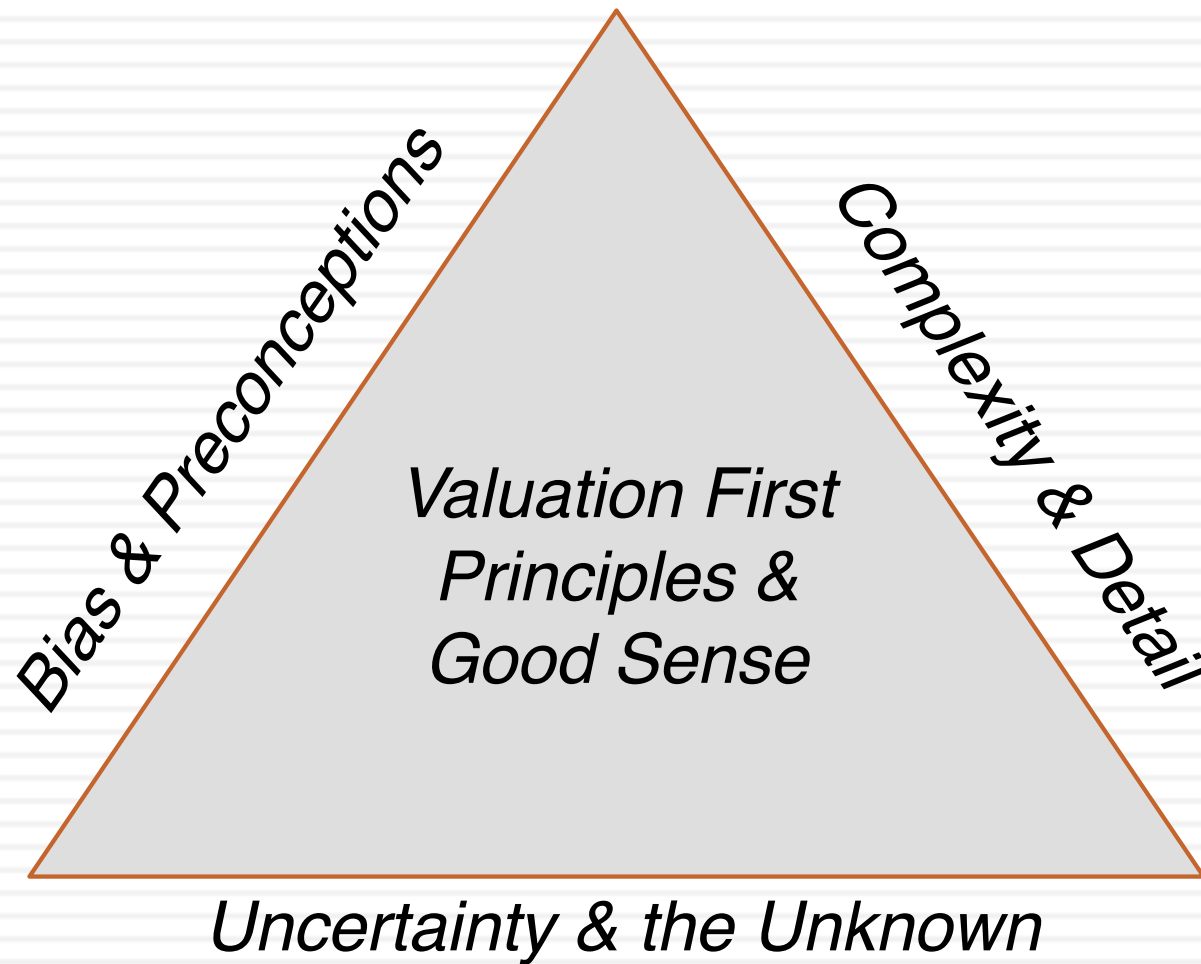




**NARRATIVE AND NUMBERS:  
LIGHT IN THE DARKNESS!**

When in trouble, go back to basics!

# The Bermuda Triangle of Valuation



# Sources of bias

- The power of the subconscious: We are human, after all, and as a consequence are susceptible to
  - ▣ Herd behavior: For instance, there is the “market price” magnet in valuation, where estimates of intrinsic value move towards the market price with each iteration.
  - ▣ Hindsight bias: If you know the outcome of a sequence of events, it will affect your valuation. (That is why teaching valuation with cases is an exercise in futility)
- The power of suggestion: Hearing what others think a company is worth will color your thinking, and if you view those others as more informed/smarter than you are, you will be influenced even more.
- The power of money: If you have an economic stake in the outcome of a valuation, bias will almost always follow.
  - ▣ Corollary 1: Your bias in a valuation will be directly proportional to who pays you to do the valuation and how much you get paid.
  - ▣ Corollary 2: You will be more biased when valuing a company where you already have a position (long or short) in the company.

