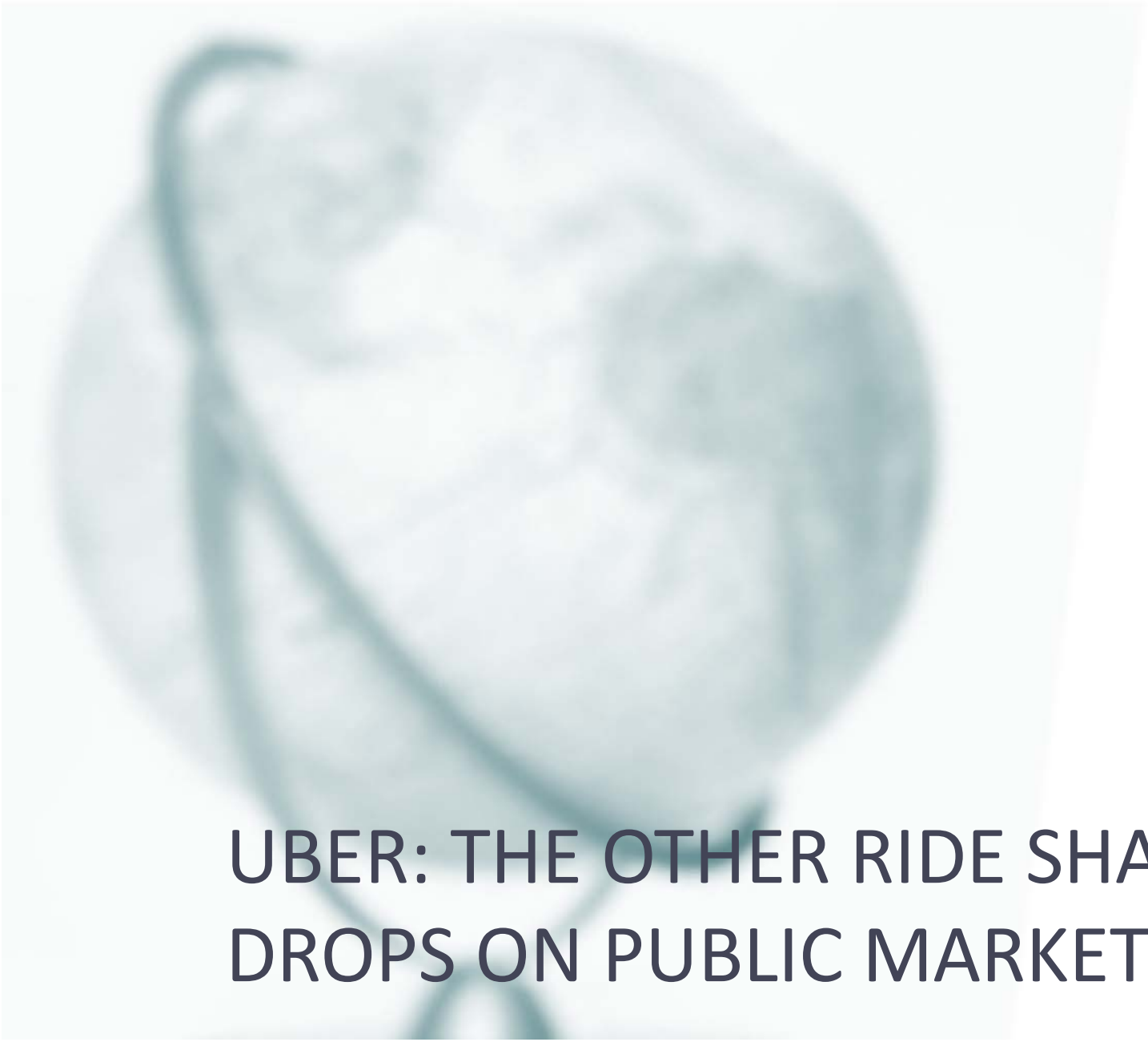


UBER: THE OTHER RIDE SHARING SHOE DROPS ON PUBLIC MARKETS!

