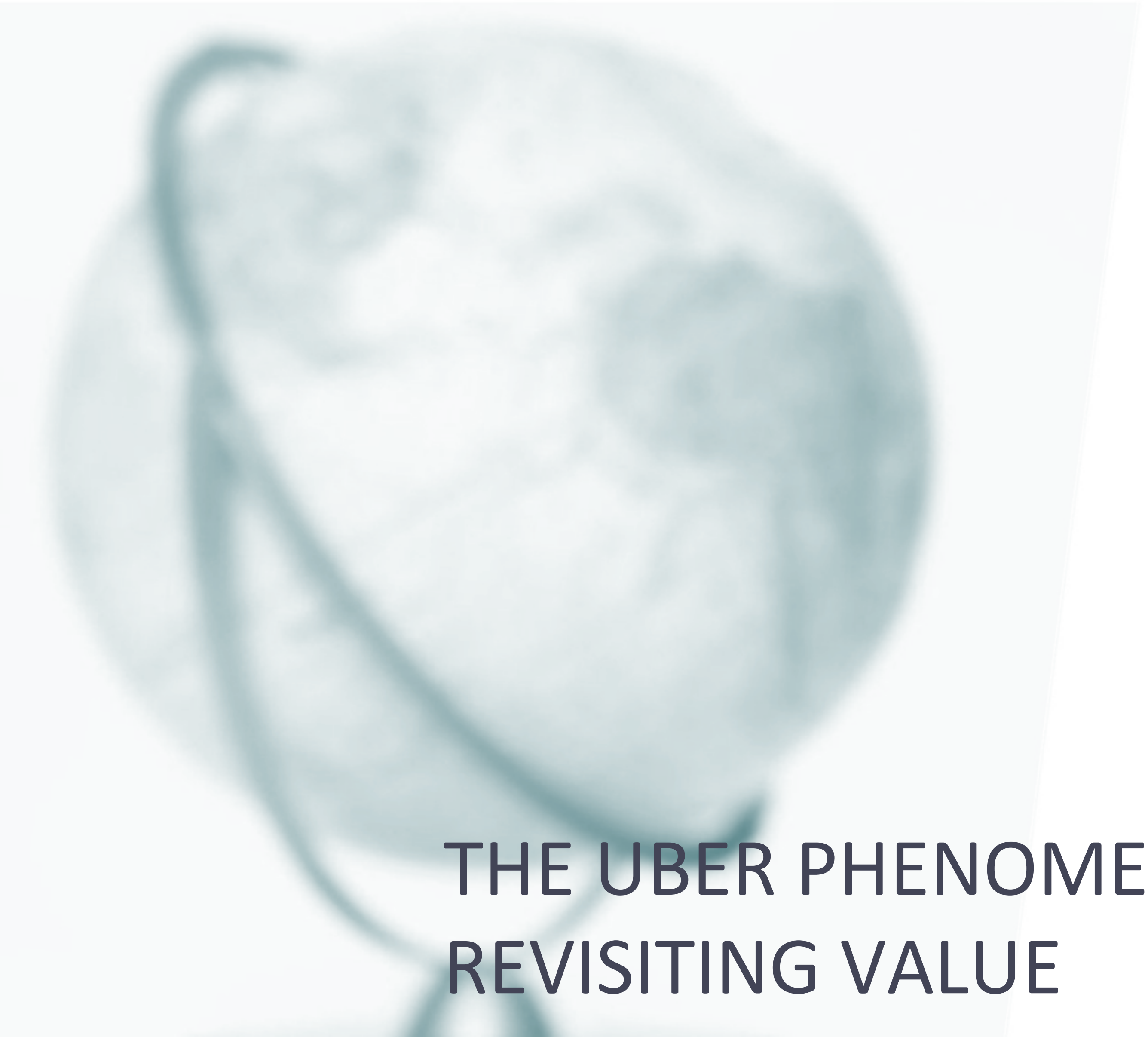

THE UBER PHENOMENON: REVISITING VALUE

To uber, or not to uber..

Uber: My odyssey

- My interest in Uber was triggered by a news story that I read in June 2014 that mentioned that Uber was being valued at $17 billion by VC investors.
- As a complete novice on the company, in my initial valuation of the company, I viewed it as
  - An urban, car-sharing company
  - With local (not global) networking benefits
  - Significant competitive advantages (and)
  - A low capital-intensity business model

Uber: Intrinsic valuation - June 8, 2014 (in US $)

Stable Growth (after year 10)
Expected growth rate = 2.50%
Cost of capital = 8%
Return on capital= 25%
Reinvestment Rate= 2.5%/25% = 10%

Terminal Value$_{10}$= 793/(.08-025) = $14,418

Term yr
EBIT (1-t) $881
- Reinv 88
FCFF $793

Global taxi market is $100 billlion currently, expected to grow 6% a year for next ten years.