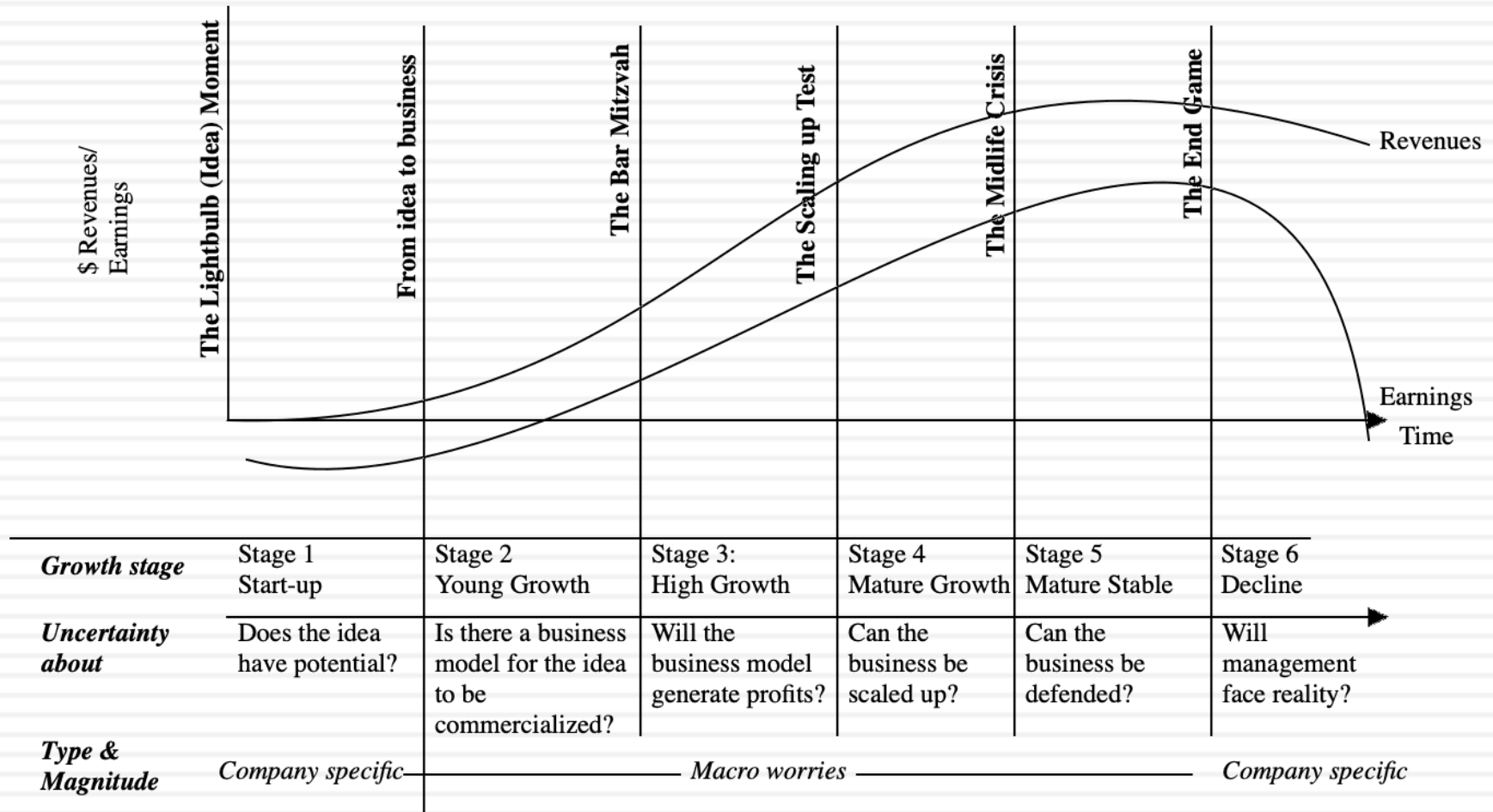
**The Bottom Line: All valuations are biased. The only question is whether the analysts are honest enough to admit their biases.**

# Sources of uncertainty

- Estimation versus Economic uncertainty
  - ▣ Estimation uncertainty reflects the possibility that you could have the “wrong model” or estimated inputs incorrectly within this model.
  - ▣ Economic uncertainty comes the fact that markets and economies can change over time and that even the best models will fail to capture these unexpected changes.
- Micro uncertainty versus Macro uncertainty
  - ▣ Micro uncertainty refers to uncertainty about the potential market for a firm’s products, the competition it will face and the quality of its management team.
  - ▣ Macro uncertainty reflects the reality that your firm’s fortunes can be affected by changes in the macro economic environment.
- Discrete versus continuous uncertainty
  - ▣ Discrete risk: Risks that lie dormant for periods but show up at points in time. (Examples: A drug working its way through the FDA pipeline may fail at some stage of the approval process or a company in Venezuela may be nationalized)
  - ▣ Continuous risk: Risks changes in interest rates or economic growth occur continuously and affect value as they happen.

