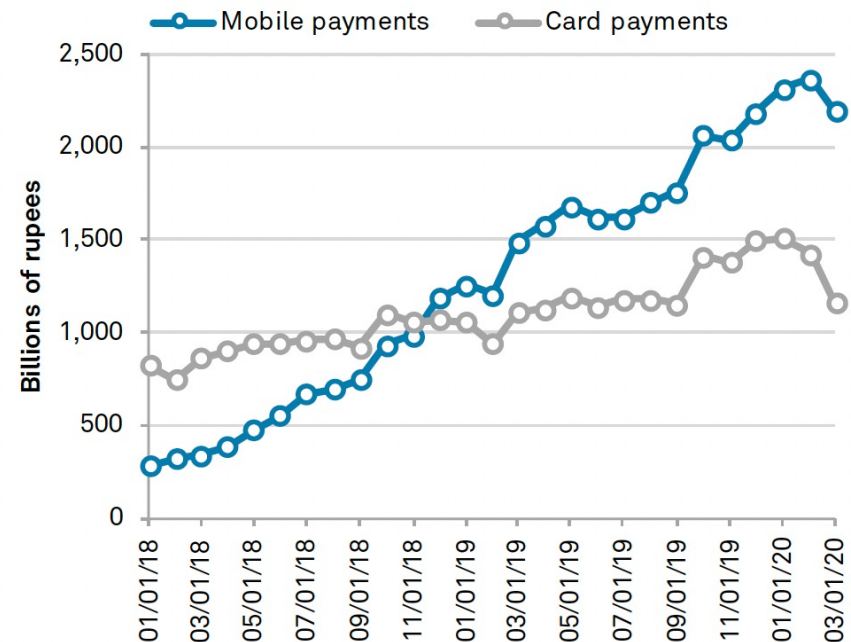
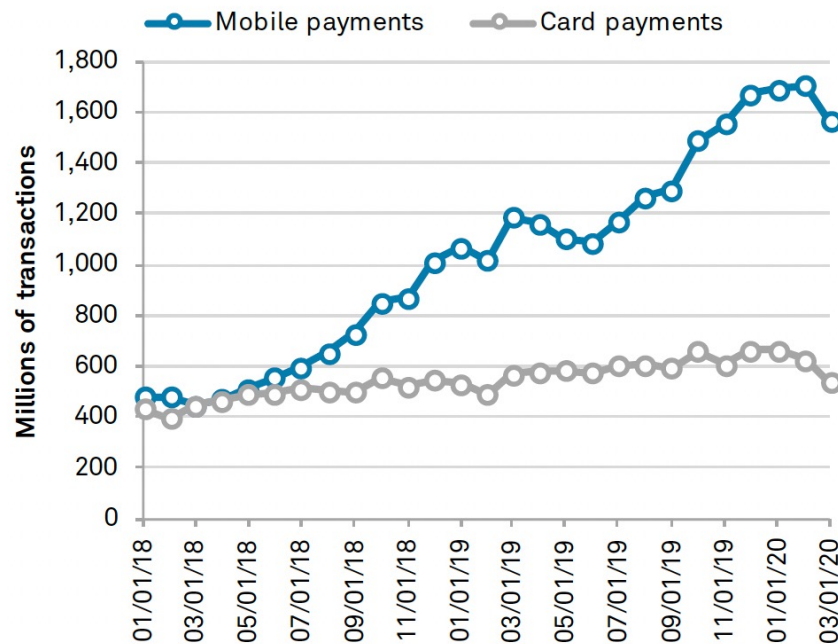


And Their Usage...



Rise of Mobile Payments

Mobile payments growing faster than cards in India



Data compiled June 1, 2020.

In 2016, United Payments Interface (UPI), a real-time payment interface devised by the National Payments Corporation of India, and regulated by the Reserve Bank of India, was introduced, facilitating and speeding up inter-bank, person to person and person to merchant transactions.

