

NUMBERS AND NARRATIVE: MODELING, STORY TELLING AND INVESTING

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LEFT BRAIN OR RIGHT BRAIN?

The side of the brain we tend to use more may determine our learning styles, not to mention instructors' teaching methods:

LEFT SIDE



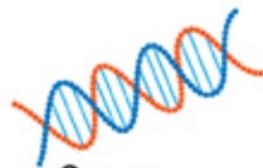
Linear

Processes information by taking pieces, lining them up, and arranging them in a logical order to draw conclusions.



Reality-based

Deals with reality the way it is. When affected by the environment, adjustment can be easily made.



Sequence

Processes information in order. This makes for easy daily planning and accomplishing tasks.

$$f(x) = \frac{x}{3} + 5$$

Symbolic

Processing symbols is no problem such as letters, words, and mathematical notation.

RIGHT SIDE



Holistic

Processes information by starting with the answer. It sees the big picture first, not the details.



Fantasy-oriented

Processes information based on what they think the answer is. Often they find the answer intuitively.



Random

Processes information through random processing. Tasks are done randomly and in parts.



Concrete

Processing requires things to be concrete such as feeling, seeing, or touching the real object.

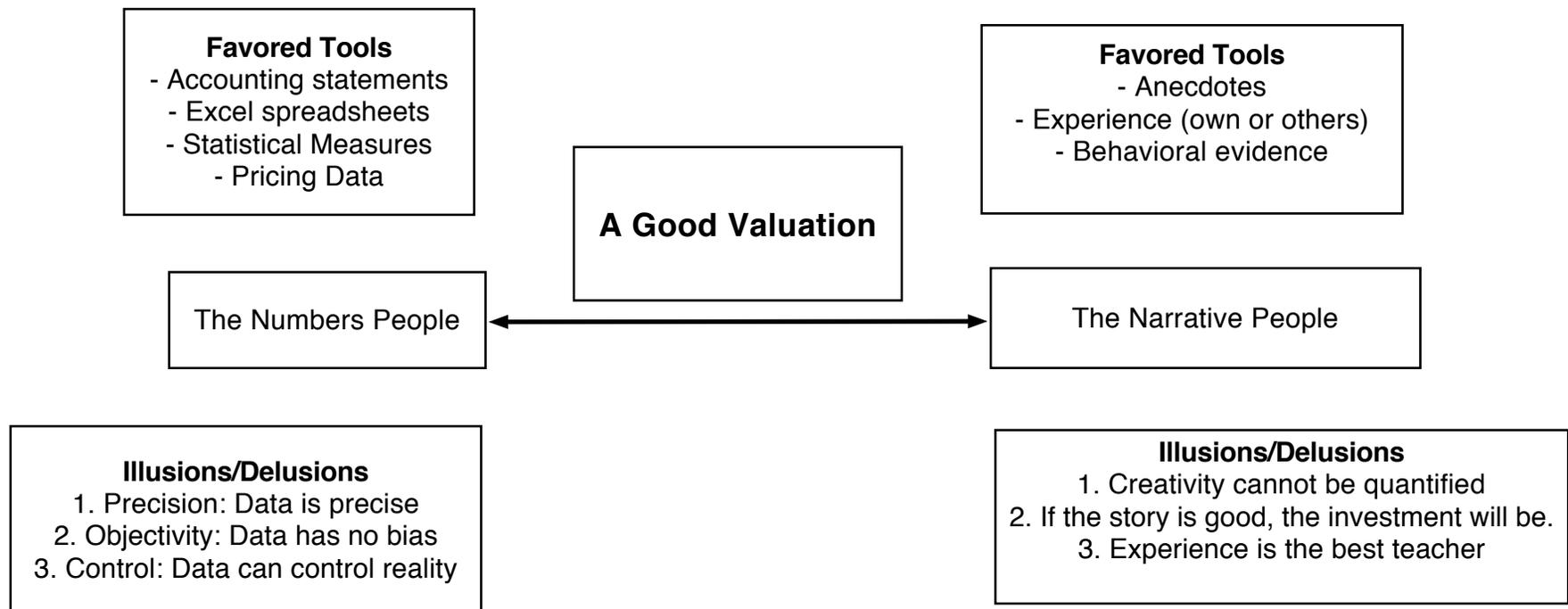
THE DELUSIONS OF THE NUMBER CRUNCHERS

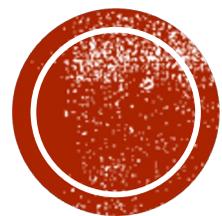
- The illusion of precision: If you use numbers, you are being more precise than when you don't, and the more numbers you use, the more precise you become.
- The illusion of “no bias”: Numbers don't lie and data does not have an agenda. Thus, analysts who use numbers are more likely to be unbiased.
- The illusion of control: If you put a number on something (your cash flows, expected growth rate, risk etc.), you can control it better.

THE DELUSIONS OF THE STORY TELLERS

1. Number crunchers don't dream in technicolour: Creativity and Numbers are mutually exclusive. If you talk about numbers, you cannot be creative, and if you are being creative, talk about numbers only crimps your creative instincts.
2. Creativity is deserving of reward: If your story is good, your business will success and your investment will pay off.
3. Experience is the best teacher: If you have pulled this off before (started and succeeded at running a business), your story is more believable.