**The Bottom Line: Uncertainty is part and parcel of investing. Trying to avoid it, ignore it and act like it does not exist is not going to make it go away.**

# A Life Cycle View of Uncertainty

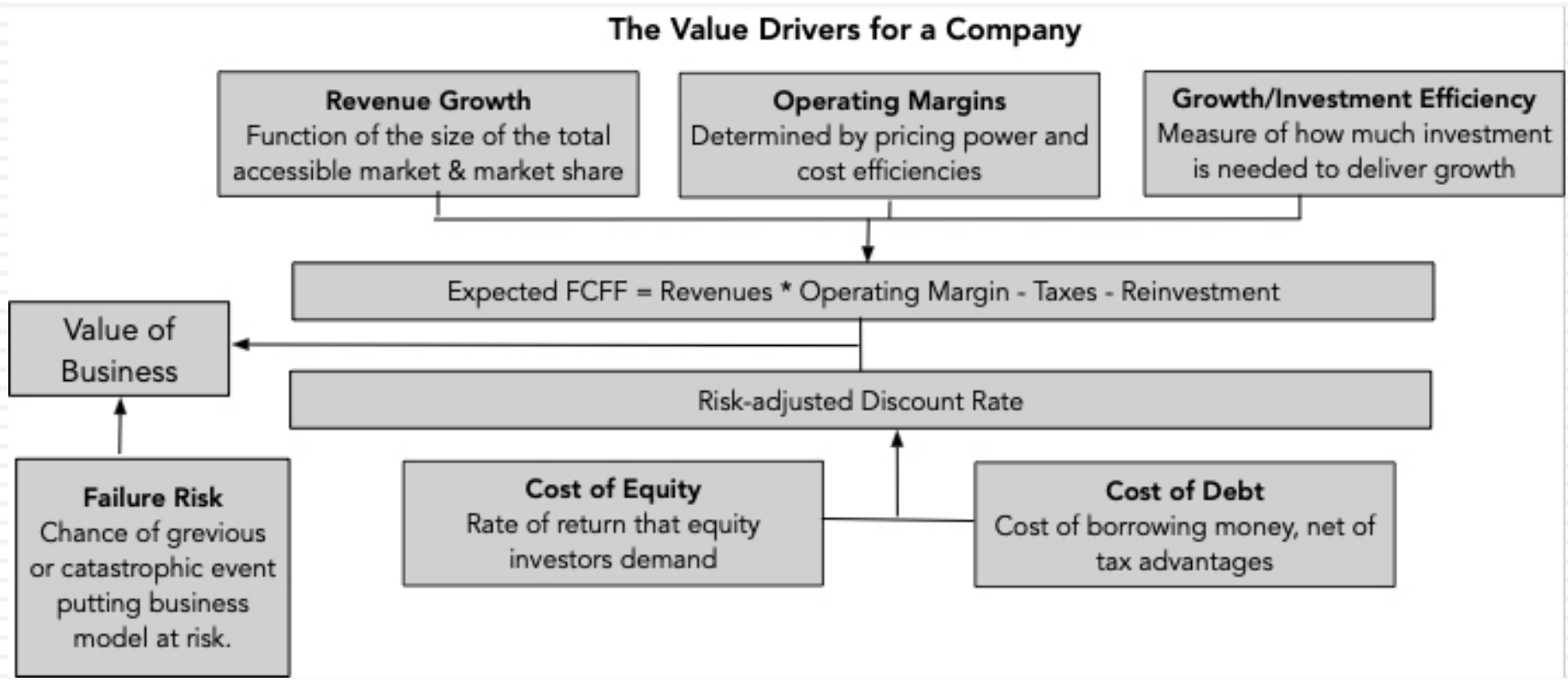


# Sources of Complexity

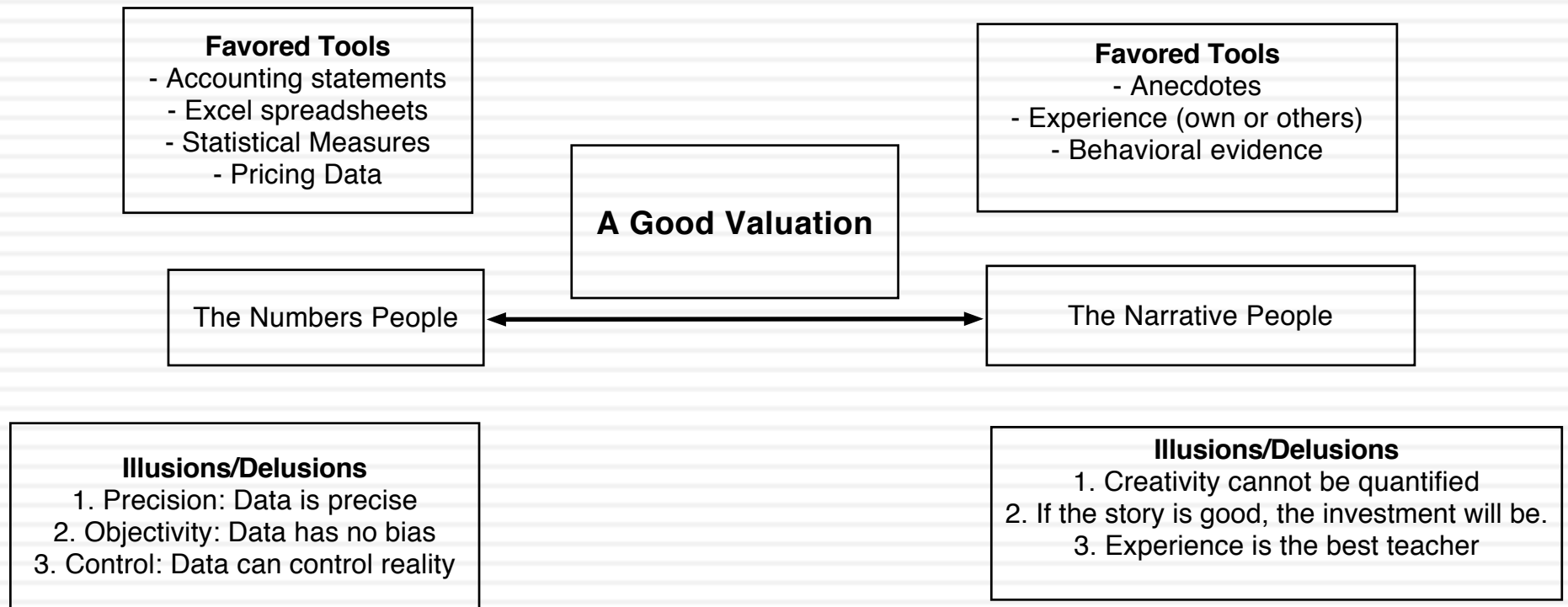
- Data: As our access to data gets wider and deeper, we are now capable of collecting data at levels of detail that we could not have dreamed of a few years ago. The allure of “big data” is that the answer is in them.
- Tools: In conjunction, the tools (statistical, analytical and financial) that we have, to use that data, have also become much more powerful.
- Human Nature: The notion that the more detail there is in your model, the more seriously you have thought through your valuation is deeply embedded. And it becomes even more so, if you are not naturally a numbers person.

**The Bottom Line: Less is more. Adding detail for the sake of adding detail will make your valuations less precise, not more.**