Paytm: A Parallel History

- When it was founded in 2010 by Vijay Sharma, it operated as a pre-paid mobile platform, but its market then was small both in terms of numbers and services offered.
- As mobile access improved, Paytm added to its suite of products.
 - In 2014, it introduced *Paytm Wallet*, a digital wallet that was accepted as a payment option by leading service providers and retailers.
 - In 2016, it added ticket booking to movies, events and amusement parks, with flight bookings soon after, and started *Paytm Mall*, a consumer shopping app, based upon Alibaba's Taobao Mall model.
 - In 2017 it added *Paytm Gold*, allowing users to buy gold in quantities as little as 1 rupee, and *Paytm Payments Bank*, a messaging platform with in-Chat payments.
 - In 2018, it added a *Paytm Money*, for investment and wealth management, and in 2019, it launched a *Paytm for Business app* for merchants to track payments. In short, over time, it has used its platform of users to launch itself into almost every online activity.

Paytm: Financial History

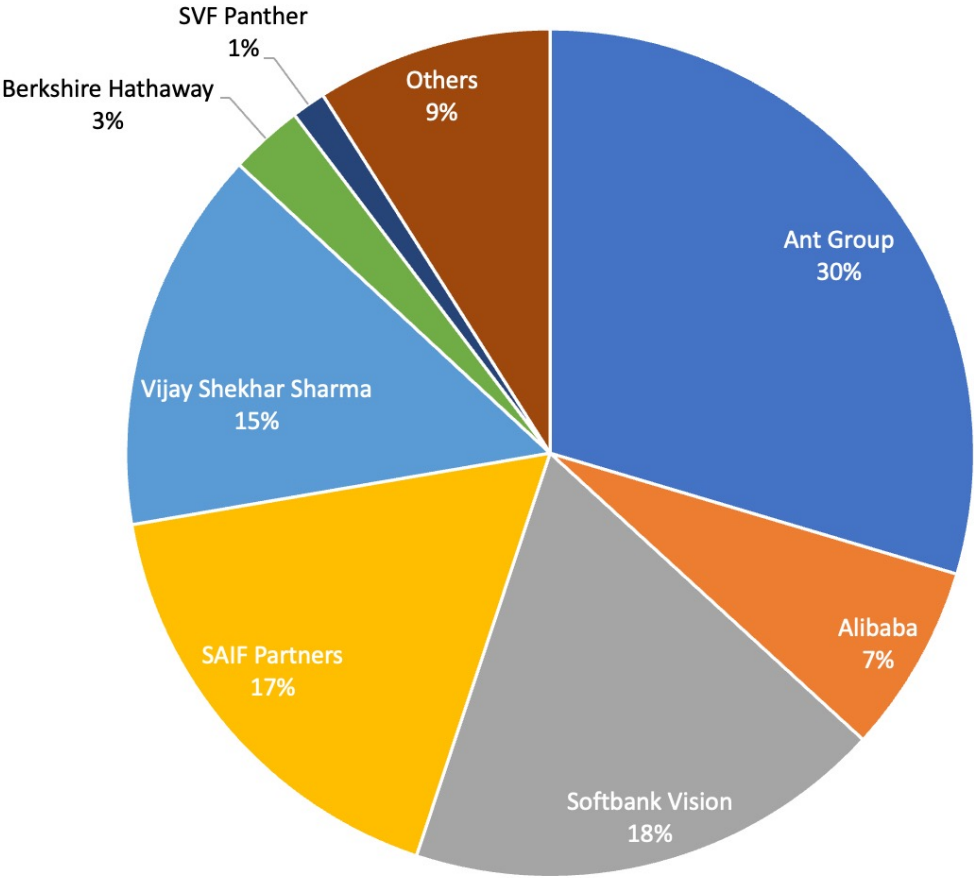
<i>Year ending</i>	<i>Users (in millions)</i>	<i>User Transactions (millions)</i>	<i>GMV (in billions)</i>	<i>Revenues (in billions)</i>	<i>Operating Income/Loss (in billions)</i>	<i>Adjusted EBITDA</i>	<i>Take Rate</i>
Mar-17	218.00	1500.00	₹ 350.00	₹ 7.64	₹ -11.79	₹ -11.40	2.18%
Mar-18	250.00	4000.00	₹ 2,000.00	₹ 32.35	₹ -14.56	₹ -13.87	1.62%
Mar-19	275.00	5500.00	₹ 2,292.00	₹ 35.80	₹ -42.01	₹ -42.12	1.56%
Mar-20	300.00	6000.00	₹ 3,032.00	₹ 35.40	₹ -25.49	₹ -24.68	1.17%
Mar-21	333.00	5900.00	₹ 4,033.00	₹ 31.87	₹ -15.61	₹ -16.55	0.79%