Aswath Damodaran

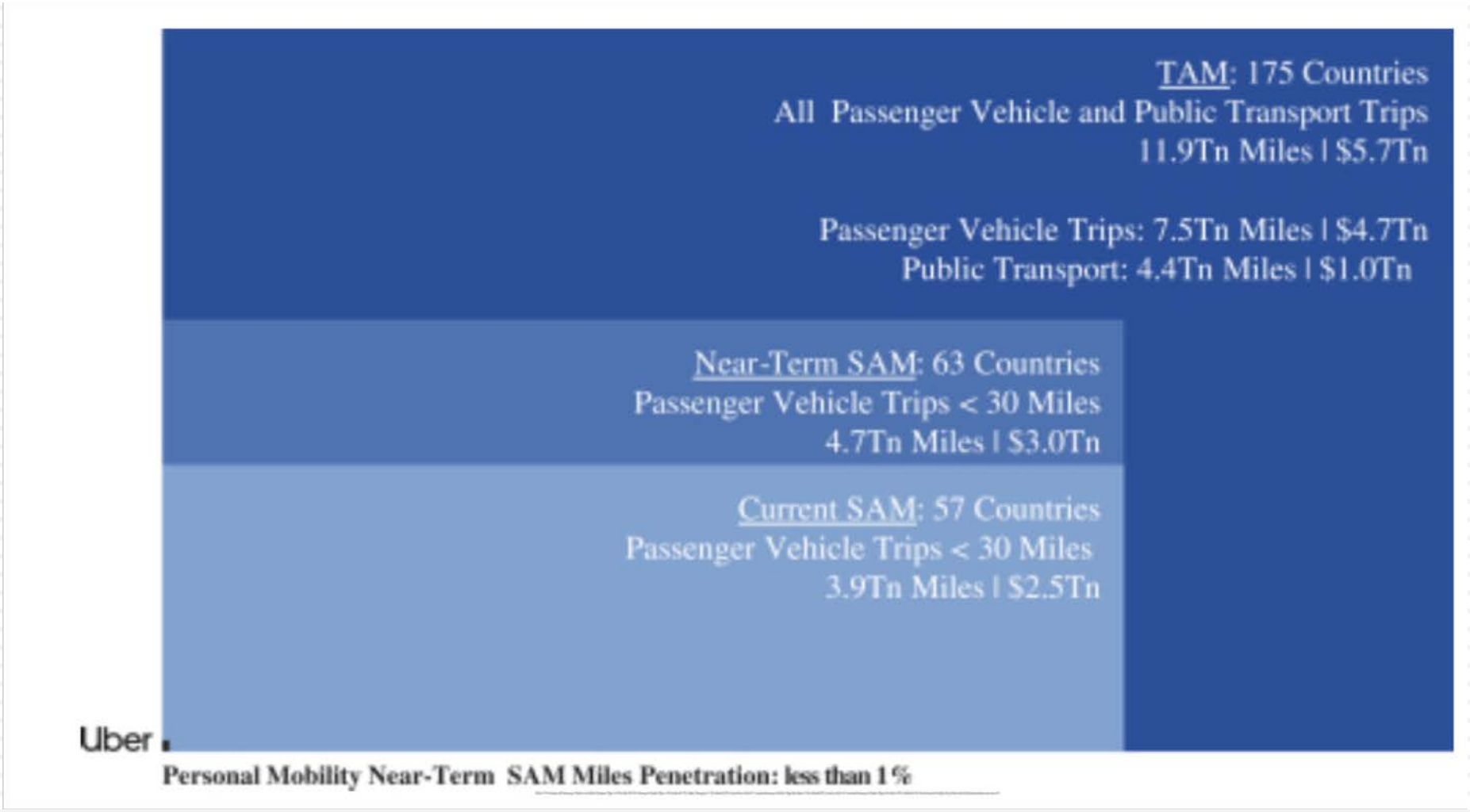
The Uber Entrée!

- The Lyft Preview: After Lyft's IPO on March 29, 2019, it was only a matter of time before Uber threw its hat in the public market ring, and on Friday, April 12, 2019, the company filed its prospectus.
- Public, without being public: It is the first time that this company, which has been in the news more frequently than almost any publicly traded company in the market, has opened its books for investors, journalists and curiosity seekers.
- Opening the books: As someone who has valued Uber with the tidbits of information that have hitherto been available about the company, mostly leaked and unofficial, I am .