# Value: The Drivers

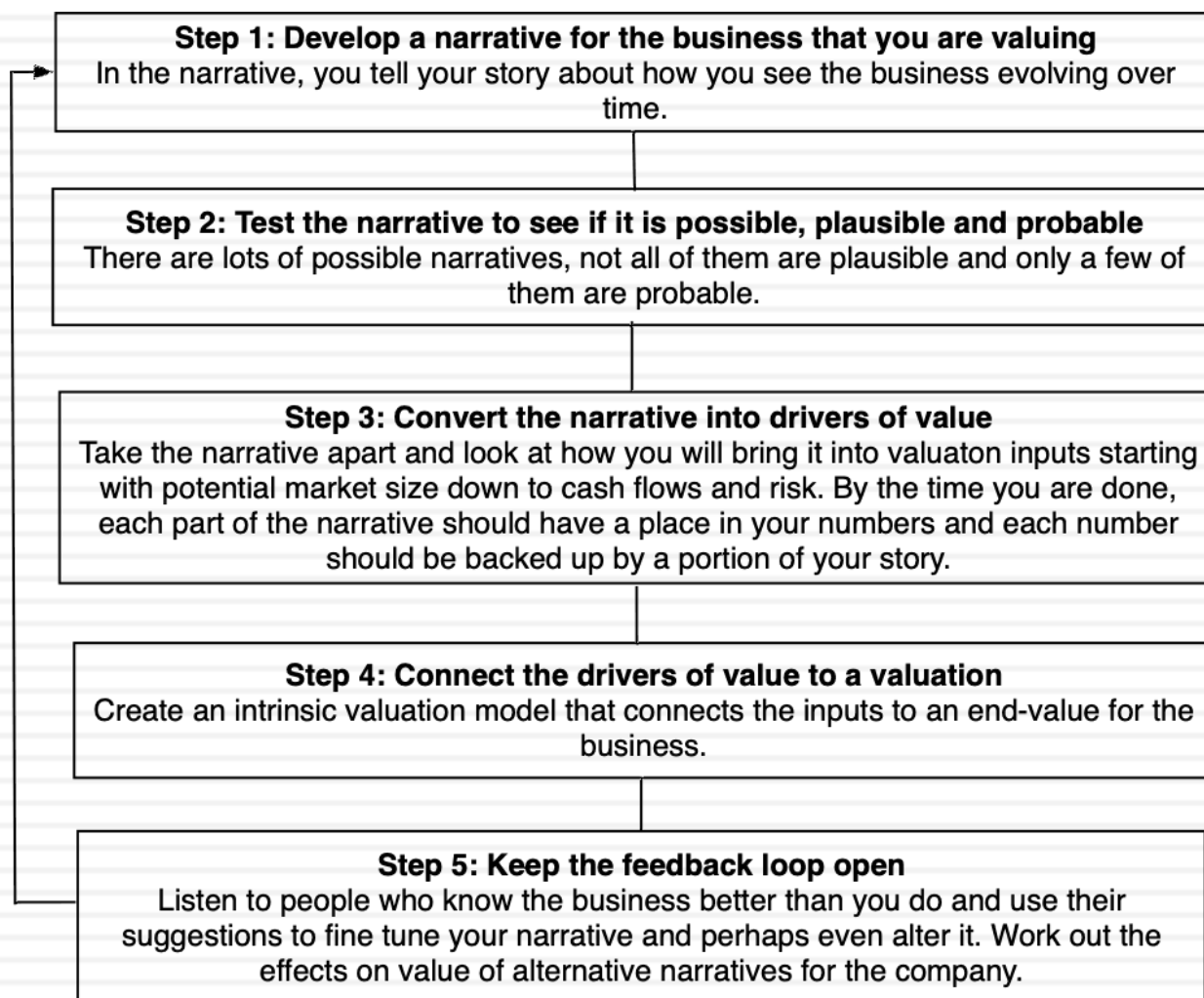


# Healthy Valuation = Story + Numbers





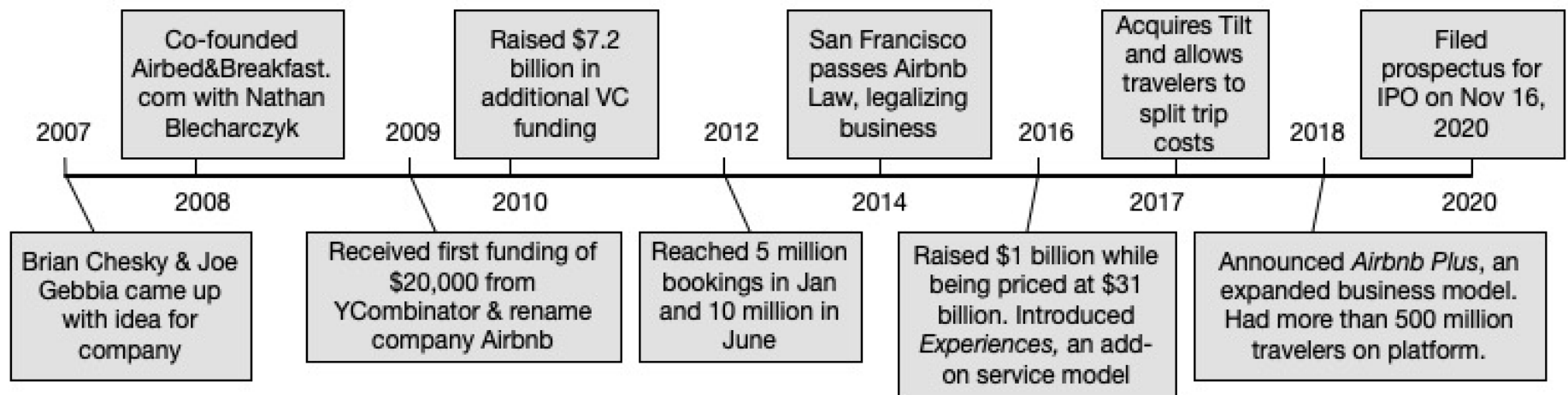
# The steps in valuation



# Airbnb: A Timeline of key developments

## Legal Challenges

Airbnb has been sued by cities for advertising illegal properties, not complying with local regulations and not paying taxes.