Paytm's Funding

<i>Date</i>	<i>Capital Infusion (millions)</i>	<i>From</i>	<i>Imputed Pricing (millions)</i>
Oct-11	₹ 650	Sapphire Ventures	₹ 19,500
Feb-15	Undisclosed	Ant Financial	NA
Sep-15	₹ 47,600	Alibaba & Ant Financial	₹ 238,000
Aug-16	₹ 4,000	Mountain Capital	₹ 300,000
Mar-17	₹ 14,000	SAIF and Alibaba	₹ 325,000
May-17	₹ 90,000	Softbank	₹ 600,000
Aug-18	₹ 25,000	Berkshire Hathaway	₹ 800,000
Nov-19	₹ 75,000	T. Rowe Price, Softbank, Ant, Discovery	₹ 1,200,000

And ownership structure

Paytm: Shareholders at IPO date

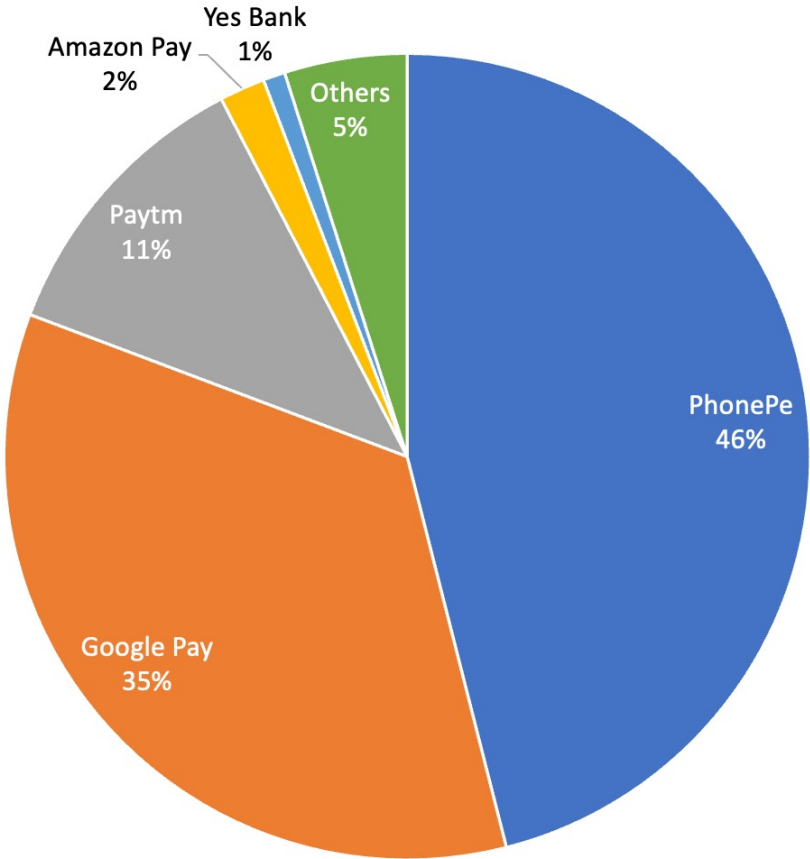


The Paytm Story: Drivers

<i>Value Driver</i>	<i>Paytm's Standing</i>	<i>Story for the future</i>
Gross Merchandising Value (GMV)	In 2020-21, Paytm had Rs 4,033 billion in GMV, from its array of products & services.	Indian mobile market is expected to increase five-fold in the next five years, as smartphone penetration rises.
Market Share	Paytm dominates the person-to-merchant (P2M) business in India with a market share > 50%. It lags PhonePe and Google Pay among UPI apps.	Paytm will maintain its market share in the UPI app market, while consolidating its dominance of the P2M market.
Take Rate (Revenues as % of GMV)	Paytm's take rate has been dropping consistently over the last four years and stands at 0.79%, as company has prioritized users & transactions.	Paytm will gradually increase its take rate over the next 5 years to 1%, and then double that rate over the following five years (to 2%).
Operating Margin	In 2020-21, Paytm reported an operating margin of -49%, an improvement over 2019-20. Paytm's biggest expense, after employee costs, was selling and marketing, accounting for 19% of revenues.	As Paytm matures, there should be economies of scales that kick in, pushing operating margins into positive territory and beyond. By 2030, the operating margin will approach 30%.
Reinvestment	Paytm's biggest investments have been in acquisitions of companies & technology, to expand its product/service offerings.	Paytm will generate Rs 2.45 in revenues for every rupee invested, roughly in line with sales to capital ratios for Paypal and Square.