The Prospectus

- It's big and dense: To get a sense of where Uber stands now, just ahead of its IPO, I started with the prospectus, which weighing in at 285 pages, not counting appendices, and filled with pages of details, can be daunting.
- Disclosure's dark side: It is a testimonial to how information disclosure requirements have had the perverse consequence of making the disclosures useless, by drowning investors in data and meaningless legalese.
  - I know that there are many who have latched on to the statement that "we may not achieve profitability" that Uber makes in the prospectus (on page 27) as an indication of its worthlessness, but I view it more as evidence that lawyers should never be allowed to write about investing risk.

The Business Spin! Personal Mobility? Really?



Uber's Growth Story

Year	*Gross Billings (in millions)*	*Net Revenue (in millions)*	*Riders (millions)*	*Trips (millions)*
2016	$ 19,236.00	$ 3,219.00	45	1818
2017	$ 34,409.00	$ 7,191.00	68	3736
2018	$ 49,799.00	$ 10,025.00	91	5220
% Change (2016-18	158.88%	211.43%	102.22%	187.13%
Annualized	60.90%	76.47%	42.20%	69.45%

And its losses!

Year	Gross Billings	Net Revenues	Adjusted EBITDA	EBIT	Net Revenue/Gross Billings	EBITDA/ Sales	EBIT/Sales
2016	$19,236.00	$ 3,219.00	$ (2,517)	$ (2,965)	16.73%	-78.19%	-92.11%
2017	$34,409.00	$ 7,191.00	$ (2,642)	$ (3,289)	20.90%	-36.74%	-45.74%
2018	$49,799.00	$10,025.00	$ (1,847)	$ (2,445)	20.13%	-18.42%	-24.39%

The Rider Numbers

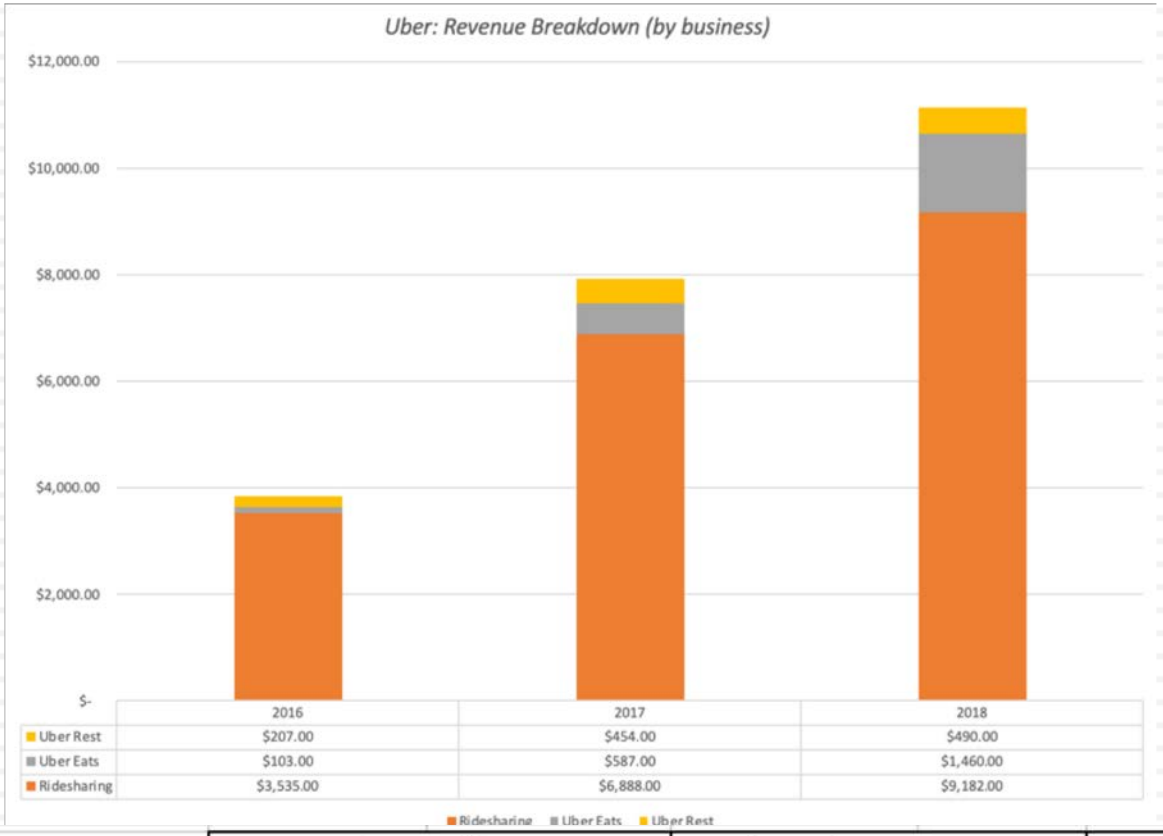
Year	Annual Gross Billing/ Rider	Annual Gross Billings/Trip	Net Revenue/Rider	Net Revenue/Trip	Trip/Rider
2016	$ 427.47	$ 10.58	$ 71.53	$ 1.77	40.40
2017	$ 506.01	$ 9.21	$ 105.75	$ 1.92	54.94
2018	$ 547.24	$ 9.54	$ 110.16	$ 1.92	57.36
% Change (2016-18)	28.02%	-9.84%	54.00%	8.46%	41.99%
Annualized	13.15%	-5.05%	24.10%	4.15%	19.16%