BRIDGING THE GAP

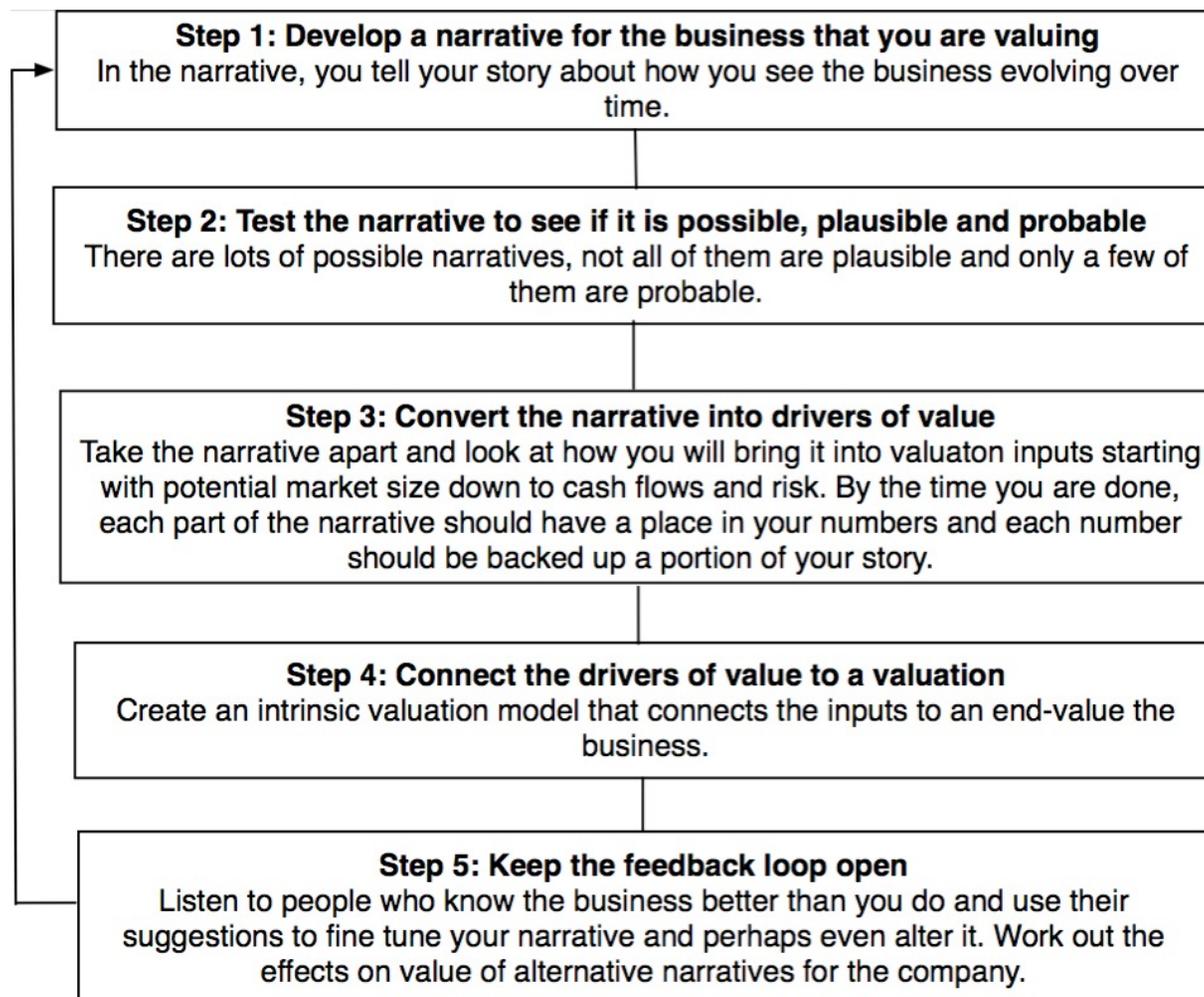




BUILDING A VALUATION

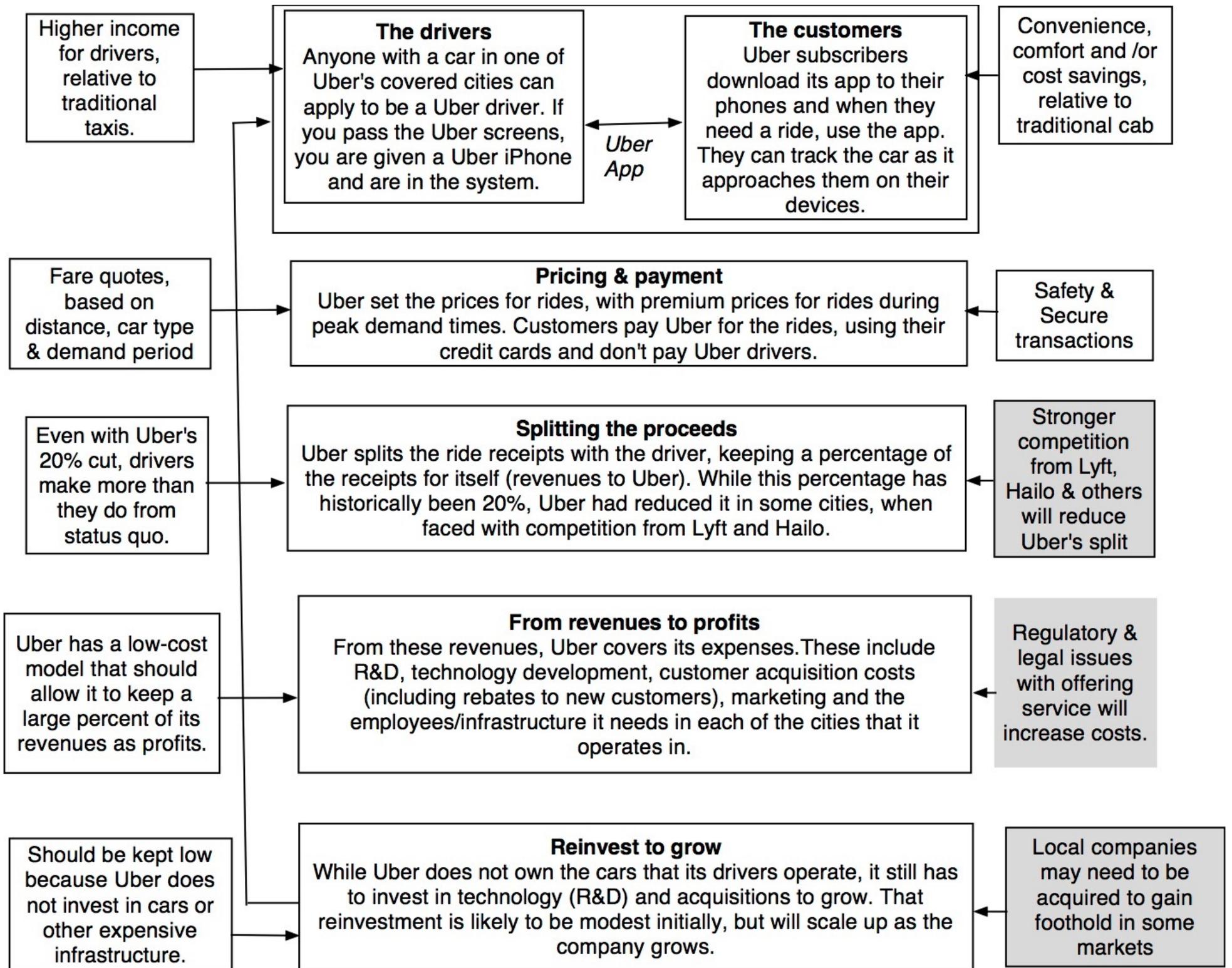
Story to Numbers

FROM STORY TO NUMBERS: THE STEPS



STEP 1A: SURVEY THE LANDSCAPE

- Every valuation **starts with a narrative**, a story that you see unfolding for your company in the future.
- In developing this narrative, you will be making assessments of
 - **Your company** (its products, its management and its history (financial and other))
 - **The market** or markets that you see it growing in (geography, business)
 - **The competition** it faces and will face, and its competitive advantages and disadvantages
 - **The macro environment** in which it operates, including regulation and restrictions.



Low Growth

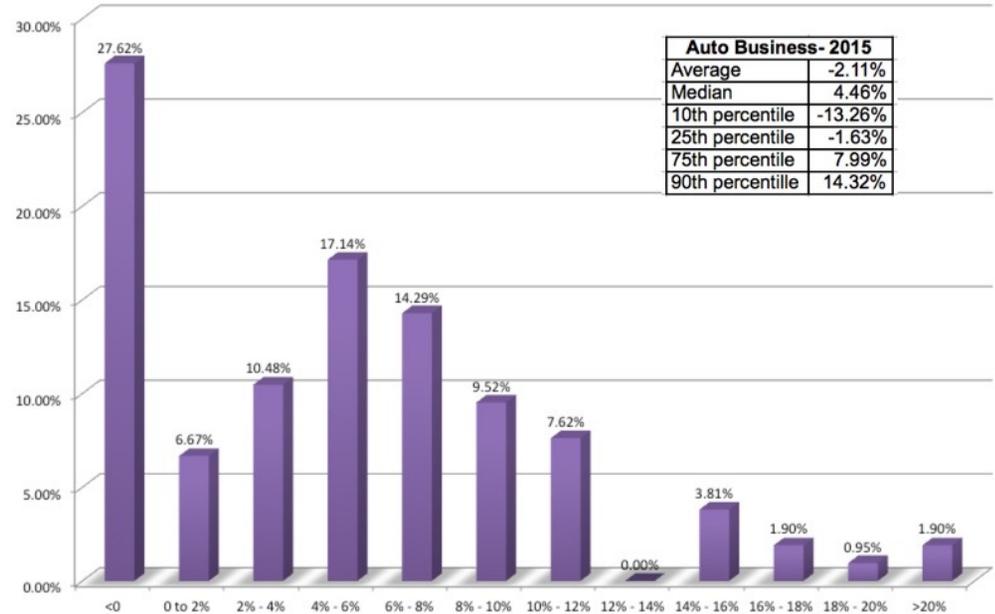
The Auto Business

Low Margins

Year	Revenues (\$)	% Growth Rate
2005	1,274,716.60	
2006	1,421,804.20	11.54%
2007	1,854,576.40	30.44%
2008	1,818,533.00	-1.94%
2009	1,572,890.10	-13.51%
2010	1,816,269.40	15.47%
2011	1,962,630.40	8.06%
2012	2,110,572.20	7.54%
2013	2,158,603.00	2.28%
2014	2,086,124.80	-3.36%
Rounded Average =		5.63%

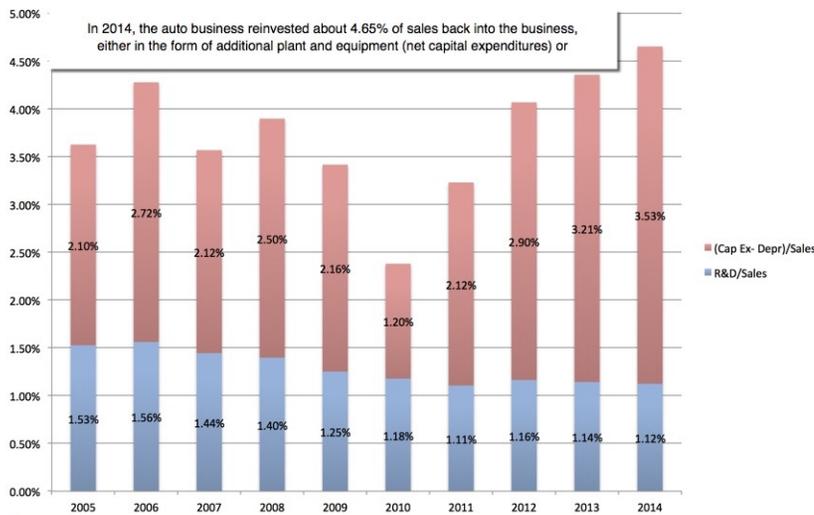
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The Automobile Business: Pre-tax Operating Margins in 2015



High & Increasing Reinvestment

The Reinvestment Burden: Investment as % of Sales for Auto Business



Bad Business

=

	ROIC	Cost of capital	ROIC - Cost of capital
2004	6.82%	7.93%	-1.11%
2005	10.47%	7.02%	3.45%
2006	4.60%	7.97%	-3.37%
2007	7.62%	8.50%	-0.88%
2008	3.48%	8.03%	-4.55%
2009	-4.97%	8.58%	-13.55%
2010	5.16%	8.03%	-2.87%
2011	7.55%	8.15%	-0.60%
2012	7.80%	8.55%	-0.75%
2013	7.83%	8.47%	-0.64%
2014	6.47%	7.53%	-1.06%

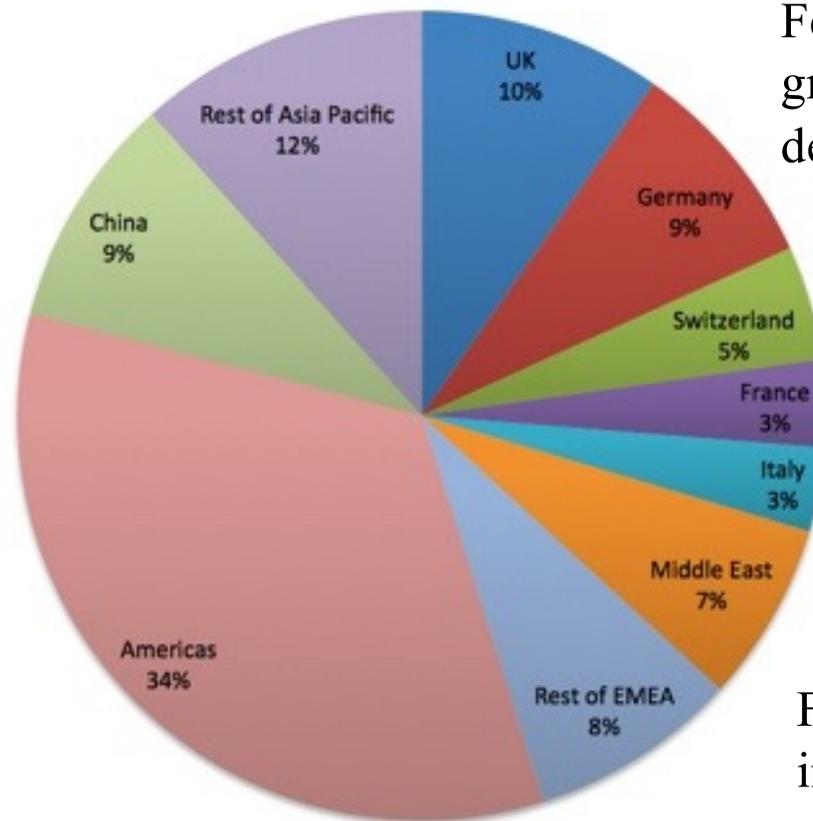
Only once in the last 10 years have auto companies collectively earned more than their cost of capital

WHAT MAKES FERRARI DIFFERENT?

Ferrari: Geographical Sales (2014)

Ferrari sold only 7,255 cars in all of 2014

Ferrari sales (in units) have grown very little in the last decade & have been stable



Ferrari had a profit margin of 18.2%, in the 95th percentile, partly because of its high prices and partly because it spends little on advertising.

Ferrari has not invested in new plants.

LATIN AMERICA RETAIL

- **A big market:** In 2024, the Latin American retail business generated about \$1.5 trillion in revenues, with \$180 billion coming from online retail. The three biggest regional markets in Latin America are Brazil, Mexico and Argentina.
- **Growing online portion:** The overall retail market is growing about 5-7% in real terms, but online retail is increasing its share of that market and is expected to grow 10-12% a year over the next decade.
- **Competition:** The brick and mortar retail business in Latin America is still mostly domestic (with big players within each country) firms., but the online retail market is dominated by firms that stretch across markets (Mercado Libre is the largest Latin American player, but Amazon is an a major player).

MERCADO LIBRE: THE BUSINESS MODEL

The Logistics Arm

The company has invested heavily in trucks, planes and distribution centers, allowing it to deliver efficiently across Latin America.

The Innovation Arm

The company spends heavily on R&D, investing \$1.93 billion in 2024, and about 10% of its sales every year for the last five years.

The Financing Arm (Mercado Pago)

The financing arm processes payments on the platform (collecting processing fees), allows customers to keep their cash invested and provides financing for retailers, generating interest income and loyalty.

Market Share

Mercado Libre has dominant market shares in Brazil (30%), Mexico (20%) and Argentina (80%+).