The Competitive Landscape

UPI Transactions in June 2021



P2M vs P2P: A large proportion of UPI transactions (80% of number, 55% of value) are person to person (P2P) rather than person to merchant (P2M). Paytm gets a larger percentage of its UPI revenues from P2M transactions than PhonePe or Google Pay.

UPI vs Other Payment Modes: Across all online payment modes (wallets, plastic cards, internet banking and UPI) for P2M, Paytm has the dominant market share (about 50%).

Total UPI transactions in 2020 = 50,039 billion rupees

Take rates and Margins: Peer Analysis

	In INR	All in US dollars						
	<i>Paytm</i>	<i>The Old Guard</i>			<i>The Big Online Players</i>			<i>Rising Asia</i>
		<i>Visa</i>	<i>Mastercard</i>	<i>American Express</i>	<i>Paypal</i>	<i>Square</i>	<i>Shopify</i>	<i>Ant Financial</i>
Active Users	333	798	725	112	377			925
GMV	₹ 4,033,000.00	\$ 1,970,000.00	\$ 837,000.00	\$ 828,000.00	\$ 936,000.00	\$ 112,300.00	\$ 119,600.00	\$ 1,239,000.00
Revenues	₹ 31,870.00	\$ 21,850.00	\$ 15,300.00	\$ 34,936.00	\$ 21,450.00	\$ 3,287.00	\$ 2,930.00	\$ 17,000.00
Operating Income	₹ -15,610.00	\$ 14,081.00	\$ 8,081.00	\$ 8,429.00	\$ 3,290.00	\$ 287.00	\$ 90.20	\$ 1,700.00
Take Rate (Rev/GMV)	0.79%	1.11%	1.83%	4.22%	2.29%	2.93%	2.45%	1.37%
Operating Margin	-48.98%	64.44%	52.82%	24.13%	15.34%	8.73%	3.08%	10.00%
Market Capitalization		\$ 484,250	\$ 348,980	\$ 137,120	\$ 309,080	\$ 109,620	\$ 167,480	NA

Risk, Share Count and IPO Proceeds

- On the risk front, there is little reason to reinvent the wheel. Paytm's cost of capital, in rupee terms, is 10.43%, reflecting its business risk, and puts the company just below the median Indian company, in risk terms. The company's capacity to burn cash will continue to expose it to risk, but with deep pocketed investors (Alibaba and Softbank), and a large cash balance (post IPO), the risk of failure is low (5%).
- To get from these numbers to a value per share, I use the existing share count (617 million shares), in conjunction with the information in the prospectus that the company plans to raise ₹166,000 million at the offering, with half of these proceeds staying in the firm to cover future investment needs and the other half going to existing shareholders, cashing out.

The Story

Paytm will continue its dominance of the Indian mobile payment market, while that market continues to grow. Along the way, its management will focus more on converting transactions on its platform into revenues, and revenues into operating income.

The Assumptions

	Base year	Next year	Years 2-5	Years 6-10	After year 10	Link to story
GMV	₹ 4,033,000	40.00%	40.00%	4.19%	4.19%	Growing mobile payment market
Revenue as % of GMV	0.79%	0.83%	1.00%	2.00%	2.00%	Take rate improves, as company matures
Operating margin (b)	-49.00%	-20.0%	5.00%	30.00%	30.00%	High-margin intermediary business
Tax rate	25.00%		25.00%	25.00%	25.00%	Converge on statutory tax rate
Reinvestment (c)		3.00	2.45	2.45	27.93%	Industry average reinvestment, for capital intensive business.
Return on capital	-21.78%	Marginal ROIC =	80.13%		15.00%	Competitive advantages fade over time.
Cost of capital (d)			10.44%	8.91%	8.91%	Cost of capital relatively stable.