Uber's Expenses

- User Acquisition costs: I computed the user acquisition cost each year by dividing the selling expenses by the number of riders added during the year.
- Operating Expenses for Existing Rides: I have included the cost of revenues (not including depreciation) and operations and support as expenses associated with current riders.
- Corporate Expenses; These are expenses that I assume are general expenses, not directly related to either servicing existing users or acquiring new ones and I include R&D, G&A and depreciation in this grouping.

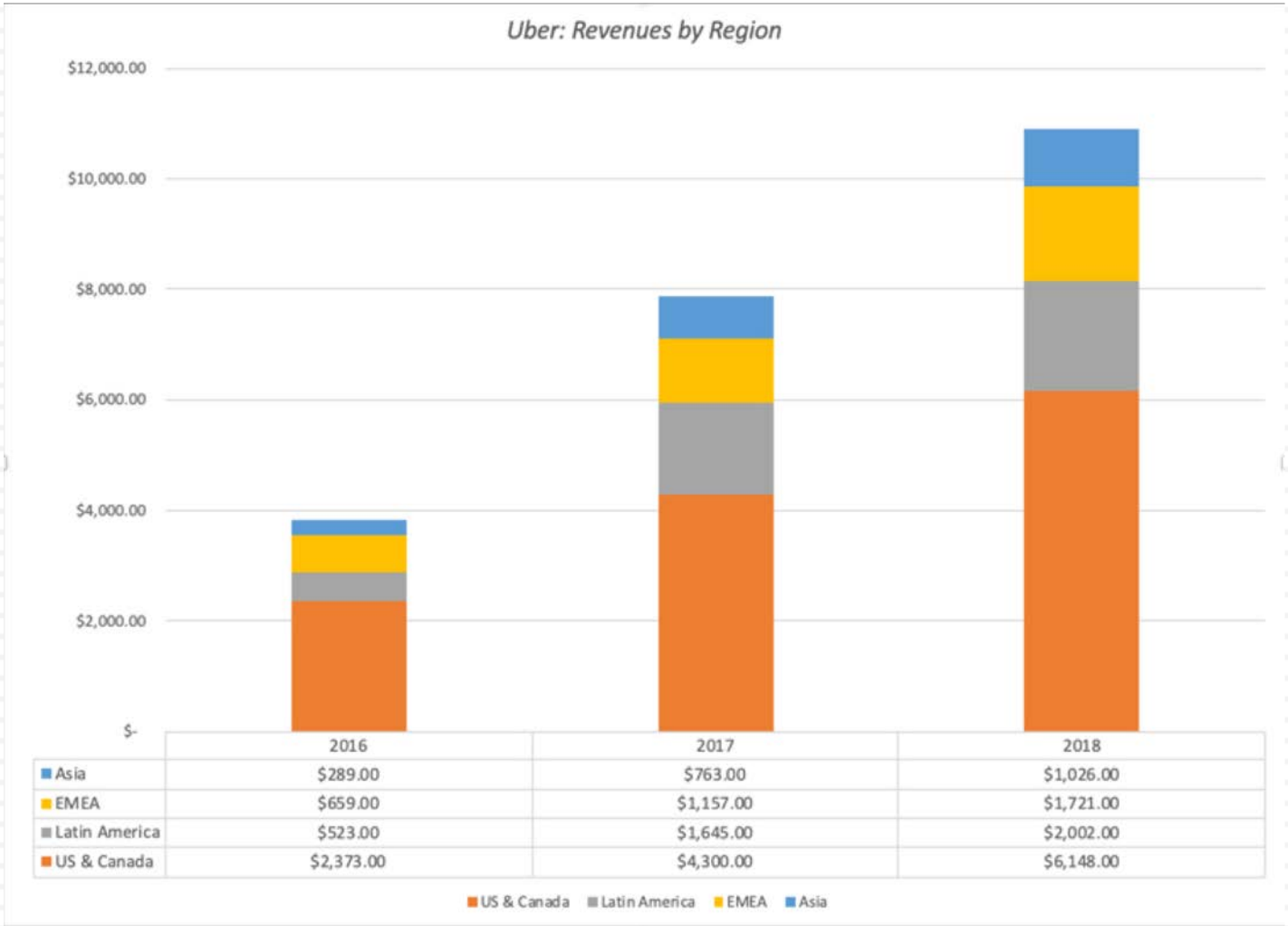
Year	# Users added	Selling Expenses	Cost/New user	User Operating Expenses	As % of Revenue	Corporate Expenses	As % of Net Revenue
2016	21	1594	$ 75.90	$ 3,109.00	96.58%	$ 2,165	67.26%
2017	23	2524	$ 109.74	$ 5,514.00	76.68%	$ 3,974	55.26%
2018	23	3151	$ 137.00	$ 7,139.00	71.21%	$ 4,013	40.03%