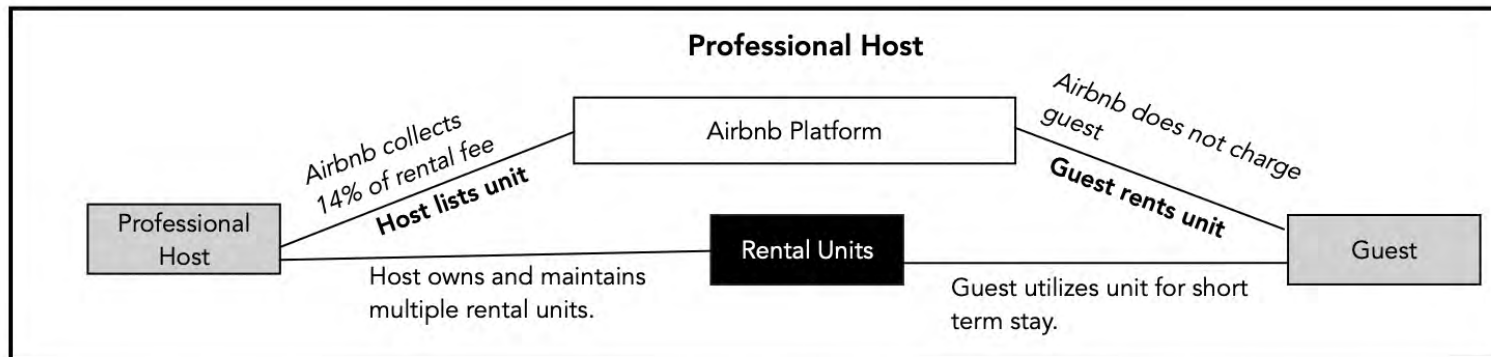
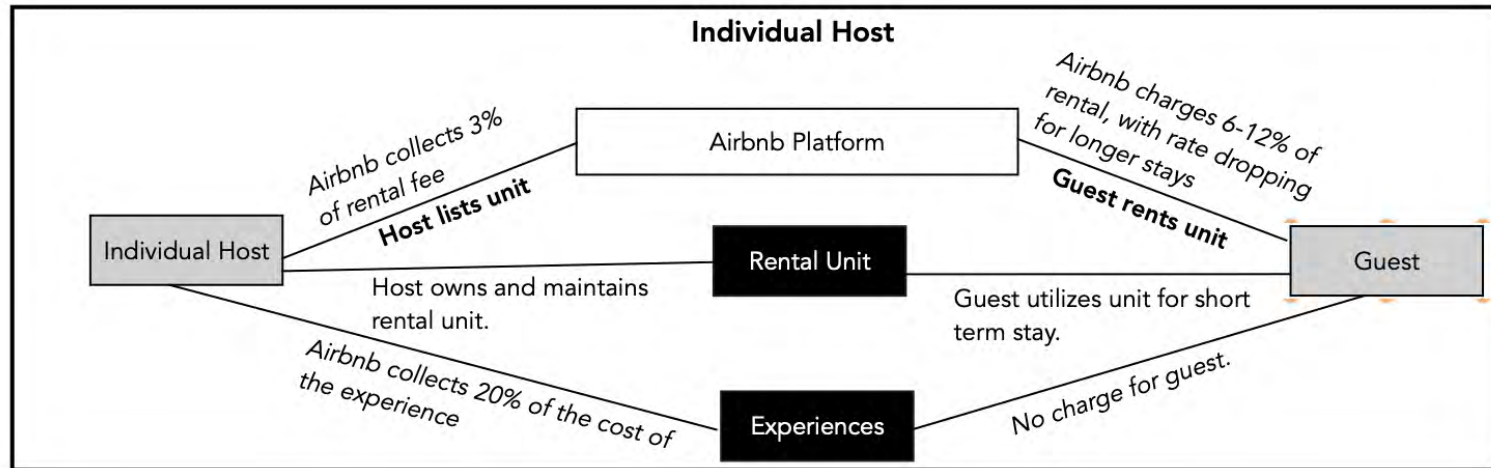
## Acquisitions

Starting with Accoleo in 2011, Airbnb has acquired more than 20 small tech companies to build and augment their platform.