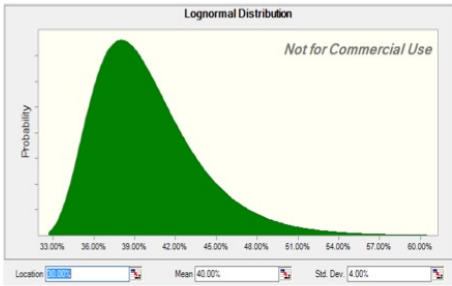
The Cash Flows

	GMV	Revenues	Operating Margin	EBIT (1-t)	Reinvestment	FCFF
1	₹ 5,646,200	₹ 46,984.56	-20.00%	₹ -9,396.91	₹ 5,038.85	₹ -14,435.77
2	₹ 7,904,680	₹ 69,095.49	-10.00%	₹ -6,909.55	₹ 9,024.87	₹ -15,934.42
3	₹ 11,066,552	₹ 101,377.63	-5.00%	₹ -5,068.88	₹ 13,176.38	₹ -18,245.27
4	₹ 15,493,173	₹ 148,430.20	0.00%	₹ -0.00	₹ 19,205.13	₹ -19,205.13
5	₹ 21,690,442	₹ 216,904.42	5.00%	₹ 10,845.22	₹ 27,948.66	₹ -17,103.44
6	₹ 28,813,149	₹ 345,757.79	10.00%	₹ 28,564.36	₹ 52,593.21	₹ -24,028.85
7	₹ 36,211,213	₹ 506,956.99	15.00%	₹ 57,032.66	₹ 65,795.59	₹ -8,762.93
8	₹ 42,915,357	₹ 686,645.72	20.00%	₹ 102,996.86	₹ 73,342.34	₹ 29,654.52
9	₹ 47,787,109	₹ 860,167.96	25.00%	₹ 161,281.49	₹ 70,825.40	₹ 90,456.09
10	₹ 49,789,389	₹ 995,787.77	30.00%	₹ 224,052.25	₹ 55,355.03	₹ 168,697.22
Terminal year	₹ 51,875,564	₹ 1,037,511.28	30.00%	₹ 233,440.04	₹ 65,207.58	₹ 168,232.45

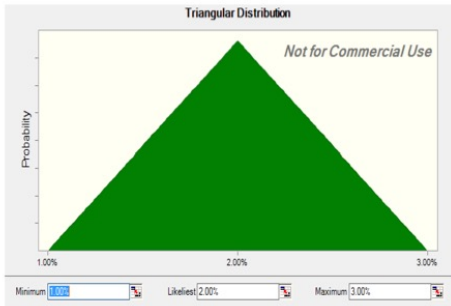
The Value

Terminal value	₹ 3,564,246.92		
PV(Terminal value)	₹ 1,377,090.74		
PV (CF over next 10 years)	₹ 36,169.53		
Value of operating assets =	₹ 1,413,260.27		
Adjustment for distress	₹ 35,331.51	Probability of failure =	5.00%
- Debt & Minority Interests	₹ 12,006.00		
+ Cash & Other Non-operating assets	₹ 7,785.00		
+HPO Proceeds	₹ 83,000.00	Total proceeds expected to be 166,000, but half will be cashing out existing stockholders.	
Value of equity	₹ 1,456,707.76		
- Value of equity options	₹ 45,696.90		
Number of shares	644.23		
Value per share	₹ 2,190.24	Stock was trading at =	₹ 2,950.00