Uber will keep 20% of the gross cab receipts as its revenues

Uber's market share of this market will increase to 10% over the next 10 years.

Uber's operating expenses will amount to 60% of its revenues. (Operating margin=40%)

Uber will pay a tax rate of 30% on its income, increasing to 40% over the next 10 years

Uber will generate $5 in incremental revenues for every dollar of incremental capital.

	1	2	3	4	5	6	7	8	9	10
Overall market	$106,000	$112,360	$119,102	$126,248	$133,823	$141,852	$150,363	$159,385	$168,948	$179,085
Share of market (gross)	3.63%	5.22%	6.41%	7.31%	7.98%	8.49%	8.87%	9.15%	9.36%	10.00%
Revenues as percent of gross	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Annual Revenue	$769	$1,173	$1,528	$1,846	$2,137	$2,408	$2,666	$2,916	$3,163	$3,582
Operating margin	7.00%	10.67%	14.33%	18.00%	21.67%	25.33%	29.00%	32.67%	36.33%	40.00%
Operating Income	$54	$125	$219	$332	$463	$610	$773	$953	$1,149	$1,433
Effective tax rate	31%	32%	33%	34%	35%	36%	37%	38%	39%	40%
- Taxes	$17	$40	$72	$113	$162	$220	$286	$362	$448	$573
After-tax operating income	$37	$85	$147	$219	$301	$390	$487	$591	$701	$860
Sales/Capital Ratio	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
- Reinvestment	$94	$81	$71	$64	$58	$54	$52	$50	$49	$84
Free Cash Flow to the Firm	-$57	$4	$76	$156	$243	$336	$435	$541	$652	$776

Based on the investment of $1.2 billion made by investors, the imputed value for Uber's operating assets, in June 2014 ,was $17 billion.

Value of operating assets = $6,595

Discount back the cash flows (including terminal value) at the cumulated cost of capital.

Adust for probability of failure (10%)
Expected value = $6,595 (.9) = $5,895

Cost of capital for first 5 years = Top decile of US companies = 12%

Cost of capital declines from 12% to 8% from years 6 to 10.

The Bill Gurley Counter

- Bill Gurley, an early investor in Uber, countered by arguing that I was taking too narrow a view of Uber's prospects and that Uber was
  - More than just urban
  - Not just car servce
  - On its way to creating global networking benefits
- That expanded narrative plays out as a much higher value for Uber as a company.

Uber value: My original vs Gurley narratives

	Uber (Gurley)	*Uber (Damodaran)*
Narrative	Uber will expand the car service market substantially, bringing in mass transit users & non-users from the suburbs into the market, and use its networking advantage to gain a dominant market share, while maintaining its revenue slice at 20%.	Uber will expand the car service market moderately, primarily in urban environments, and use its competitive advantages to get a significant but not dominant market share and maintain its revenue slice at 20%.
Total Market	$300 billion, growing at 3% a year	$100 billion, growing at 6% a year
Market Share	40%	10%
Uber's revenue slice	20%	20%
Value for Uber	$53.4 billion + Option value of entering car ownership market ($10 billion+)	$5.9 billion + Option value of entering car ownership market ($2-3 billion)

Uber: The Narrative Effect in December 2014

Total Market	*Growth Effect*	*Network Effect*	*Competitive Advantages*	*Value of Uber*
A4. Mobility Services	B4. Double market size	C5. Strong global network effects	D4. Strong & Sustainable	$90,457
A3. Logistics	B4. Double market size	C5. Strong global network effects	D4. Strong & Sustainable	$65,158
A4. Mobility Services	B3. Increase market by 50%	C3. Strong local network effects	D3. Semi-strong	$52,346
A2. All car service	B4. Double market size	C5. Strong global network effects	D4. Strong & Sustainable	$47,764
A1. Urban car service	B4. Double market size	C5. Strong global network effects	D4. Strong & Sustainable	$31,952
A3. Logistics	B3. Increase market by 50%	C3. Strong local network effects	D3. Semi-strong	$14,321
A1. Urban car service	B3. Increase market by 50%	C3. Strong local network effects	D3. Semi-strong	$7,127
A2. All car service	B3. Increase market by 50%	C3. Strong local network effects	D3. Semi-strong	$4,764
A4. Mobility Services	B1. None	C1. No network effects	D1. None	$1,888
A3. Logistics	B1. None	C1. No network effects	D1. None	$1,417
A2. All car service	B1. None	C1. No network effects	D1. None	$1,094
A1. Urban car service	B1. None	C1. No network effects	D1. None	$799

Updating the Uber Narrative

- There have been dozens of news stories about Uber in the last few months, some contain good news and some bad, some are local and some are general but they all affect narrative.
- The way that you view these stories will depend upon your priors on Uber, with those who are positive on the company latching on to the good news and those who do not like the company focusing on the bad.

