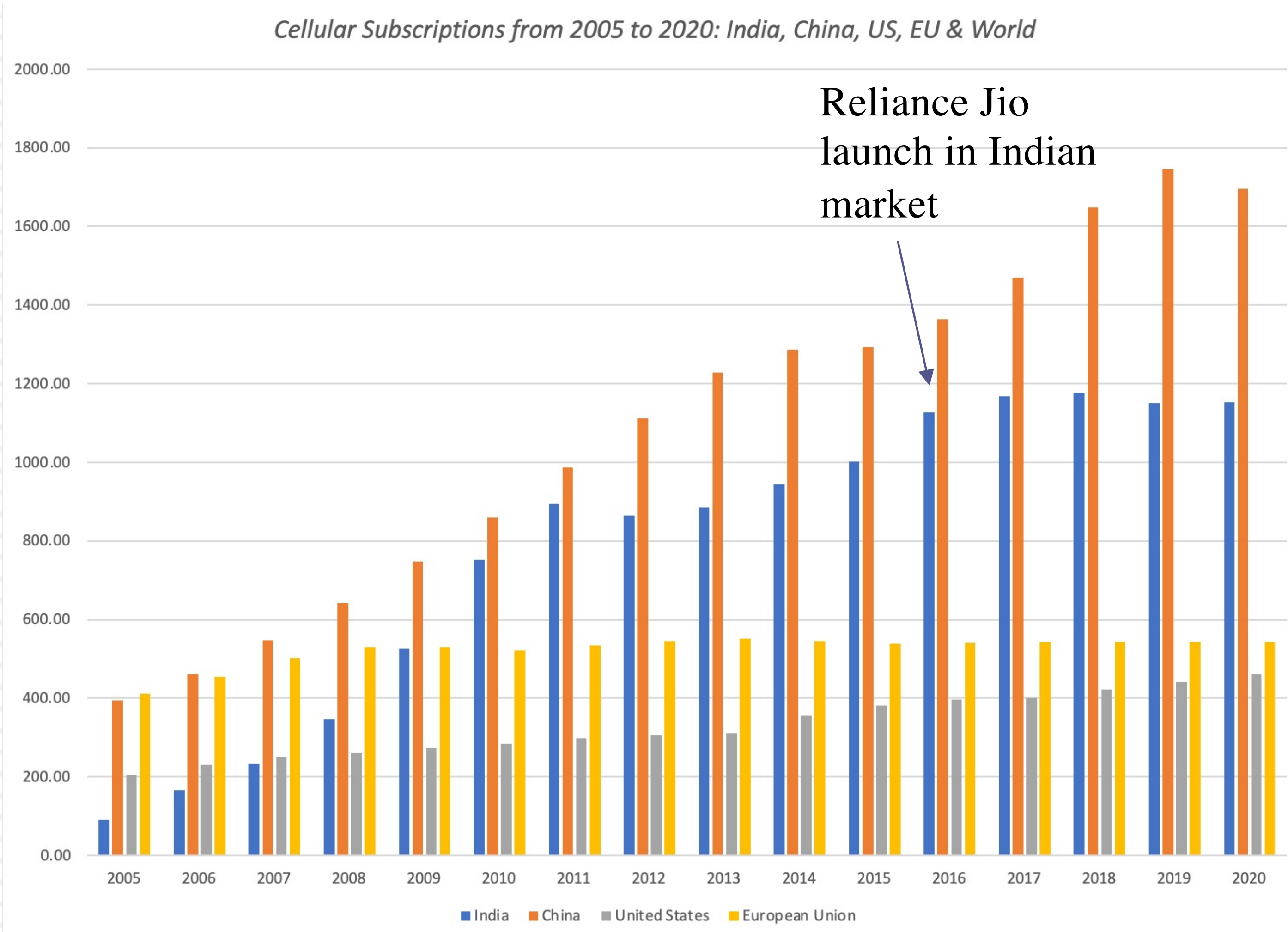
THE INDIAN SMARTPHONE REVOLUTION: PAYTM'S COMING OF AGE IPO!

An Adolescent with Attention Deficit!