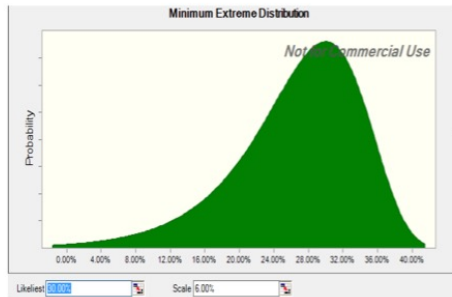
GMV Growth Rate in years 1-5



Target Take Rate (Revenue/GMV) in year 10

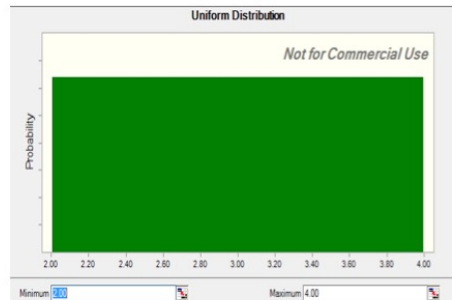


Target Operating Margin in year 10

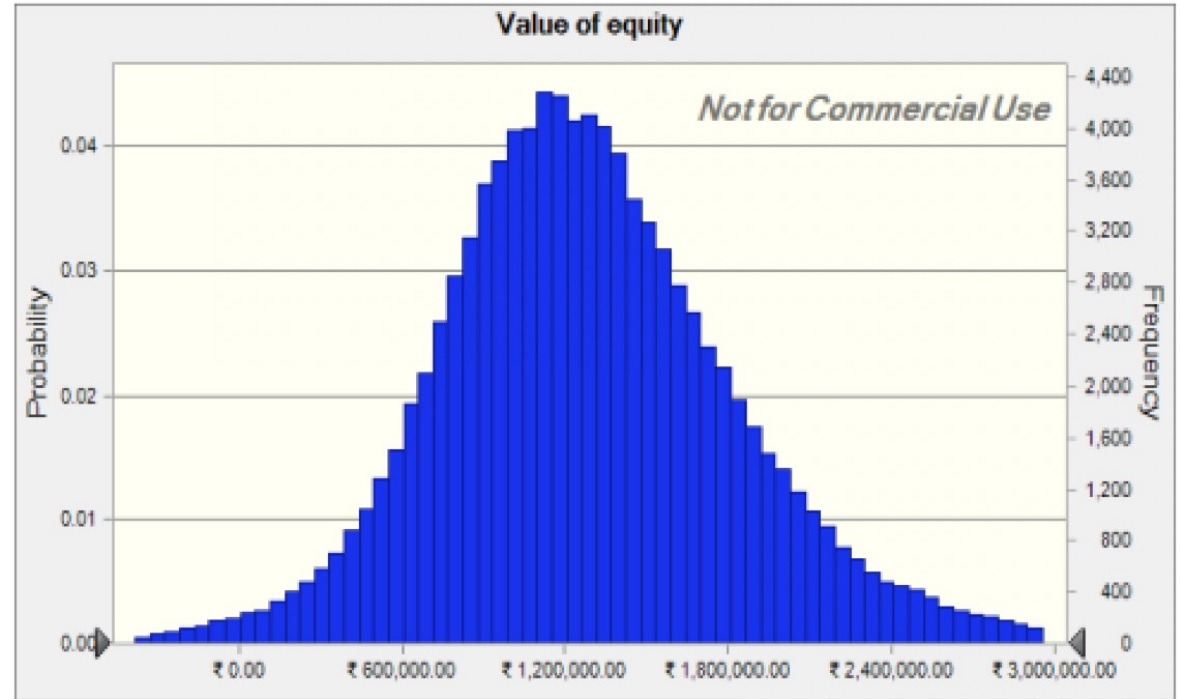


Correlation between Take rate & Operating margin = 0.50

Sales to Invested Capital in Yrs 2-10



Valuing Paytm ahead of its IPO: September 2021

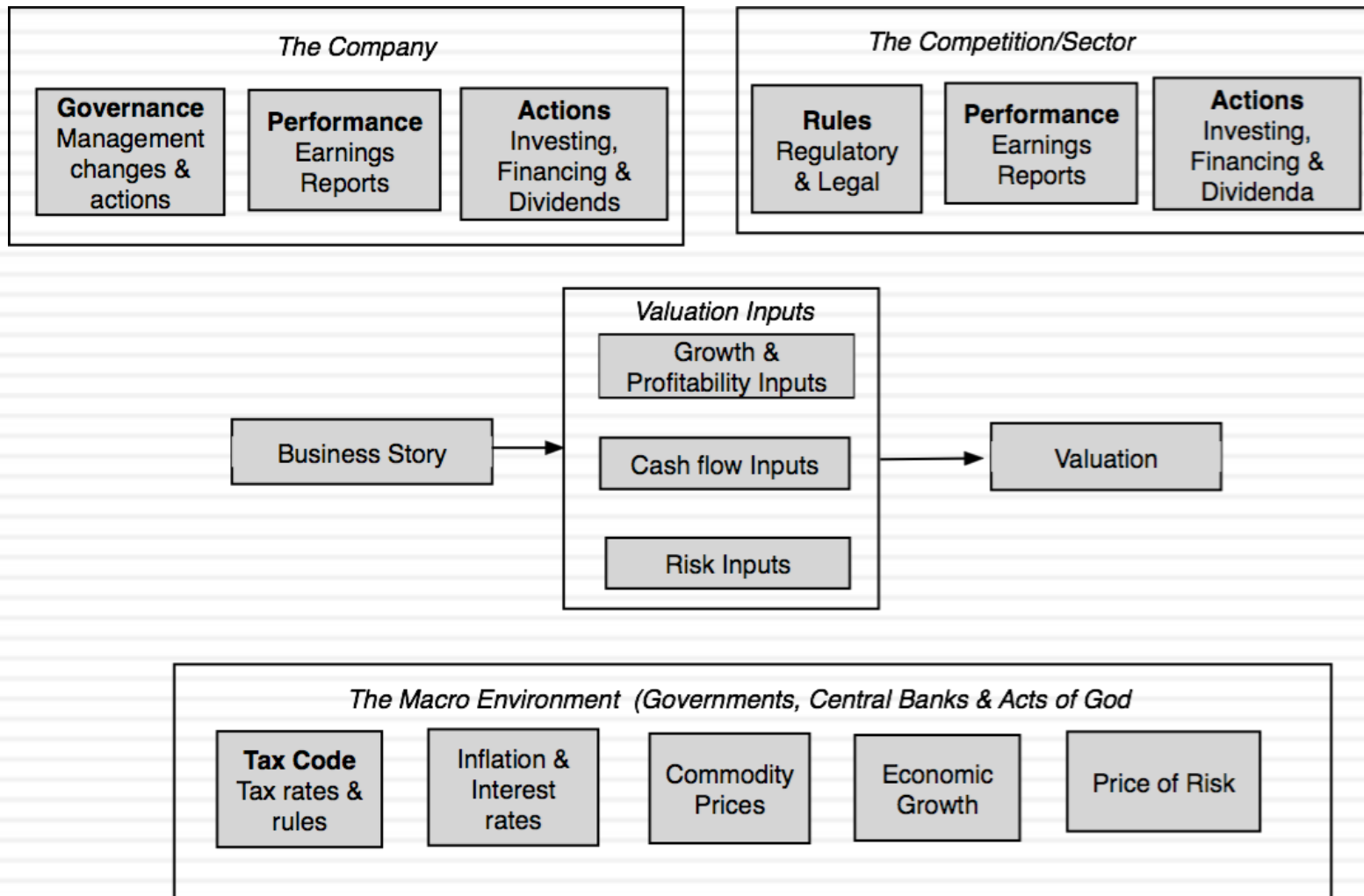


Simulation Findings

1. Across the 100,000 simulations, the value of equity was negative about 3% of the time.
2. The median value across the simulations was ₹1,246,824, lower than the base case value of ₹1,456,708 (from DCF).
3. That divergence can be explained by some of the outliers in terms of extreme value, with the maximum value of equity approaching ₹8,020,677.
4. A more reasonable range for extreme values are the 10th percentile (₹627,263) and the 90th percentile (₹2,010,052).

Percentile	Value of Equity
0.0%	₹ -2,242,001
10.0%	₹ 627,263
20.0%	₹ 843,180
30.0%	₹ 992,398
40.0%	₹ 1,121,771
50.0%	₹ 1,246,824
60.0%	₹ 1,378,339
70.0%	₹ 1,528,468
80.0%	₹ 1,717,973
90.0%	₹ 2,010,052
100.0%	₹ 8,020,677

Why narratives change: Because the world changes around you...



How narratives change

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Narrative Break/End	Narrative Shift	Narrative Change (Expansion or Contraction)
Events, external (legal, political or economic) or internal (management, competitive, default), that can cause the narrative to break or end.	Improvement or deterioration in initial business model, changing market size, market share and/or profitability.	Unexpected entry/success in a new market or unexpected exit/failure in an existing market.
Your valuation estimates (cash flows, risk, growth & value) are no longer operative	Your valuation estimates will have to be modified to reflect the new data about the company.	Valuation estimates have to be redone with new overall market potential and characteristics.
Estimate a probability that it will occur & consequences	Monte Carlo simulations or scenario analysis	Real Options