The Online Retail Platform

The Mercado Libre retail platform is accessible in 18 countries, across Latin America. In 2024, that platform had 100 million unique buyers on it, with a gross merchandise value of \$55 billion in sales. Mercado collects marketplace fees as an intermediary and sells some products directly. It also collects advertising revenues.

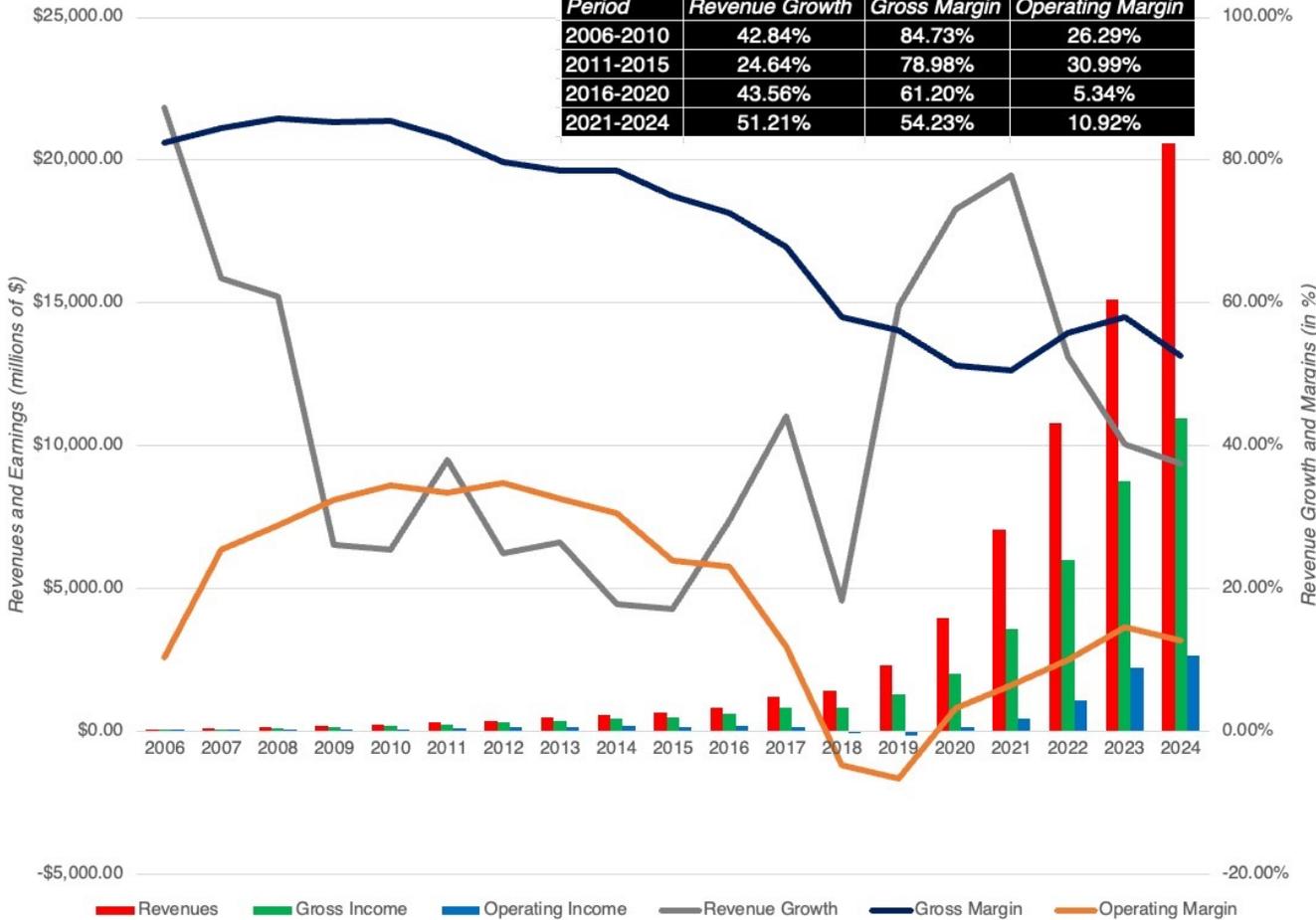
The Optionality

With its platform, the company is well positioned to disrupt other Latin American businesses, beyond retail, by leveraging its reach and customer loyalty to enter other businesses.

MERCADO LIBRE: FINANCIAL HISTORY

Mercado Libre: Operating History

Period	Revenue Growth	Gross Margin	Operating Margin
2006-2010	42.84%	84.73%	26.29%
2011-2015	24.64%	78.98%	30.99%
2016-2020	43.56%	61.20%	5.34%
2021-2024	51.21%	54.23%	10.92%



WHEN COUNTRY AND CURRENCY RISK ARE FRONT AND CENTER..

- For most Argentine companies, which report their financials in pesos, the historical data is a mess since high and shifting inflation over time makes it difficult to make sense of the data.
- In most countries, a regulated utility, should have a pretty stable storyline, with revenues growing at a stable growth rate and margins reflecting pricing power. That is not the case with Edenor, where inflation and country risk have ravaged the financial data.
 - In these cases, you may need to start the story anew drawing on business economics and industry norms for margins and returns on capital.
 - In some cases, it may be easier to tell your story in real terms or in a different currency, but the truth is that inflation and currency woes will track you down no matter what you do.

STEP 1B: CREATE A NARRATIVE FOR THE FUTURE

- Every valuation starts with a narrative, a story that you see unfolding for your company in the future.
- In developing this narrative, you will be making assessments of your company (its products, its management), the market or markets that you see it growing in, the competition it faces and will face and the macro environment in which it operates.
 - Rule 1: Keep it simple.
 - Rule 2: Keep it focused.

THE UBER NARRATIVE

In June 2014, my initial narrative for Uber was that it would be

1. An urban car service business: I saw Uber primarily as a force in urban areas and only in the car service business.
2. Which would expand the business moderately (about 40% over ten years) by bringing in new users.
3. With local networking benefits: If Uber becomes large enough in any city, it will quickly become larger, but that will be of little help when it enters a new city.
4. Maintain its revenue sharing (20%) system due to strong competitive advantages (from being a first mover).
5. And its existing low-capital business model, with drivers as contractors and very little investment in infrastructure.

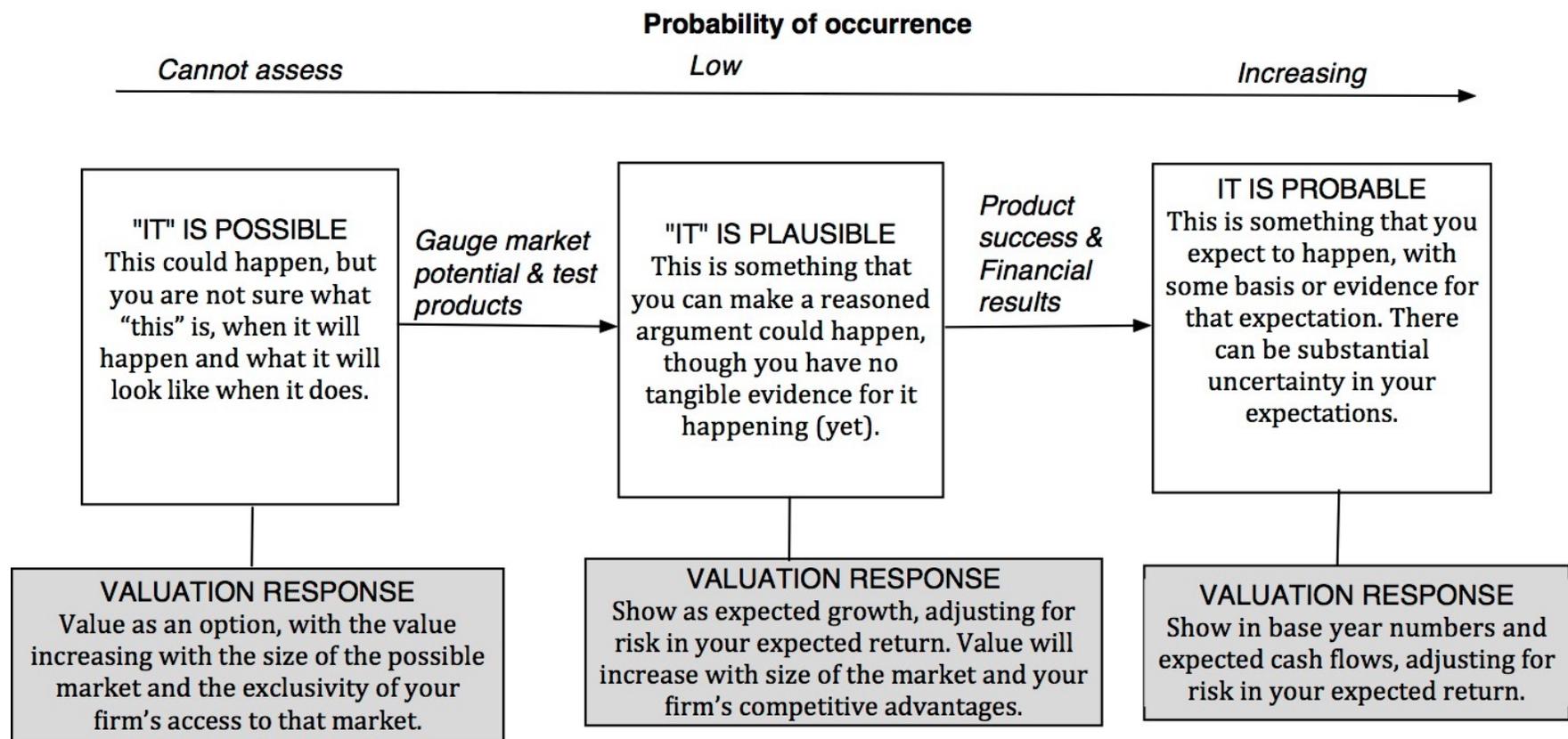
THE FERRARI NARRATIVE

- Ferrari will **stay an exclusive club**, deriving its allure from its scarcity and the fact that only a few own Ferraris.
- By staying exclusive, the company **gets three benefits**:
 - It can **continue to charge nose bleed prices** for its cars and sell them with little or no advertising.
 - It does **not need to invest in new assembly plants**, since it does not plan to ramp up production.
 - It **sells only to the super rich**, who are unaffected by overall economic conditions or market crises.

THE MERCADO LIBRE STORY

- **Latin American Retail & Fintech:** Notwithstanding ambitions of being a global player, the company's core market will be Latin American, and centered on retailing. Its financial arm will make much of its money from its retail space, with payment processing for customers and financing for retailers.
- **Strong competitive advantages:** An understanding of the Latin American market, with the **combination of scale, financing and logistics** making it difficult for a competitor.
- **Continued growth:** The company will continue to focus on and deliver revenue growth, with most of that growth coming at the expense of brick and mortar retail competitors.
- **Margin pressure:** While the need for growth will continue to put pressure on profit margins, we see a flattening out of gross margins and an increase in operating margins, as economies of scale continue to play out.