Uber's Business Expansion, but with a catch?



	Gross Billings		Adjusted Net Revenues		Adjusted Net Revenue/Gross Billing	
Year	Ridesharing	Uber Eats	Ridesharing	Uber Eats	Ridesharing	Uber Eats
2017	$ 31,384.00	$ 2,958.00	$ 6,434.00	$ 367.00	20.50%	12.41%
2018	$ 41,513.00	$ 7,919.00	$ 9,013.00	$ 757.00	21.71%	9.56%

Uber's Geographical Reach (with a crimp)



	2016	2017	2018
Asia	$289.00	$763.00	$1,026.00
EMEA	$659.00	$1,157.00	$1,721.00
Latin America	$523.00	$1,645.00	$2,002.00
US & Canada	$2,373.00	$4,300.00	$6,148.00

Uber: A Top Down Valuation

- I used a top-down approach, starting with US transportation services as my total accessible market and working down through market share, margins and reinvestment to derive a value of $13.9 billion for its operating assets and $16.4 billion with the IPO proceeds counted in.
- Using a similar approach is trickier for Uber, since its decision to be in multiple parts of the logistics business and its global ambitions require assessment of a global logistics market, a challenge.

Uber: Personal Mobility Player?

Uber is primarily a ride sharing company, with ambtions of being a global logistics player. Its revenue growth has been astonishing, though it is starting to slow, but it remains a big money loser, as it searches for a business model that delivers more stickiness. In this story, Uber uses a combination of economies of scale and a more capital intensive business model to create a pathway to profitability. Along the way, it will become a less risky company, though its losses leave it exposed to a 5% chance of failure.