Total Market is broader, bigger & more global

- The market is broader & bigger: Uber has managed to not only make inroads into exurbia and suburbia, but also been able to increase the size of the car sharing market in the cities where it is most active.
- It is attracting new users with new offerings: By expanding the type of services it offers, Uber has drawn in new users into the mix.
- It is more global: The big growth markets of the last year have been India and China, no surprise, given the trifecta that they offer car sharing businesses: large population, low car ownership & limited mass transit.
- Uber's numbers reflect this: The leaked numbers (they are leaked for a reason) reflect staggering growth rates, with the gross billings climbing to over $10 billion in 2015.

And even the bad news has a good tinge..

- The empire is fighting back: Regulatory authorities in cities spread across the world have either banned Uber or tried to restrict its growth.
- And its troops are unhappy: Cab drivers are understandably upset at the loss of their livelihoods and are making it known.
- But the fight has a "desperate" look to it: Cab revenues are down and the price of cab medallions has plummeted.

The total market for Uber is bigger than the urban car service market that I visualized in June 2014 and will attract new customers and expand in new markets (with Asia becoming the focus) and perhaps even new businesses.

Competition is more concentrated, capital rich and intense

- The cost of entering the car sharing business is higher: The amount that car sharing companies have to spend to enter a new market and stay competitive in it has gone up.
- And has led to fewer competitors: In the US, Uber's primary competitor has become Lyft. In Asia, local car sharing companies dominate the market. (Ola in India, Didi Kuaidi in China and GrabTaxi in South East Asia.)
- They are stronger: These competitors are stronger than they were a year ago, and in some cases, they have the home field advantage, understanding their local markets better than Uber and perhaps even having rules tilted in their favor.
- And have access to capital: All of the major car sharing companies have been able to raise large amounts of capital.

The car sharing market is becoming competitive, but as costs of entry rise and the capital requirements become intense, it looks like this will be a market with fewer players and larger regional networking benefits.

Cost structure has become more onerous

- Competing for drivers is expensive: The cost of signing up new drivers (the signing bonuses) has surged,
- The costs of keeping them is rising: The California Labor commission and a subsequent court decision affirmed that Uber drivers are employees, not independent contractors. While Uber will fight this, eventually the companies will have to treat them as partial employees and bear higher costs.
- And the insurance blind spot is being filled: Regulators and insurance companies are waking up to the higher risk associated with driving for a car sharing company and it is only a matter of time before car sharing companies bear some of this cost.
- Uber is losing money (lots of it): In 2014, Uber's operating loss was greater than its revenues and while the number is not known for 2015, there is no reason to believe that it will be any better.

The costs of running a car sharing business are high, and while some of these costs will drop, as business scales up, the operating margins are likely to be smaller than I anticipated just over a year ago.

Capital Intensity has not changed (yet)

- Car services companies have adopted a low capital intensity model, but that has created costs: While the Uber model, copied by other car sharing comapnies, is a low capital-investment model, that model comes with other costs, as companies have to compete on other dimensions (like attracting drivers).
- Change may be on its way: There is no change in this model yet, but there are moves by the companies that may be a precursor to a more capital-intensive business model.

For the moment, we will continue with the low capital intensity model, with the recognition that the model may change over time.

Management Culture remains a wild card

- Love or hate? Uber is a company that people either love or hate. There are very few people who are ambivalent about the company.
- Will drive your views of Uber's management culture: The way you view Uber's management culture will reflect your priors and your politics.
  - If you like the company, you will find it innovative, brash and aggressive, a disruptor who is unmoved by the status quo and eager to win fights.
  - If you dislike the company, you will find it arrogant, unwilling to play by the rules and uncaring about its drivers and customers.