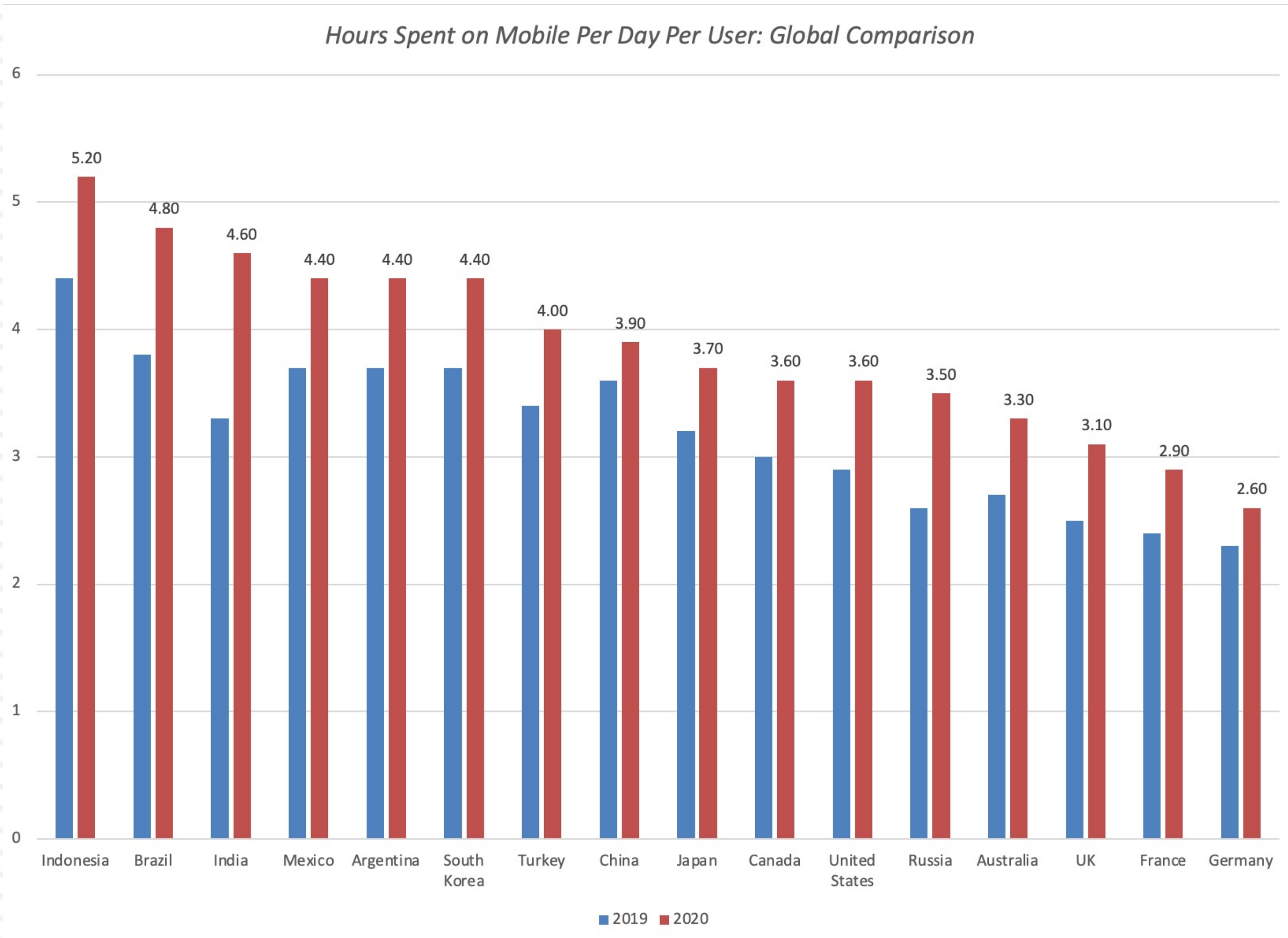
India's Biggest IPO

- 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.