# With key features..

- Legal Challenges: The company has faced multiple challenges from cities that feel that its business model violates local zoning laws and regulations, and evades taxes. While you can attribute some of this pushback to hotel company lobbying and the inertia of the status quo, there is no doubt that Airbnb, like Uber, pushes regulatory and legal limits, taking action first and asking for permission later. While Airbnb has found a way to co-exist with laws in different cities, the restrictions vary widely across the world, with some locations (like New York) imposing much more stringent rules than others.
- Acquisitions: As the number of hosts and guests on Airbnb have climbed over the years, the company has invested in building a more robust platform for its rentals. While some of that money has been spent on internal improvements, much of it has been spent acquiring more than two dozen companies, most of them small, technology businesses.

# Let's start with its business model

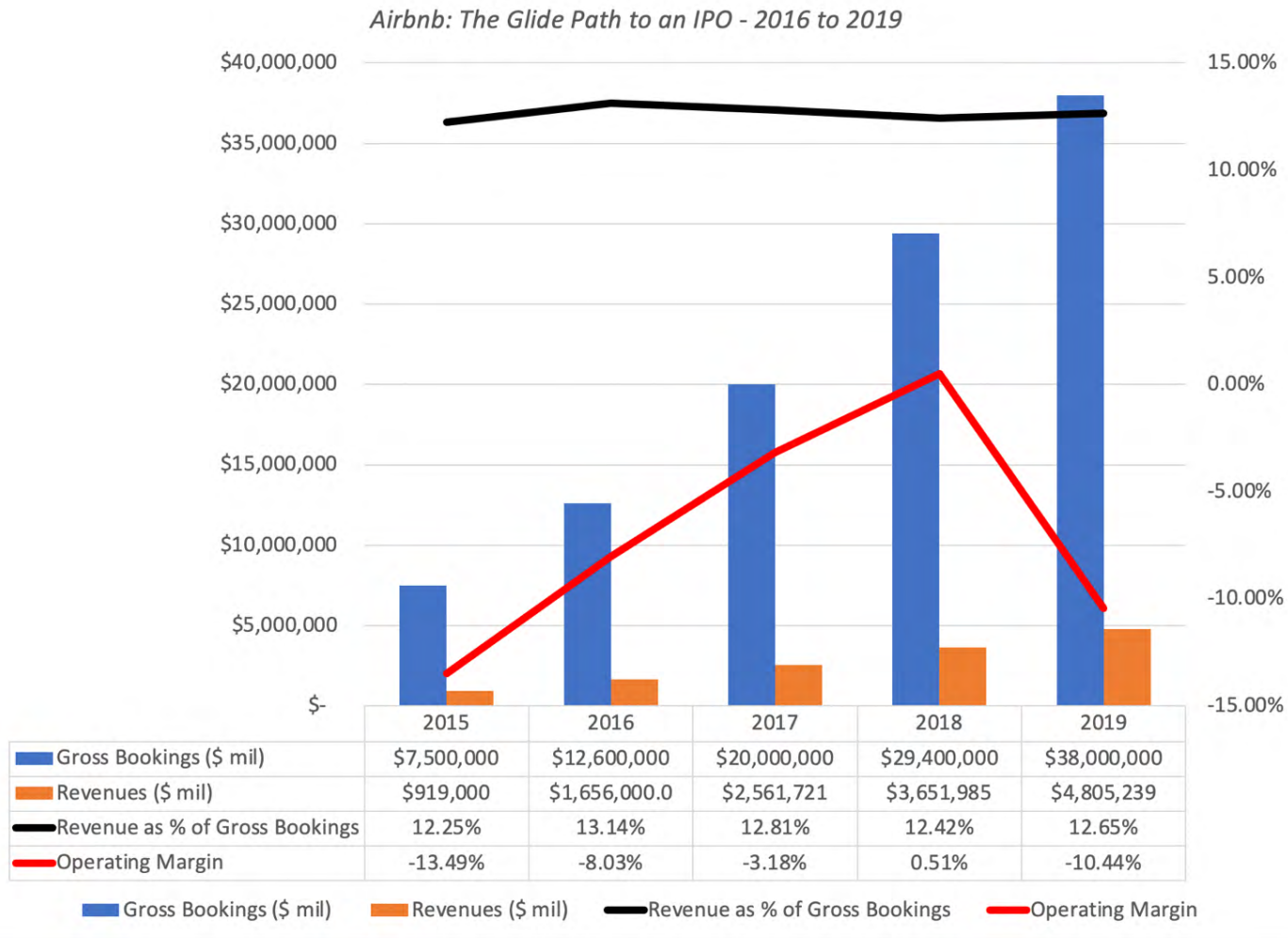


In 2019, there were 4 million hosts on the platform.