The Assumptions

	Base year	*Years 1-5*	*Years 6-10*	*After year 10*	*Story link*
Total Market	$400,000	Grow 10.39% a year		Grows 2.75% a year	Global logistics
Gross Market Share	12.45%	6.71%>30%		30%	Global Network benefits
Revenue Share	20.13%	Unchanged		20.13%	Market dominance keeps billing share high.
Operating Margin	-24.39%	-24.39% ->20%		15.00%	Full employee & more regulations
Reinvestment	NA	Sales to capital ratio of 4.00		Reinvestment rate = 7.5%	Low capital investment model
Cost of capital	NA	9.97%	9,97%->8.24%	8.24%	At 75th percentile of US firms
Risk of failure	5% chance of failure, if pricing meltdown leads to capital being cut off				Cash on hand + Capital access

The Cash Flows

	Total Market	*Market Share*	*Revenues*	*EBIT (1-t)*	*Reinvestment*	*FCFF*
1	$ 441,560	14.20%	$ 12,627	$ (2,369)	$ 650	$ (3,019)
2	$ 487,438	15.96%	$ 15,661	$ (2,057)	$ 759	$ (2,816)
3	$ 538,083	17.71%	$ 19,189	$ (1,441)	$ 882	$ (2,323)
4	$ 593,990	19.47%	$ 23,281	$ (438)	$ 1,023	$ (1,461)
5	$ 655,705	21.22%	$ 28,017	$ 1,050	$ 1,184	$ (134)
6	$ 723,833	22.98%	$ 33,485	$ 3,139	$ 1,367	$ 1,771
7	$ 799,039	24.73%	$ 39,787	$ 5,292	$ 1,576	$ 3,716
8	$ 882,059	26.49%	$ 47,037	$ 5,292	$ 1,813	$ 3,479
9	$ 973,705	28.24%	$ 55,365	$ 6,229	$ 2,082	$ 4,147
10	$1,074,873	30.00%	$ 64,915	$ 7,303	$ 2,387	$ 4,915
Terminal year	$1,101,745	30.00%	$ 66,537	$ 7,485	$ 936	$ 6,550

The Value

Terminal value	$	114,108
PV(Terminal value)	$	46,258
PV (CF over next 10 years)	$	501
Value of operating assets =	$	46,759
Probability of failure		5%
Value in case of failure	$	-
Adjusted Value for operating assets	$	44,421
+ Cash on hand	$	6,406
+ Cross holdings	$	8,700
+ IPO Proceeds	$	9,000
- Debt	$	6,869
Value of equity	$	61,658
Value per share	$	53.90

An Alternate Approach

- The uncertainty about the total accessible market, though, makes me uneasy with my top down valuation.
- In June 2017, I presented a different approach to valuing companies like Uber, that derive their value from users, subscribers or members. In that approach,
  - I began by valuing an existing user (rider), by looking at the revenues and cash flows that Uber would generate over the user's lifetime
  - Then extended the approach to valuing a new user, where the cost of user acquisition has to be netted out against the user value.
  - I completed the assessment by computing the value drag created by non-rider related corporate expenses.

Existing Users			New Users			Corporate Expenses				
Inputs			**Inputs**			**Inputs**				
Net Revenue/User =	$ 110.16		Cost of acquiring user =	$ 113.71		Corporate Expenses	$ 2,812.72			
Operating Expense/User=	$ 65.12		Value of new user =	$ 373.54		CAGR - Next 10 years	7.00%			
Operating Profit/User =	$ 45.05		Growth rate in net users (1-5)	12.00%		Discount Rate =	8.24%			
CAGR in Revenue/User	12.00%		Growth rate in net users (6-10)	6.00%						
Annual Renewal Rate =	95.00%		Discount Rate	9.97%						
User Life =	15									
Discount Rate =	8.24%									
Output			**Output**			**Output**				
Value/User =	$ 487.25		# Users in year 10 =	214.62						
# Existing Users =	91.00		# Net New Users (10 years)	123.62						
Value of Existing Users =	**$44,339.77**	+	**Value of New Users =**	**$60,253.08**	-	**PV of Corporate Expenses**	**$(63,216.48)**	=	Value of Operating A	$ 41,376.37
									+ Cash	$ 15,407.00
									+ Cross Holdings	$ 8,700.00
									- Debt	$ 6,869.00
									Value of equity	**$ 58,614.37**
									# Shares	1158.30
									Value/Share	**$ 50.60**

Existing users will stick with Uber and increase how much they spend on its services, the longer they stay. Operating expenses are mostly variable, but there will be mild econmies of scale.