STEP 2: CHECK THE NARRATIVE AGAINST HISTORY, ECONOMIC FIRST PRINCIPLES & COMMON SENSE



THE IMPOSSIBLE, THE IMPLAUSIBLE AND THE IMPROBABLE

The Impossible

Bigger than the economy
Assuming Growth rate for company in perpetuity > Growth rate for economy

Bigger than the total market
Allowing a company's revenues to grow so much that it has more than a 100% market share of whatever business it is in.

Profit margin > 100%
Assuming earnings growth will exceed revenue growth for a long enough period, and pushing margins above 100%

Depreciation without cap ex
Assuming that depreciation will exceed cap ex in perpetuity.

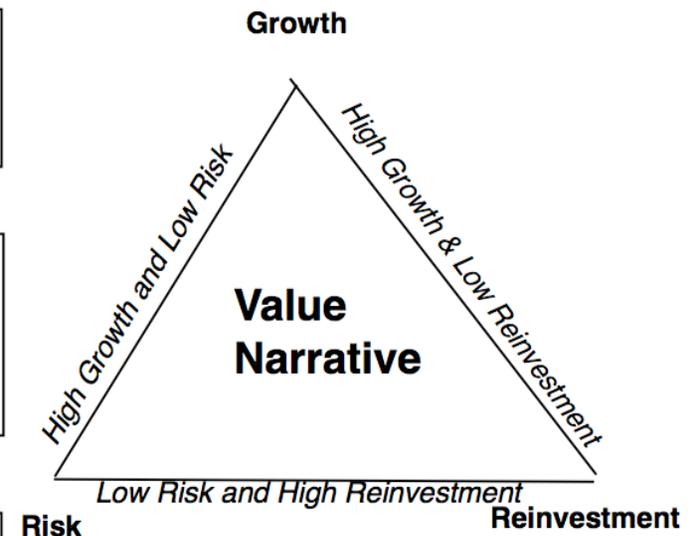
The Implausible

Growth without reinvestment
Assuming growth forever without reinvestment.

Profits without competition
Assuming that your company will grow and earn higher profits, with no competition.

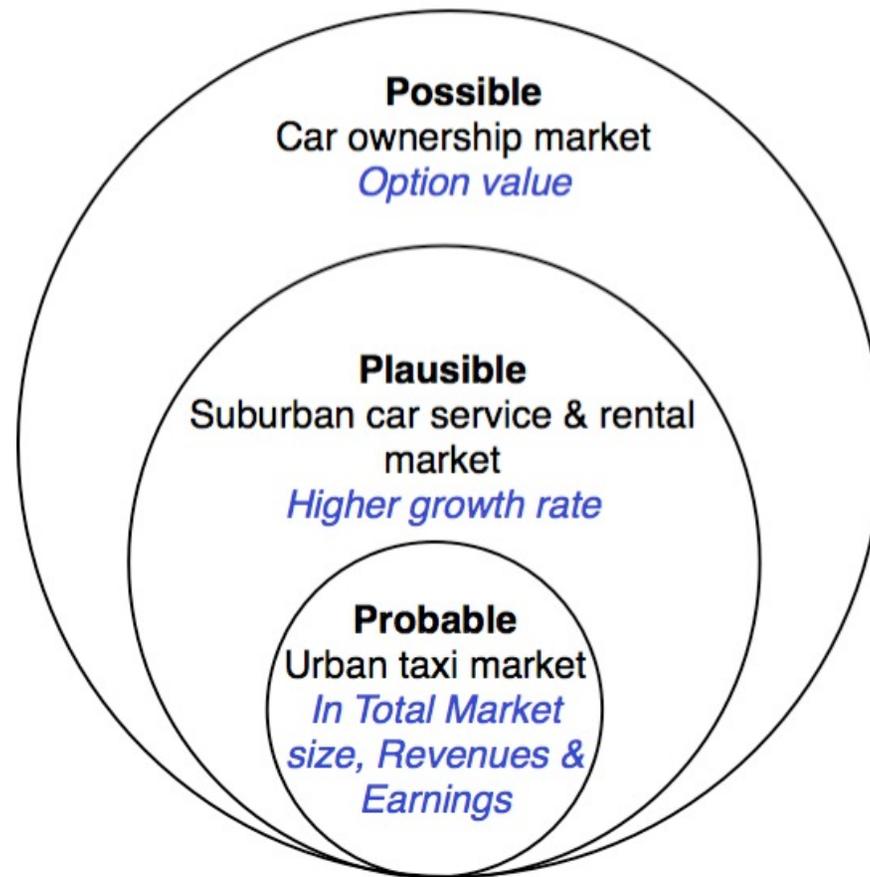
Returns without risk
Assuming that you can generate high returns in a business with no risk.

The Improbable



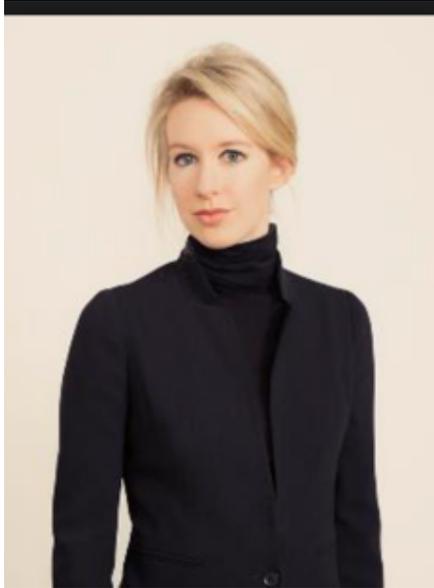
UBER: POSSIBLE, PLAUSIBLE AND PROBABLE

Uber (My narrative))



The Impossible: The Runaway Story

The Story



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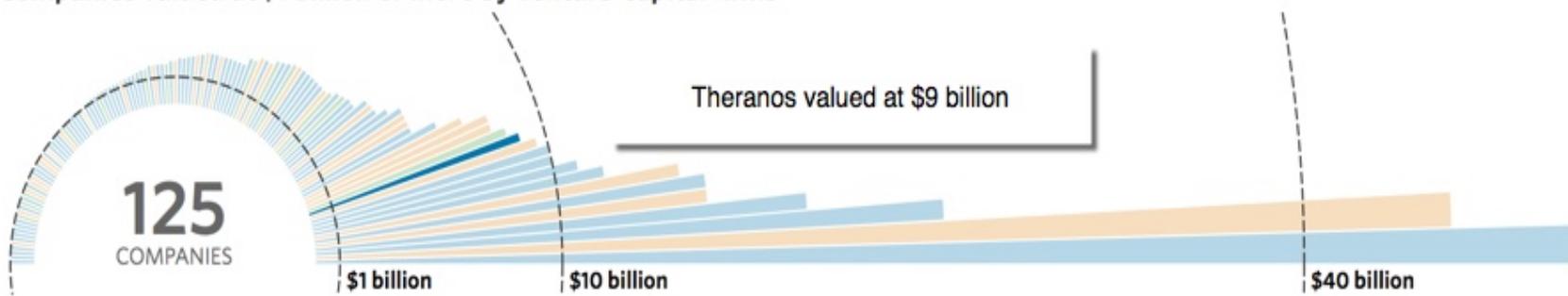
The Checks (?)

Board Member	Designation	Age
Henry Kissinger	Former Secretary of State	92
Bill Perry	Former Secretary of Defense	88
George Schultz	Former Secretary of State	94
Bill Frist	Former Senate Majority Leader	63
Sam Nunn	Former Senator	77
Gary Roughead	Former Navy Admiral	64
James Mattis	Former Marine Corps General	65
Dick Kovocovich	Former CEO of Wells Fargo	72
Riley Bechtel	Former CEO of Bechtel	63
William Foege	Epidemiologist	79
Elizabeth Holmes	Founder & CEO, Theranos	31
Sunny Balwani	President & COO, Theranos	NA

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Money

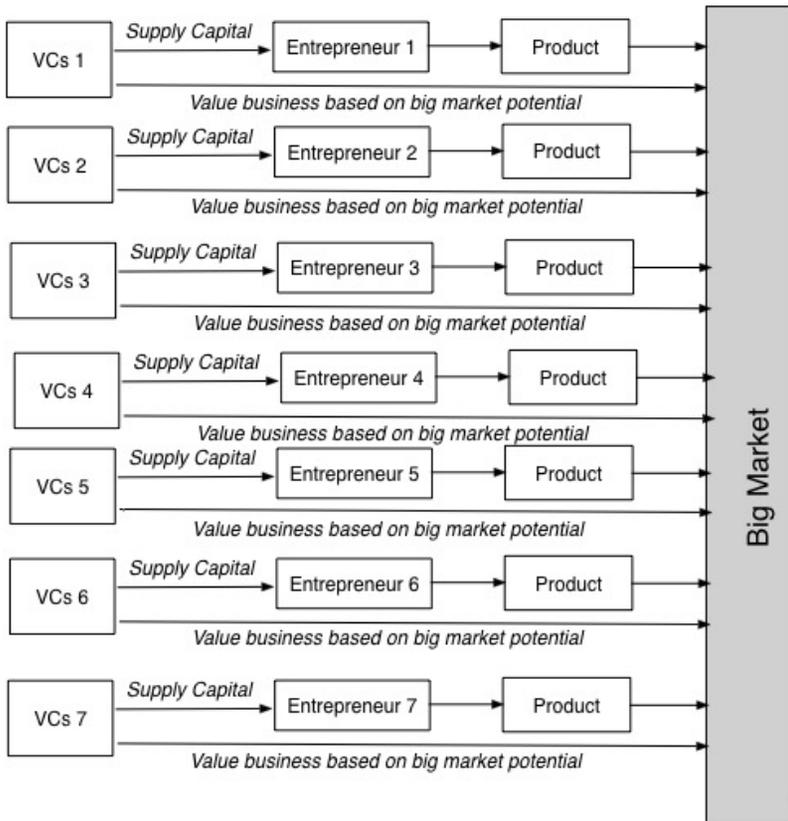
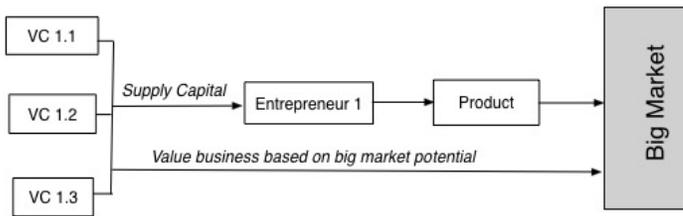
Companies valued at \$1 billion or more by venture-capital firms



Valuations as of October 2015

Select companies from the chart or table for more detail.