Revisiting the Inputs

Input	*June 2014*	*September 2015*
Total Market	$100 billion; Urban car service	$230 billion; Logistics
Growth in market	Increase market size by 34%; CAGR of 6%.	Double market size; CAGR of 10.39%.
Market Share	10% (Local Networking)	25% (Weak Global Networking)
Slice of gross receipts	20% (Left at status quo)	15%
Operating margin	40% (Low cost model)	25% (Partial employee model)
Cost of capital	12% (Ninth decile of US companies)	10% (75th percentile of US companies)
Probability of failure	10%	0%
Value of equity	**$5.9 billion**	**$23.4 billion**

Potential Market	Market size (in millions)
A1. Urban car service	$100,000
A2. All car service	$175,000
A3. Logistics	$230,000
A4. Mobility Services	$310,000

Growth Effect	CAGR (next 10 years)
B1. None	3.00%
B2. Increase market by 25%	5.32%
B3. Increase market size by 50%	7.26%
B4: Double market size	10.39%

Increases overall market to $618 billion in year 10

Network Effects	Market Share
C1. No network effects	5%
C2. Weak local network effects	10%
C3. Strong local network effects	15%
C4. Weak global network effects	25%
C5. Strong global network effects	40%

	Base	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Assumptions
Overall market	$230,000	$253,897	$280,277	$309,398	$341,544	$377,031	$416,204	$459,448	$507,184	$559,881	$618,052	A3 & B4
Share of market (gross)	4.71%	6.74%	8.77%	10.80%	12.83%	14.86%	16.89%	18.91%	20.94%	22.97%	25.00%	C4
Gross Billings	$10,840	$17,117	$24,582	$33,412	$43,813	$56,014	$70,277	$86,900	$106,218	$128,612	$154,513	
Revenues as percent of gross	20.00%	19.50%	19.00%	18.50%	18.00%	17.50%	17.00%	16.50%	16.00%	15.50%	15.00%	D3
Annual Revenue	$2,168	$3,338	$4,670	$6,181	$7,886	$9,802	$11,947	$14,338	$16,995	$19,935	$23,177	
Operating margin	-23.06%	-18.26%	-13.45%	-8.64%	-3.84%	0.97%	5.77%	10.58%	15.39%	20.19%	25.00%	E2
Operating Income	-$500	-$609	-$628	-$534	-$303	$95	$690	$1,517	$2,615	$4,026	$5,794	
Effective tax rate	30.00%	31.00%	32.00%	33.00%	34.00%	35.00%	36.00%	37.00%	38.00%	39.00%	40.00%	
- Taxes	-$150	-$189	-$201	-$176	-$103	$33	$248	$561	$994	$1,570	$2,318	
After-tax operating income	-$350	-$420	-$427	-$358	-$200	$62	$442	$956	$1,621	$2,456	$3,477	
Sales/Capital Ratio		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	F
- Reinvestment		$234	$267	$302	$341	$383	$429	$478	$531	$588	$648	
Free Cash Flow to the Firm		-$654	-$694	-$660	-$541	-$322	$13	$478	$1,090	$1,868	$2,828	
Terminal value											$56,258	
Present value of FCFF		-$595	-$573	-$496	-$369	-$200	$7	$248	$520	$822	$1,152	
Present value of terminal value											$22,914	
Cost of capital	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	9.60%	9.20%	8.80%	8.40%	8.00%	G1

PV of cash flows during next 10 years =	$515	
PV of terminal value =	$22,914	
Value of operating assets	$23,429	
Probability of failure	0.00%	G2
Adjusted value of operating assets	$23,429	
Less Debt	$0	
Value of Equity	$23,429	

Capital Intensity
F: Status Quo: Sales/Capital = 5

Expense Profile	Operating Margin
E1: Independent contractor	40%
E2: Partial employee	25%
E3: Full employee	15%

Competitive Advantages	Slice of Gross Receipts
D1. None	5%
D2. Weak	10%
D3. Semi-strong	15%
D4. Strong & Sustainable	20%

Risk Estimates
G1. Cost of capital at 75th percentile of US companies = 10%
G2. Probability of failure in next 10 years= 0%

Uber Valuation: September 2015

Please disagree with me..

- If you think value is too high, it should not because the company is losing money, trades at a high multiple or is not worth much with a dividend discount model. It should be because you believe that
  - The total market is much smaller than I am estimating
  - That competition will be more intense
  - That the costs will continue to climb and stay high
  - That capital requirements will mount
- If you think value is too low, don't blame the DCF model for my cramped imagination. It must be because you think that my total market is too small, that Uber will be more dominant in these markets and that the costs will start to adjust as business scales up.
- If you think that I have no business valuing Uber, because I am not a tech person, don't understand the car sharing market and have not made money as a VC, you are right on all three counts. So, why not go into the model and replace my uninformed or flawed inputs with better ones?

The best news is that the story continues..

- <u>Game on</u>: The game is not even close to over and there will be more news stories in the future, which will change the way that I think about the company and the value that I attach to it.
- <u>The gift that keeps on giving</u>: It has given me more learning and teaching moments than almost any other company that I have valued.
- <u>It's personal:</u> Like others, I find it difficult to maintain my distance from the company and I am getting more biased towards the company over time.