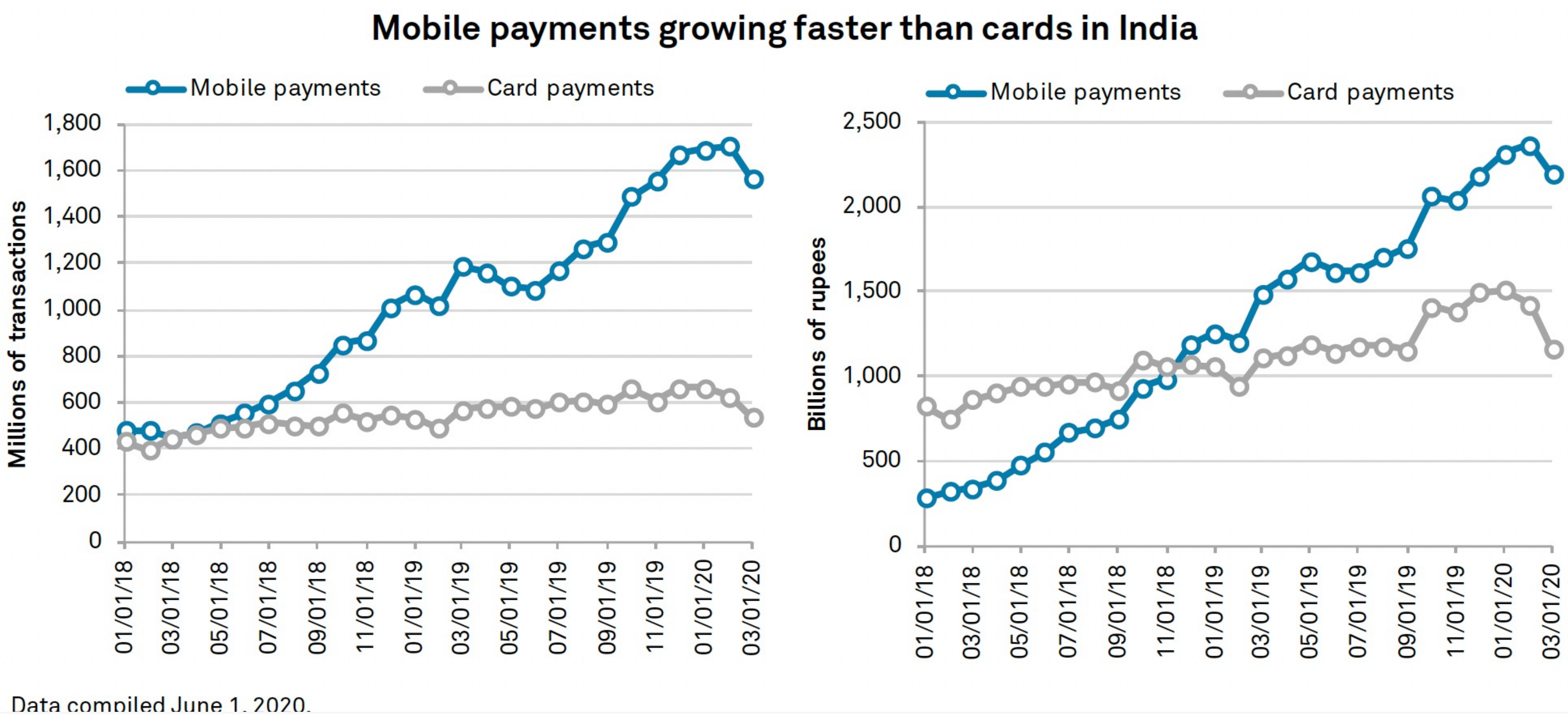
Setting the Stage: The Growth of Smartphones



And Their Usage…



Rise of Mobile Payments



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 in 2010 by 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.