The Implausible: The Big Market Delusion

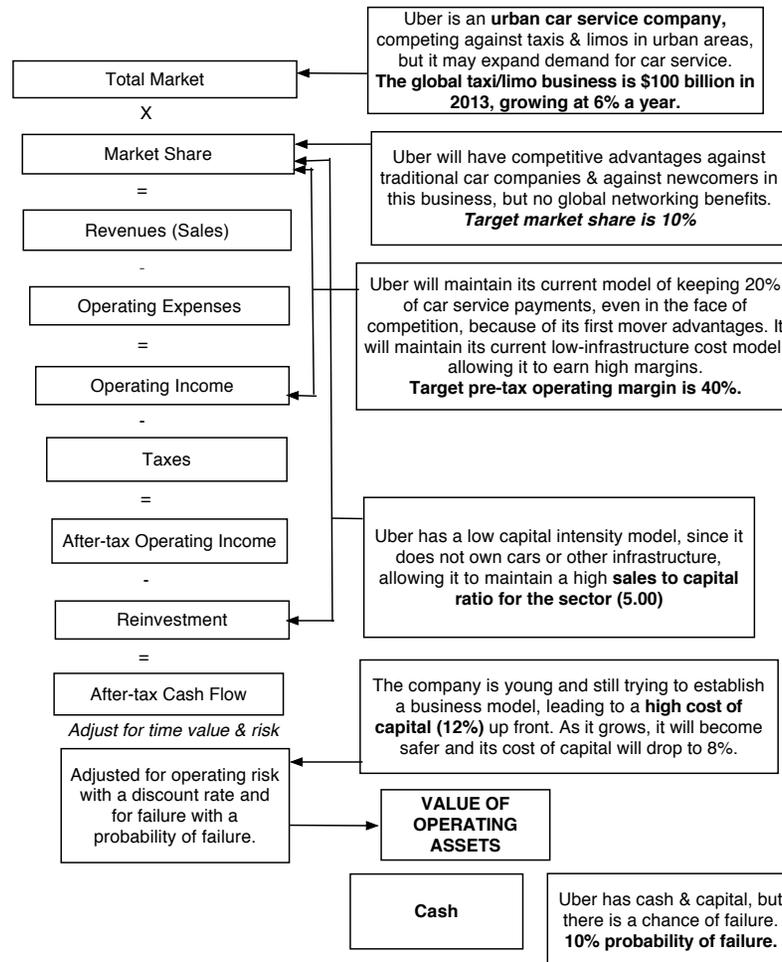


Company	Market Cap	Enterprise Value	Current Revenues	Breakeven Revenues (2025)	% from Online Advertising	Imputed Online Ad Revenue (2025)
Google	\$441,572.00	\$386,954.00	\$69,611.00	\$224,923.20	89.50%	\$201,306.26
Facebook	\$245,662.00	\$234,696.00	\$14,640.00	\$129,375.54	92.20%	\$119,284.25
Yahoo!	\$30,614.00	\$23,836.10	\$4,871.00	\$25,413.13	100.00%	\$25,413.13
LinkedIn	\$23,265.00	\$20,904.00	\$2,561.00	\$22,371.44	80.30%	\$17,964.26
Twitter	\$16,927.90	\$14,912.90	\$1,779.00	\$23,128.68	89.50%	\$20,700.17
Pandora	\$3,643.00	\$3,271.00	\$1,024.00	\$2,915.67	79.50%	\$2,317.96
Yelp	\$1,765.00	\$0.00	\$465.00	\$1,144.26	93.60%	\$1,071.02
Zillow	\$4,496.00	\$4,101.00	\$480.00	\$4,156.21	18.00%	\$748.12
Zynga	\$2,241.00	\$1,142.00	\$752.00	\$757.86	22.10%	\$167.49
Total US	\$770,185.90	\$689,817.00	\$96,183.00	\$434,185.98		\$388,972.66
Alibaba	\$184,362.00	\$173,871.00	\$12,598.00	\$111,414.06	60.00%	\$66,848.43
Tencent	\$154,366.00	\$151,554.00	\$13,969.00	\$63,730.36	10.50%	\$6,691.69
Baidu	\$49,991.00	\$44,864.00	\$9,172.00	\$30,999.49	98.90%	\$30,658.50
Sohu.com	\$18,240.00	\$17,411.00	\$1,857.00	\$16,973.01	53.70%	\$9,114.51
Naver	\$13,699.00	\$12,686.00	\$2,755.00	\$12,139.34	76.60%	\$9,298.74
Yandex	\$3,454.00	\$3,449.00	\$972.00	\$2,082.52	98.80%	\$2,057.52
Yahoo! Japan	\$23,188.00	\$18,988.00	\$3,591.00	\$5,707.61	69.40%	\$3,961.08
Sina	\$2,113.00	\$746.00	\$808.00	\$505.09	48.90%	\$246.99
Netease	\$14,566.00	\$11,257.00	\$2,388.00	\$840.00	11.90%	\$3,013.71
Mail.ru	\$3,492.00	\$3,768.00	\$636.00	\$1,676.47	35.00%	\$586.76
Mixi	\$3,095.00	\$2,661.00	\$1,229.00	\$777.02	96.00%	\$745.94
Kakaku	\$3,565.00	\$3,358.00	\$404.00	\$1,650.49	11.60%	\$191.46
Total non-US	\$474,131.00	\$444,613.00	\$50,379.00	\$248,495.46		\$133,415.32
Global Total	\$1,244,316.90	\$1,134,430.00	\$146,562.00	\$682,681.44		\$522,387.98



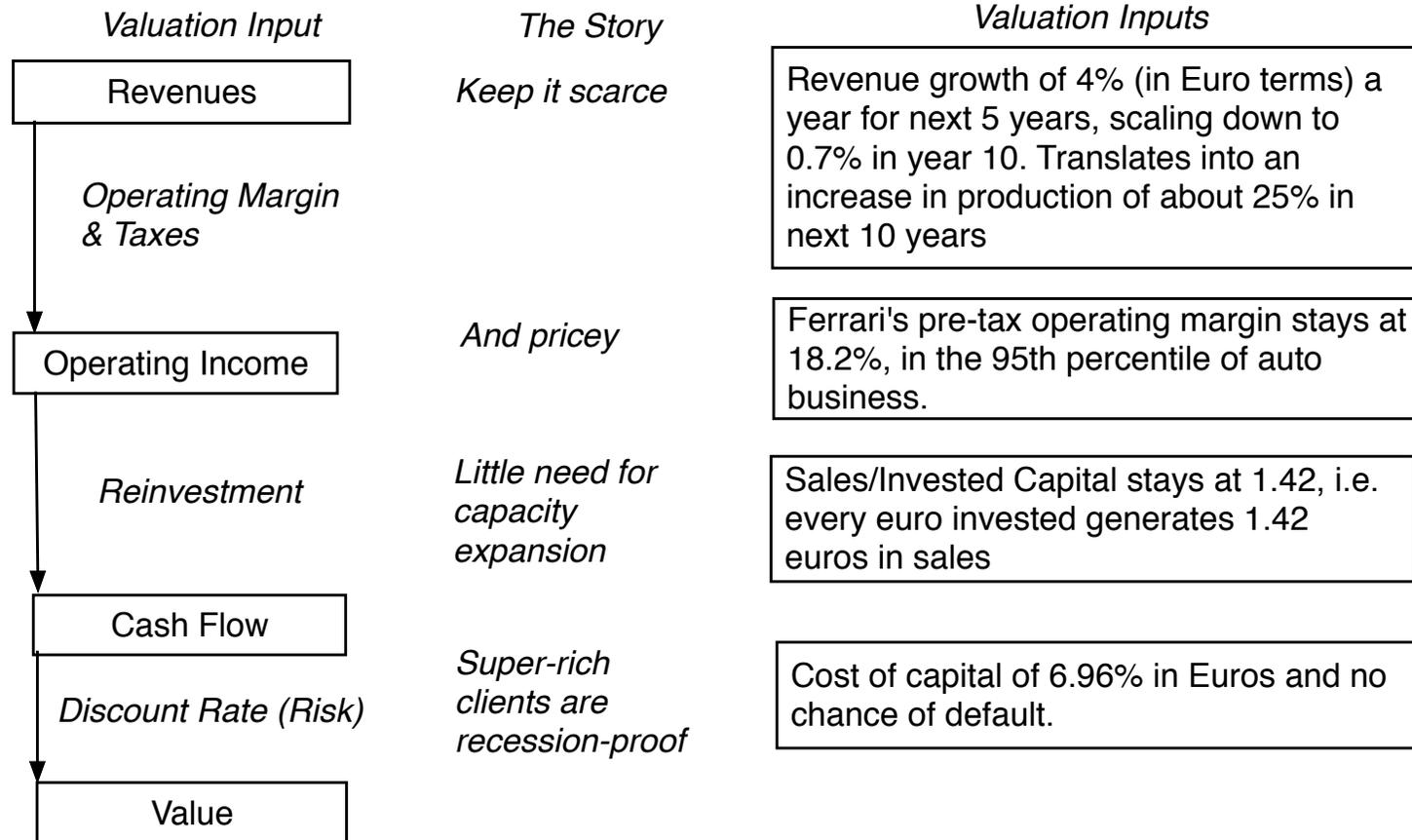
STEP 3: CONNECT YOUR NARRATIVE TO KEY DRIVERS OF VALUE

The Uber narrative (June 2014)



FERRARI: FROM STORY TO NUMBERS

Ferrari: The Exclusive Club

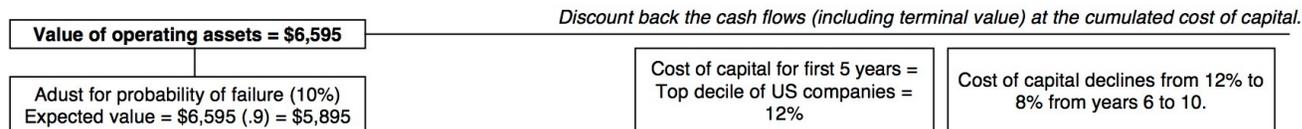
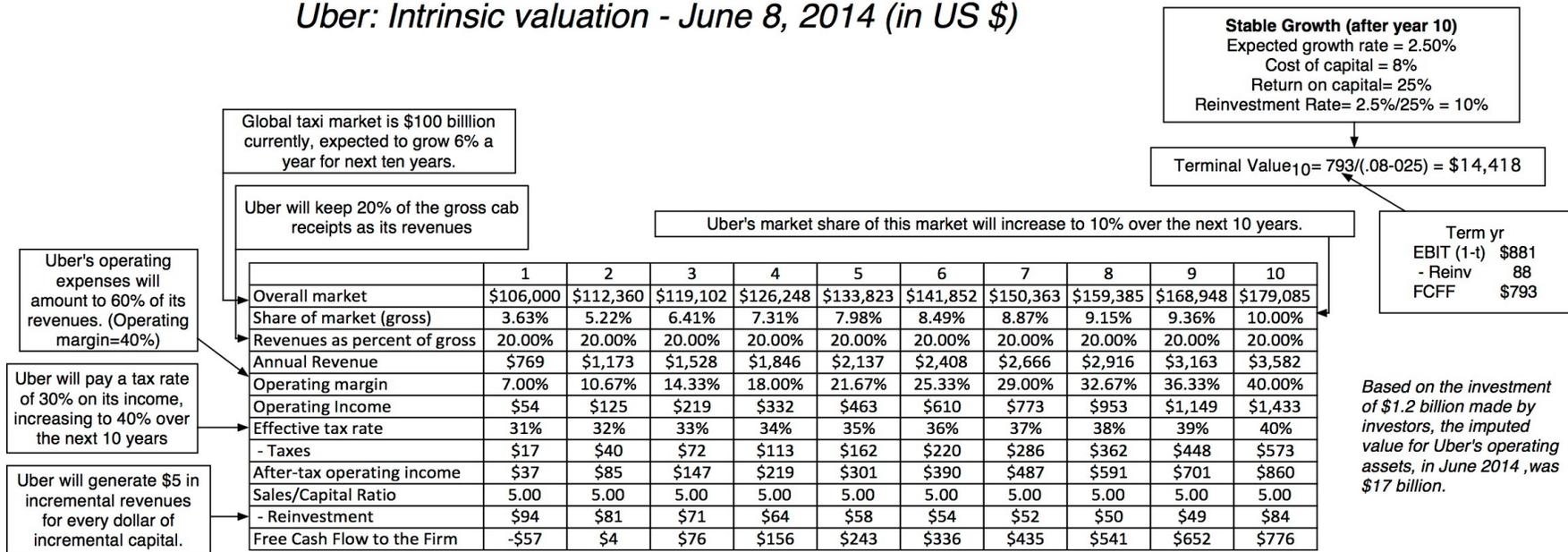