Uber will continue to add new users, but at a decreasing pace, with a cost of acquiring a new user staying stable (with the current cost incrteasing at the inflation rate). The new user spending profile will mirror existing users.

Uber's corporate expenses will continue to grow, notwithstanding economies of scale, as the company increases spending moderately on autonomous cars.

What if analysis?

		Cost of Acquiring a New User				
		$ 80.00	$ 100.00	$ 120.00	$ 140.00	$ 160.00
CAGR in Net Revenue/User	3.00%	$4,539	$1,313	-$1,913	-$5,139	-$8,365
	6.00%	$19,453	$16,227	$13,001	$9,775	$6,549
	9.00%	$38,814	$35,588	$32,362	$29,136	$25,909
	12.00%	$64,053	$60,827	$57,601	$54,374	$51,148
	15.00%	$97,052	$93,826	$90,600	$87,374	$84,148
	18.00%	$140,280	$137,054	$133,828	$130,602	$127,375

Reading the table

- If you are a trader, deeply suspicious of intrinsic value, you may look at this table as confirmation that intrinsic value models can be used to deliver whatever value you want them to, and your suspicions would be well founded.
- I am a believer in value and I see this table in a different light It is a reminder that my estimate of value is just mine, based on my story and inputs, and that there are others with different stories for the company that may explain why they would pay much more or much less than I would for the company.

Pathways for Uber

- Uber is a company that is poised on a knife's edge.
  - If it just continues to just add to its rider count, but pushes up its cost of acquiring riders as it goes along, and existing riders do not increase the usage of the service, its value implodes.
  - If it can get riders to significantly increase usage (either in the form of more rides or other add on services), it can find a way to justify a value that exceeds $100 billion.
- The table also indicates that if Uber has to pick between spending money on acquiring more riders or getting existing riders to buy more of its services, the latter provides a much bigger bang for the buck than the former.

The Business Bottom Line

- I hope Dara Khoshrowshahi means it when he says that Uber has to show a pathway to profitability, but I think that is what is more critical is that he acts on those words.
- This remains a business (whether you define it to be ride sharing, transportation services or personal mobility) without a business model that can generate sustained profits, precisely because the existing model was designed to deliver exponential growth and little else, and Uber, and the other players in this game), have only a limited window to fix it.

Uber versus Lyft

- Having spent all of this time on Uber's valuation, let me concede to the reality that Uber will be priced by the market, and it will be priced relative to Lyft.
- That is why Uber has probably been pulling harder than almost any one else in the market for the Lyft IPO to be well received and for its stock to continue to do well in the aftermarket.

	Market Cap	*Enterprise Value*	*Gross Billings*	*Net Revenues*	*EBIT*	*Riders*	*Drivers*	*Rides*	*Cities*
Lyft	$17,125.41	$ 14,607.41	$ 8,054.00	$ 2,156.00	$ (911.00)	18.6	1.10	713.60	350.00
Uber	NA	NA	$ 49,799.00	$ 10,025.00	$(1,847.00)	91	3.90	5220.00	710.00

Pricing Uber

	Lyft Multiple	*Uber EV (based on Lyft Pricing)*	*Uber Equity Value*	*Per Share Value*
EV/Gross Billing	1.81	$ 90,319.64	$ 107,556.64	$ 91.54
EV/Revenue	6.78	$ 67,921.75	$ 85,158.75	$ 72.48
EV/Rider	$ 785.34	$ 71,466.36	$ 88,703.36	$ 75.49
EV/Driver	$13,279.46	$ 51,789.91	$ 69,026.91	$ 58.75
EV/Ride	$ 20.47	$ 106,853.53	$ 124,090.53	$ 105.61
EV/City	$ 41.74	$ 29,632.17	$ 46,869.17	$ 39.89

Ball is in your court now!

- I am sure that there are many who understand the ride sharing business much better than I do, and see obvious limitations and pitfalls in my valuations of both Uber and Lyft.
- I hope that even if you disagree with me on my numbers, the spreadsheets that are linked are flexible enough for you to take your stories about these companies to arrive at your value judgments.