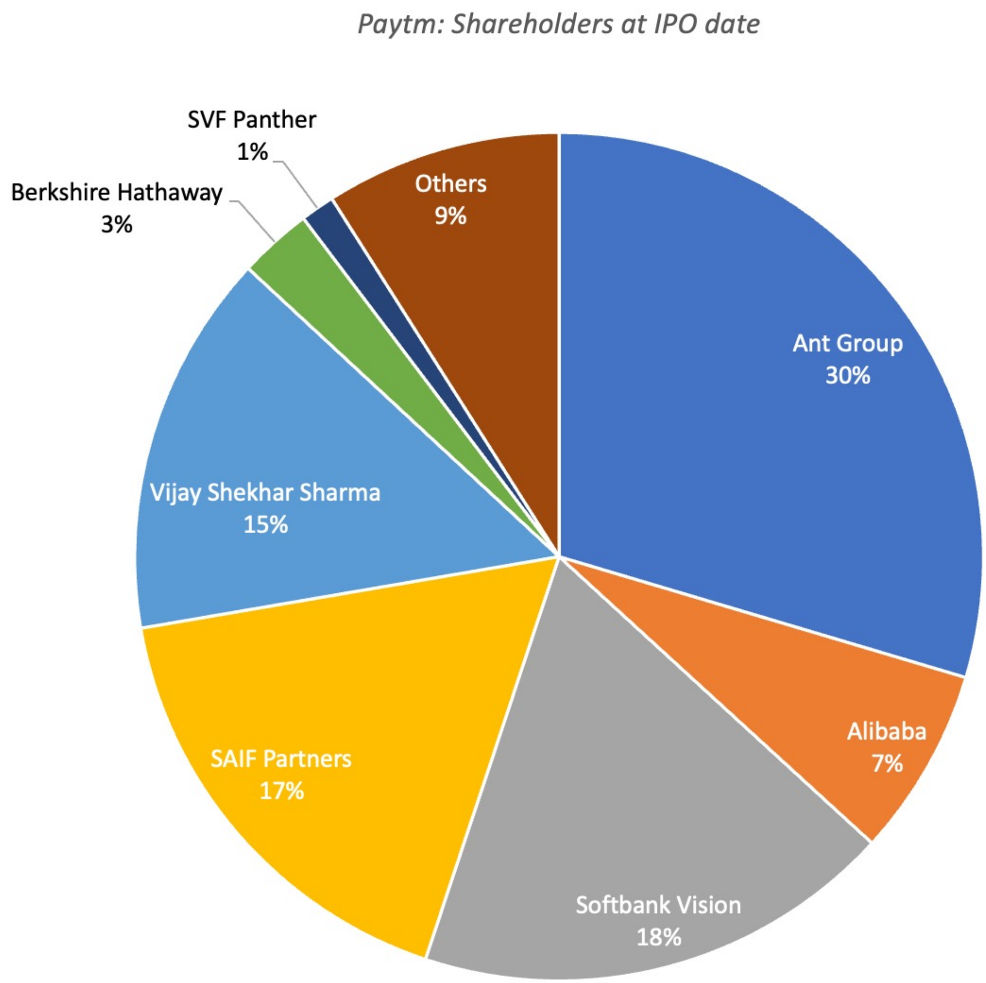
Paytm: Financial History

Year ending	*Users (in millions)*	*User Transactions (millions)*	*GMV (in billions)*	*Revenues (in billions)*	*Operating Income/Loss (in billions)*	*Adjusted EBITDA*	*Take Rate*
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

Date	*Capital Infusion (millions)*	*From*	*Imputed Pricing (millions)*
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