MERCADO LIBRE: FROM STORY TO NUMBERS

	<i>Base year</i>	<i>Next year</i>	<i>Years 2-5</i>	<i>Years 6-10</i>	<i>After year 10</i>	<i>Link to story</i>
Revenues (a)	\$20,777.00	25.0%	25.00%	Changes to	4.35%	Overall retail sales in Latin America grow in single digits, but online portion rises over time.
Operating margin (b)	16.32%	16.3%	Moves to	18.00%	18.00%	Margins improve slightly due to continued economies of scale, but are capped by strong competition from brick & mortar retail and foreign online retail.
Tax rate	21.40%		21.40%	Changes to	28.00%	Latin American average marginal tax rate over time.
Sales to Capital (c)		2.72	2.72	2.72	21.75%	Moved towards global industry average.
Return on capital	24.11%	Marginal ROIC =	35.46%		20.00%	Strong competitive edges from localized knowledge and in-house financing/logistics arms.
Cost of capital (d)			12.95%		10.76%	Cost of capital high due to risky geographies, but moved to third quartile of emerging market companies over time..

STEP 4: VALUE THE COMPANY (UBER)

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



FERRARI: THE "EXCLUSIVE CLUB" VALUE

Stay Super Exclusive: Revenue growth is low

	Base year	1	2	3	4	5	6	7	8	9	10	Terminal year
Revenue growth rate		4.00%	4.00%	4.00%	4.00%	4.00%	3.34%	2.68%	2.02%	1.36%	0.70%	0.70%
Revenues	€ 2,763	€ 2,874	€ 2,988	€ 3,108	€ 3,232	€ 3,362	€ 3,474	€ 3,567	€ 3,639	€ 3,689	€ 3,714	€ 3,740
EBIT (Operating) margin	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%	18.20%
EBIT (Operating income)	€ 503	€ 523	€ 544	€ 566	€ 588	€ 612	€ 632	€ 649	€ 662	€ 671	€ 676	€ 681
Tax rate	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%
EBIT(1-t)	€ 334	€ 348	€ 361	€ 376	€ 391	€ 407	€ 420	€ 431	€ 440	€ 446	€ 449	€ 452
- Reinvestment		€ 78	€ 81	€ 84	€ 87	€ 91	€ 79	€ 66	€ 51	€ 35	€ 18	€ 22
FCFF		€ 270	€ 281	€ 292	€ 303	€ 316	€ 341	€ 366	€ 389	€ 411	€ 431	€ 431
Cost of capital		6.96%	6.96%	6.96%	6.96%	6.96%	6.96%	6.97%	6.98%	6.99%	7.00%	7.00%
PV(FCFF)		€ 252	€ 245	€ 238	€ 232	€ 225	€ 228	€ 228	€ 227	€ 224	€ 220	
Terminal value	€ 6,835											
PV(Terminal value)	€ 3,485											
PV (CF over next 10 years)	€ 2,321											
Value of operating assets =	€ 5,806											
- Debt	€ 623											
- Minority interests	€ 13											
+ Cash	€ 1,141											
Value of equity	€ 6,311											

High Prices
+ No selling
cost =
Preserve
current
operating
margin

Minimal
Reinvestment
due to low
growth

The super
rich are not
sensitive to
economic
downturns

Mercado Libre **Apr-35**

Base Year and Comparison			Growth Story	Profitability Story	Growth Efficiency Story	Terminal Value	
	Company	Industry	Overall retail sales in Latin America grow in single digits, but online portion rises over time.	Margins improve slightly due to continued economies of scale, but are capped by strong competition from brick & mortar retail and foreign online retail.	Moved towards global industry average.	Growth Rate	4.35%
Revenue Growth	89.15%	1.94%				Cost of capital	10.76%
Revenue	\$20,777					Return on capital	20.00%
Operating Margin	16.32%	5.92%				Reinvestment Rate	21.75%
Operating Income	\$3,392						
EBIT (1-t)	\$2,666						

		1	2	3	4	5	6	7	8	9	10	Terminal year	
PV(Terminal value)	\$ 59,079												
PV (CF over next 10 years)	\$ 25,714	Revenue Growth	25.00%	25.00%	25.00%	25.00%	25.00%	20.87%	16.74%	12.61%	8.48%	4.35%	4.35%
Probability of failure =	0.00%	Revenue	\$ 25,971	\$ 32,464	\$ 40,580	\$ 50,725	\$ 63,406	\$ 76,639	\$ 89,469	\$ 100,751	\$ 109,294	\$ 114,049	\$ 119,010
Value of operating assets =	\$84,793	Operating Margin	16.32%	16.99%	17.33%	17.66%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%	18.00%
- Debt	\$6,879	Operating Income	\$ 4,240	\$ 5,517	\$ 7,032	\$ 8,961	\$ 11,413	\$ 13,795	\$ 16,104	\$ 18,135	\$ 19,673	\$ 20,529	\$ 21,422
- Minority interests	\$0	EBIT (1-t)	\$ 3,332	\$ 4,336	\$ 5,527	\$ 7,043	\$ 8,971	\$ 10,661	\$ 12,233	\$ 13,536	\$ 14,424	\$ 14,781	\$ 15,424
+ Cash	\$3,695	Reinvestment	\$ 2,384	\$ 2,980	\$ 3,725	\$ 4,657	\$ 4,859	\$ 4,711	\$ 4,143	\$ 3,137	\$ 1,746	\$ 1,822	\$ 3,355
+ Non-operating assets	\$1,209	FCFF	\$ 948	\$ 1,356	\$ 1,802	\$ 2,386	\$ 4,111	\$ 5,950	\$ 8,090	\$ 10,399	\$ 12,678	\$ 12,959	\$ 12,069
Value of equity	\$82,818											\$ 188,284.24	
- Value of options	\$0												
Value of equity in common stock	\$82,818	Cost of Capital	12.95%	12.95%	12.95%	12.95%	12.95%	12.51%	12.07%	11.64%	11.20%	10.76%	
Number of shares	50.70	Cumulated WACC	0.8854	0.7839	0.6940	0.6144	0.5440	0.4835	0.4314	0.3865	0.3475	0.3138	
Estimated value /share	\$1,633.48												
		Sales to Capital	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	2.72	
Price per share	\$2,261.00	ROIC	30.14%	32.26%	33.66%	34.96%	36.17%	35.94%	35.59%	35.14%	34.63%	34.06%	20.00%
% Under or Over Valued	38.42%												

Risk Story	Competitive Advantages
Cost of capital high due to risky geographies, but moved to third quartile of emerging market companies over time..	Strong competitive edges from localized knowledge and in-house financing/logistics ams.

STEP 5: KEEP THE FEEDBACK LOOP OPEN

- When you tell a story about a company (either explicitly or implicitly), it is natural to feel attached to that story and to defend it against all attacks. Nothing can destroy an investor more than hubris.
- Being open to other views about a company is not easy, but here are some suggestions that may help:
 - Face up to the uncertainty in your own estimates of value.
 - Present the valuation to people who don't think like you do.
 - Create a process where people who disagree with you the most have a say.
 - Provide a structure where the criticisms can be specific and pointed, rather than general.

THE UBER FEEDBACK LOOP: BILL GURLEY

1. Not just car service company.: Uber is a car company, not just a car service company, and there may be a day when consumers will subscribe to a Uber service, rather than own their own cars. It could also expand into logistics, i.e., moving and transportation businesses.
2. Not just urban: Uber can create new demands for car service in parts of the country where taxis are not used (suburbia, small towns).
3. Global networking benefits: By linking with technology and credit card companies, Uber can have global networking benefits.