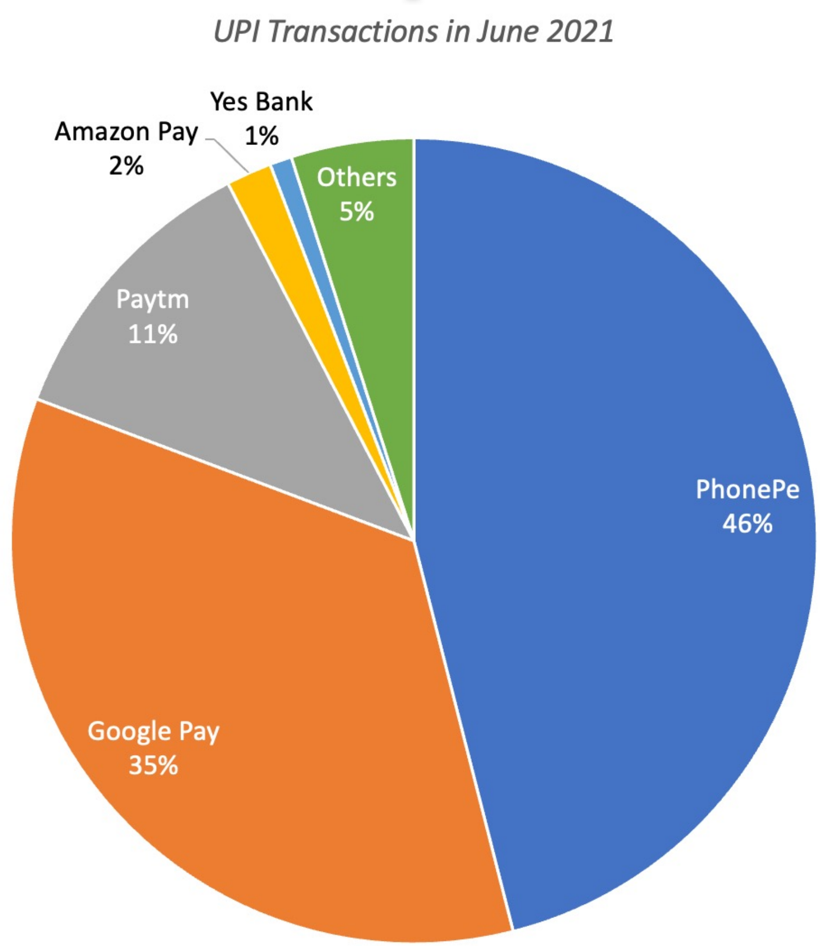
And ownership structure



The Paytm Story: Drivers

Value Driver	*Paytm's Standing*	*Story for the future*
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



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						
		The Old Guard			*The Big Online Players*			*Rising Asia*
	Paytm	*Visa*	*Mastercard*	*American Express*	*Paypal*	*Square*	*Shopify*	*Ant Financial*
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.

Paytm	Sep-21

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

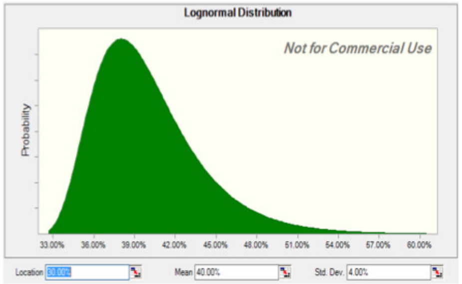
	GMV	*Revenues*	*Operating Margin*	*EBIT (1-t)*	*Reinvestment*	*FCFF*
1	₹ 5,646,200	₹ 46,984.56	-20.00%	₹ -9,396.91	₹ 5,038.85	₹ -14,435.77
2	₹ 7,904,680	₹ 69,095.49	-10.00%	₹ -6,909.55	₹ 9,024.87	₹ -15,934.42
3	₹ 11,066,552	₹ 101,377.63	-5.00%	₹ -5,068.88	₹ 13,176.38	₹ -18,245.27
4	₹ 15,493,173	₹ 148,430.20	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

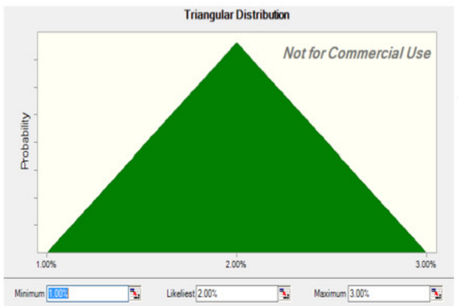
Terminal value	₹ 3,564,246.92		
PV(Terminal value)	₹ 1,377,090.74		
PV (CF over next 10 years)	₹ 36,169.53		
Value of operating assets =	₹ 1,413,260.27		
Adjustment for distress	₹ 35,331.51	Probability of failure =	5.00%
- Debt & Minority Interests	₹ 12,006.00		
+ Cash & Other Non-operating assets	₹ 7,785.00		
+IPO 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