VALUING BILL GURLEY'S UBER NARRATIVE

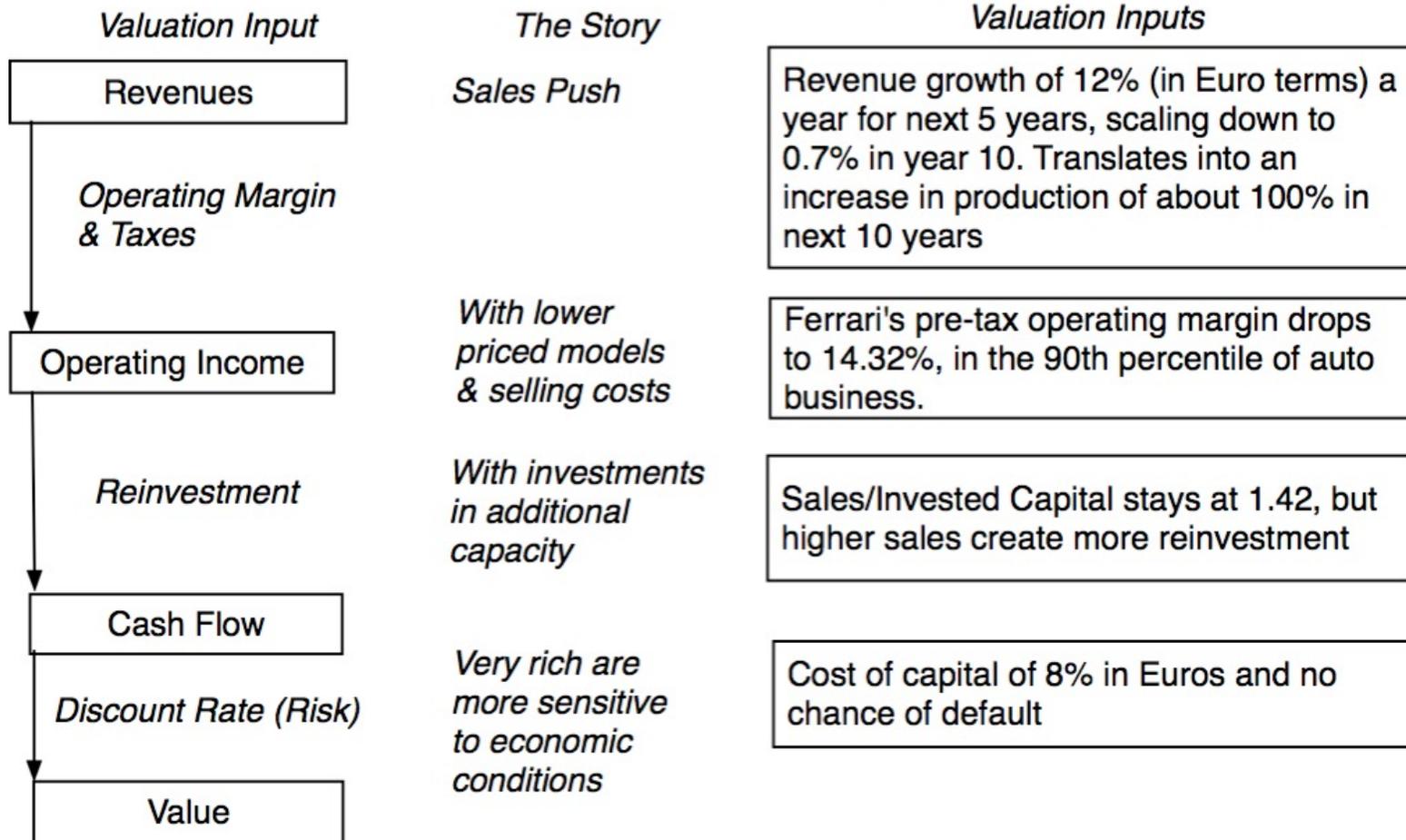
	<i>Uber (Gurley)</i>	<i>Uber (Gurley Mod)</i>	<i>Uber (Damodaran)</i>
Narrative	Uber will <u>expand the car service market substantially</u> , bringing in mass transit users & non-users from the suburbs into the market, and use its <u>networking advantage</u> to gain a <u>dominant market share</u> , while maintaining its revenue slice at 20%.	Uber will <u>expand the car service market substantially</u> , bringing in mass transit users & non-users from the suburbs into the market, and use its <u>networking advantage</u> to gain a <u>dominant market share</u> , while cutting prices and margins (to 10%).	Uber will expand the car service market moderately, primarily in urban environments, and use its <u>competitive advantages</u> to get a <u>significant but not dominant market share</u> and maintain its revenue slice at 20%.
Total Market	\$300 billion, growing at 3% a year	\$300 billion, growing at 3% a year	\$100 billion, growing at 6% a year
Market Share	40%	40%	10%
Uber's revenue slice	20%	10%	20%
Value for Uber	\$53.4 billion + Option value of entering car ownership market (\$10 billion+)	\$28.7 billion + Option value of entering car ownership market (\$6 billion+)	\$5.9 billion + Option value of entering car ownership market (\$2-3 billion)

DIFFERENT NARRATIVES, DIFFERENT NUMBERS

<i>Total Market</i>	<i>Growth Effect</i>	<i>Network Effect</i>	<i>Competitive Advantages</i>	<i>Value of Uber</i>
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

THE FERRARI COUNTER NARRATIVE

Ferrari: The Rev-it-up Option



FERRARI: THE “REV-IT-UP” ALTERNATIVE

Get less exclusive: Double number of cars sold over next decade

	Base year	1	2	3	4	5	6	7	8	9	10	Terminal year
Revenue growth rate		12.00%	12.00%	12.00%	12.00%	12.00%	9.74%	7.48%	5.22%	2.96%	0.70%	0.70%
Revenues	€ 2,763	€ 3,095	€ 3,466	€ 3,882	€ 4,348	€ 4,869	€ 5,344	€ 5,743	€ 6,043	€ 6,222	€ 6,266	€ 6,309
EBIT (Operating) margin	18.20%	17.81%	17.42%	17.04%	16.65%	16.26%	15.87%	15.48%	15.10%	14.71%	14.32%	14.32%
EBIT (Operating income)	€ 503	€ 551	€ 604	€ 661	€ 724	€ 792	€ 848	€ 889	€ 912	€ 915	€ 897	€ 904
Tax rate	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%	33.54%
EBIT(1-t)	€ 334	€ 366	€ 401	€ 439	€ 481	€ 526	€ 564	€ 591	€ 606	€ 608	€ 596	€ 600
- Reinvestment		€ 233	€ 261	€ 293	€ 328	€ 367	€ 334	€ 281	€ 211	€ 126	€ 31	€ 35
FCFF		€ 133	€ 140	€ 147	€ 153	€ 159	€ 230	€ 310	€ 395	€ 482	€ 566	€ 565
Cost of capital		8.00%	8.00%	8.00%	8.00%	8.00%	7.90%	7.80%	7.70%	7.60%	7.50%	7.50%
PV(FCFF)		€ 123	€ 120	€ 117	€ 113	€ 108	€ 145	€ 181	€ 215	€ 244	€ 266	
Terminal value	€ 8,315											
PV(Terminal value)	€ 3,906											
PV (CF over next 10 years)	€ 1,631											
Value of operating assets =	€ 5,537											
- Debt	€ 623											
- Minority interests	€ 13											
+ Cash	€ 1,141											
Value of equity	€ 6,042											

Lower Prices +
Some selling cost = Lower operating margin

Reinvestment reflects higher sales

The very rich are more sensitive to economic conditions

AND THE WORLD IS FULL OF FEEDBACK.. MY FERRARI AFTERTHOUGHT!



NARRATIVE BREAKS, SHIFTS & CHANGES

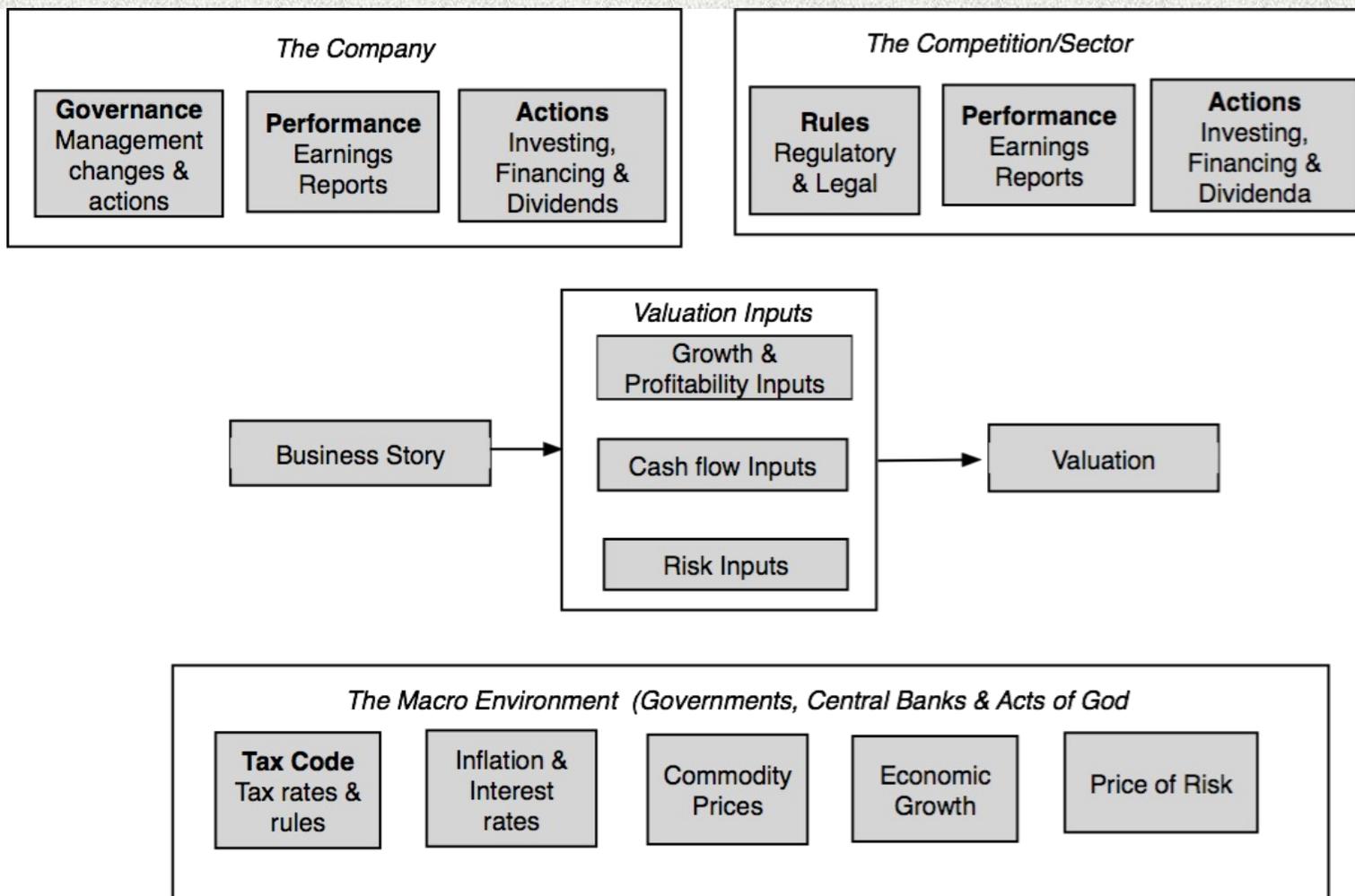


“When my information changes, I alter my conclusions. What do you do, sir?”

Lord Keynes



WHY NARRATIVES CHANGE: BECAUSE THE WORLD CHANGES AROUND YOU...



HOW NARRATIVES CHANGE

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

UBER: THE SEPTEMBER 2015 UPDATE

<i>Input</i>	<i>June 2014</i>	<i>September 2015</i>	<i>Rationale</i>
Total Market	\$100 billion; Urban car service	\$230 billion; Logistics	Market is broader, bigger & more global than I thought it would be. <u>Uber's</u> entry into delivery & moving businesses is now plausible, perhaps even probable.
Growth in market	Increase market size by 34%; CAGR of 6%.	Double market size; CAGR of 10.39%.	New customers being drawn to car sharing, with more diverse offerings.
Market Share	10% (Local Networking)	25% (Weak Global Networking)	Higher cost of entry will reduce competitors, but remaining competitors have access to capital & in Asia, the hometown advantage.
Slice of gross receipts	20% (Left at status quo)	15%	Increased competition will reduce car service company slice.
Operating margin	40% (Low cost model)	25% (Partial employee model)	Drivers will become partial employees, higher insurance and regulatory costs.
Cost of capital	12% (Ninth decile of US companies)	10% (75 th percentile of US companies)	Business model in place and substantial revenues.
Probability of failure	10%	0%	Enough cash on hand to find off threats to survival.
Value of equity	\$5.9 billion	\$23.4 billion	Value increased more than four fold.

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%

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%

Increases overall market to \$618 billion in year 10

	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	

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

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

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

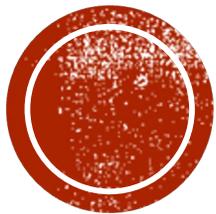
Risk Estimates

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

Uber Valuation: September 2015

MERCADO LIBRE: A BET ON LATIN AMERICA AND FINTECH?

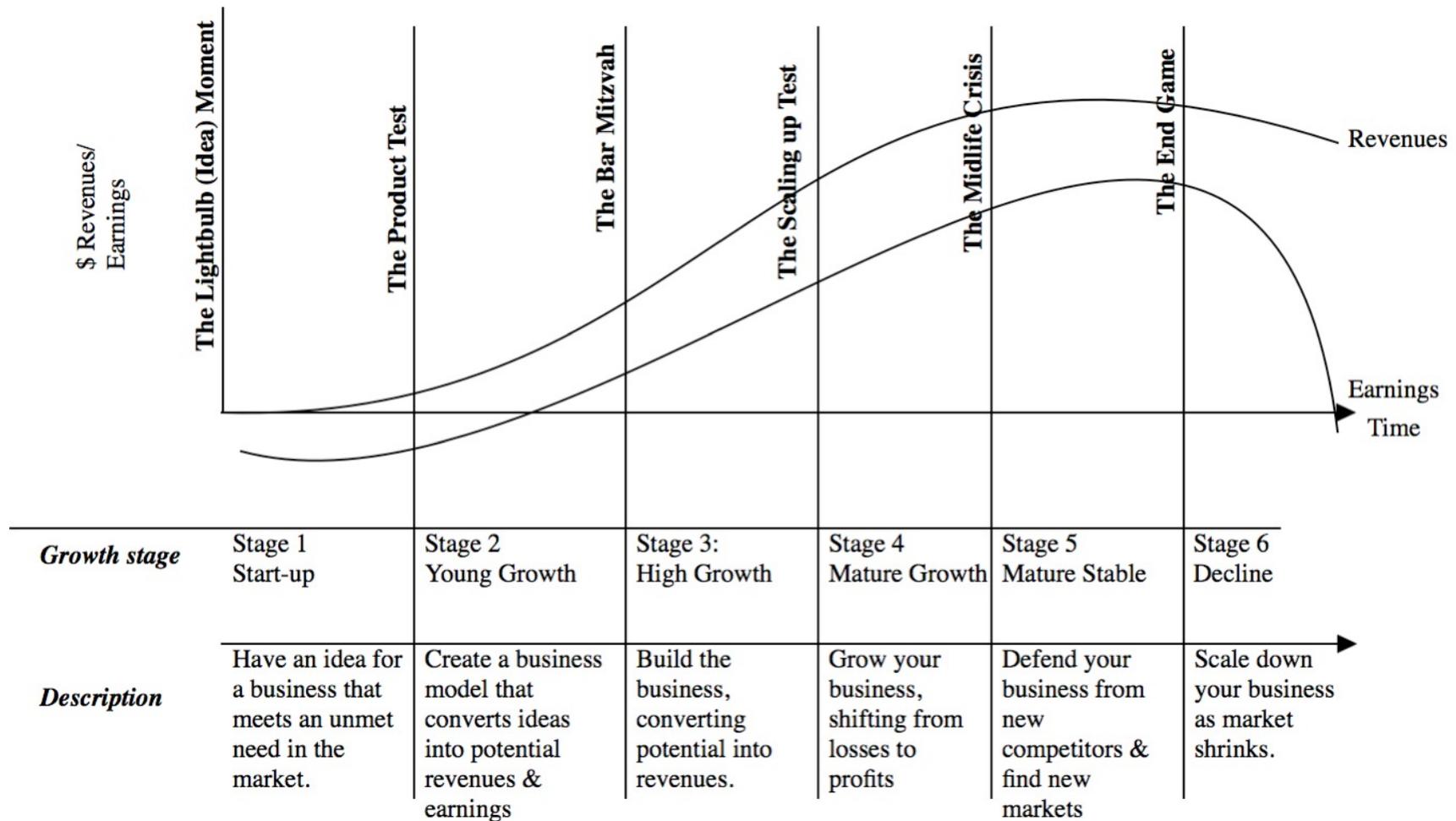
- Embedded in the Mercado Libre story is a macro story about Latin America, which is mostly positive, but with reservations.
 - **Real growth will be positive but not overwhelmingly so.** The real growth of about 5-7% in retail will track the real growth in Latin America and our story.
 - **Like the rest of the world, Latin America will become increasingly digital.** The growth in online retail comes from increased access to smart phones and better internet service.
 - **Latin American country risk will decrease over time, but remain towards the top of the risk ladder.** The cost of capital decreases, but only to the third quartile for emerging market firms.
- Any significant change in country risk or economic growth at Mercado's three biggest markets (Brazil, Argentina and Mexico) will lead to a reassessment of the company.



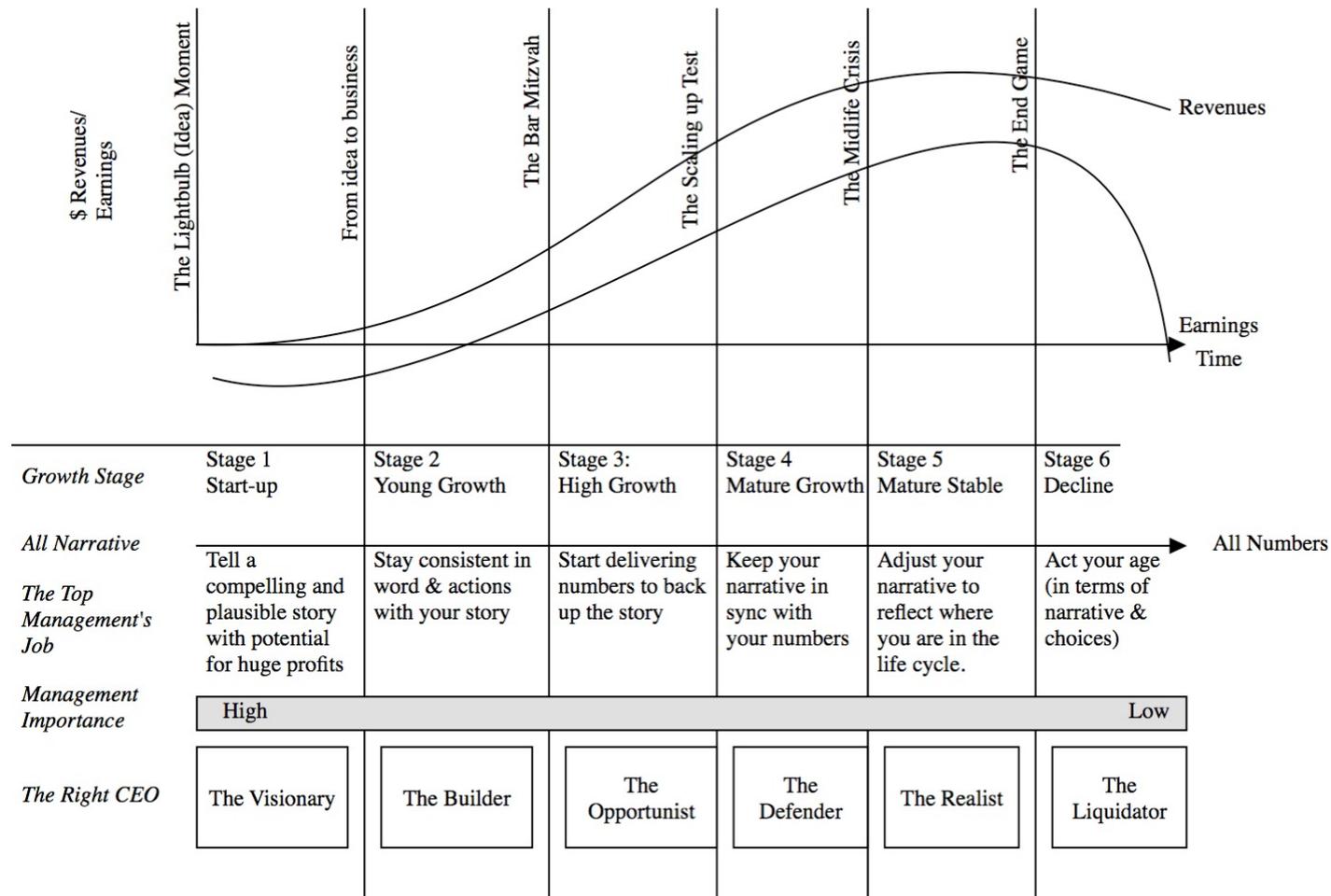
INVESTORS AND MANAGERS: NARRATIVE OR NUMBERS?

“Management is, above all, a practice where art, science, and craft meet”

INTRODUCING THE CORPORATE LIFE CYCLE

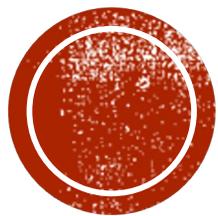


THE MANAGERIAL CHALLENGE



THE INVESTOR CHALLENGE

<i>Growth stage</i>	<i>Stage 1 Start-up</i>	<i>Stage 2 Young Growth</i>	<i>Stage 3: High Growth</i>	<i>Stage 4 & 5 Mature Stable</i>	<i>Stage 6 Decline</i>
<i>Key Questions</i>	Is there a market for the product or service? How big is that market? Will you survive?	Do people use your product or service? How much do they like it?	Will people pay for the product or service? Can you scale up, i.e., grow as you get bigger?	Can you make money of the product and service and sustain profitability in the face of competition?	What will you get if you sell your assets? How do you plan to return cash flows to your investors?
<i>Pricing Metrics & Measures</i>	Market size, Cash on hand, Access to capital	Number of users, User intensity (EV/User)	User engagement with model, Revenues (EV/Sales)	Earnings levels and growth (PE, EV/EBIT)	Cash flows, Payout & Debt servicing (PBV, EV/EBITDA)
<i>Narrative vs Numbers</i>	Mostly or all narrative	More narrative than numbers	Mix of narrative & numbers	More numbers than narrative	Mostly or all numbers
<i>Value Drivers</i>	Total market size, Market Share & Target Margin	Revenue Growth (and its drivers)	Revenue Growth & Reinvestment	Operating margins and Return on capital	Dividends/Cash Returns & Debt ratios
<i>Dangers</i>	<i>Macro delusions</i> , where companies are collectively overpriced, given market size.	<i>Value distractions</i> , with focus on wrong revenue drivers.	<i>Growth illusions</i> , with failure to factor in the cost of growth.	<i>Disruption Denial</i> , with failure to see threats to sustainable profits.	<i>Liquidation leakage</i> , with unrealistic assumptions about what others will pay for liquidated assets.
<i>Transitions</i>					
	<i>Potential to Product</i>	<i>Product to Revenues</i>	<i>Revenues to Profits</i>	<i>Profits to Cash flows</i>	



THE END

“There is no real ending. It’s just the place where you stop the story.”