Valuing Paytm ahead of its IPO: September 2021

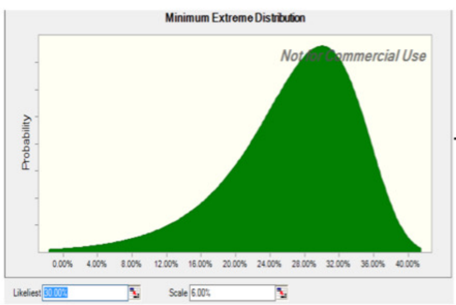
GMV Growth Rate in years 1-5



Target Take Rate (Revenue/GMV) in year 10

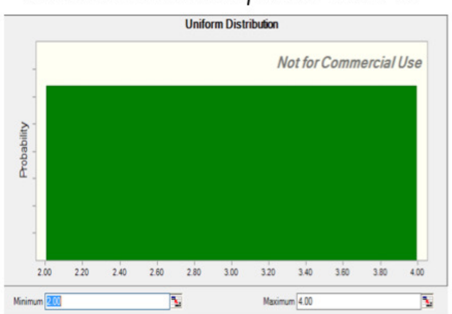


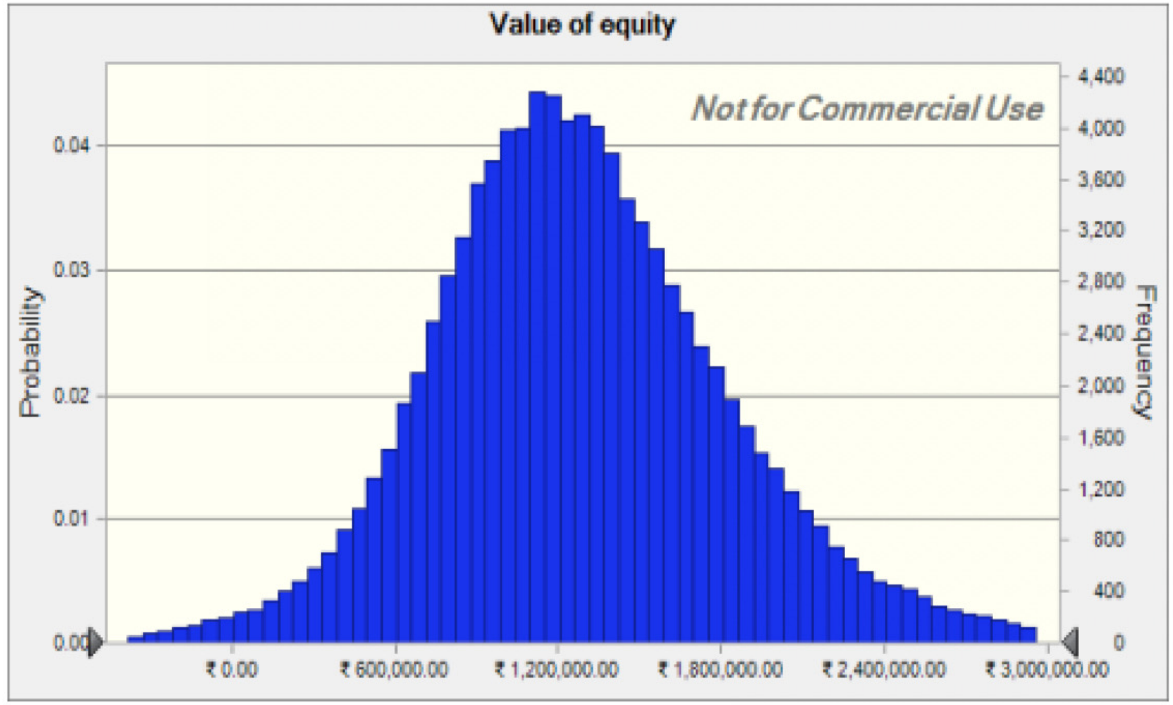
Target Operating Margin in year 10



Correlation between Take rate & Operating margin = 0.50

Sales to Invested Capital in Yrs 2-10





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

Investment Implications

- Given that almost all of the value of Paytm comes from expectations of the future, and there is significant uncertainty on every single dimension, it should come as no surprise that the range on estimated value is immense, with a 3% chance that the company's equity is worth nothing to more than at the 90th percentile.
- With this range in value, the potential for your priors and biases to play out on your final valuation are strong. Put simply, if you like the company so much that you want to buy the stock, you can find a way to make the assumptions that get to that value.
- Even if you strongly favor the company and find it under valued, it would be hubris to concentrate your portfolio, around this stock. In other words, this is the type of stock that you would put 5% or perhaps 10% of your portfolio in, not 25% or 40%.

Closing Thoughts

- As human beings, it is natural for us to categorize choices we face into broad groupings, because those groupings then allow us to generalize what we have learned from observing the group. In the 1980s, when technology companies first entered the market in big numbers, we classified them all as high growth, high risk investments. While that categorization would have worked at the time, it is quite clear that the technology sector today is not only a dominant segment of the market (accounting for the largest slice of the S&P 500 market capitalization pie), but it is also home to a wide array of companies.
- A few weeks ago, when I valued Zomato, I argued that it was a joint bet on the company's continued dominance of the food delivery market and the growth in the Indian restaurant/food delivery business. Paytm is also a joint bet on an early entrant into the Indian mobile payment market, continuing to maintain market share, in a growing digital payment market in India.
- That said, the companies have very different business models, with Zomato's 20% plus take of every dollar spent on its platform vastly exceeding Paytm's less than 1% take of every dollar spent on its platform. They are both big market bets, but the Paytm bet is much more dependent on management figuring out a way to grow, while improving take rates at the same time.