In 2019, there were 5.6 million units listed across 10,000 cities in 220 countries.

In 2019, there were 54 million travellers on the site, who booked 327 million nights.

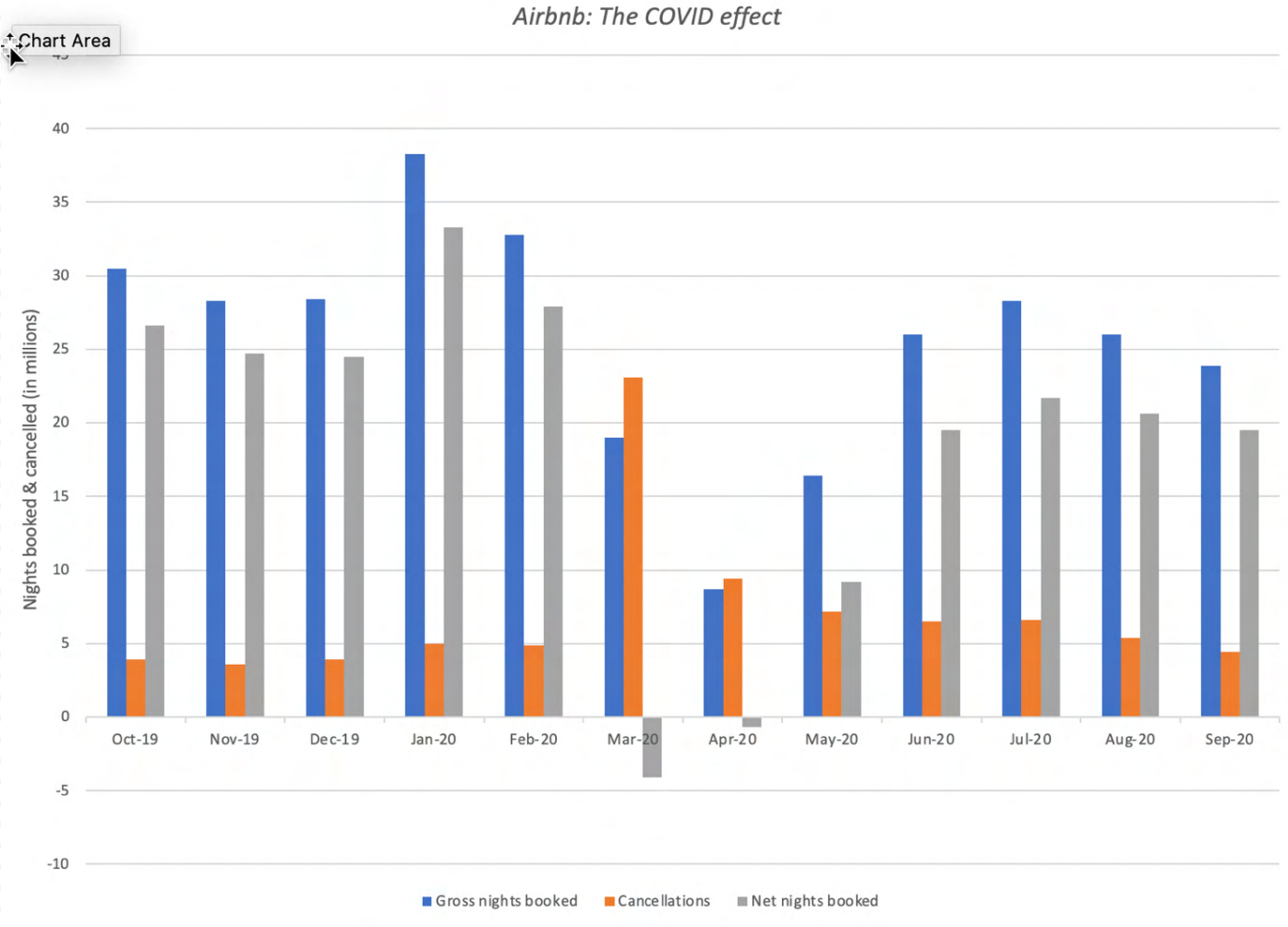
# And the financial payoffs..



# Breaking down history...

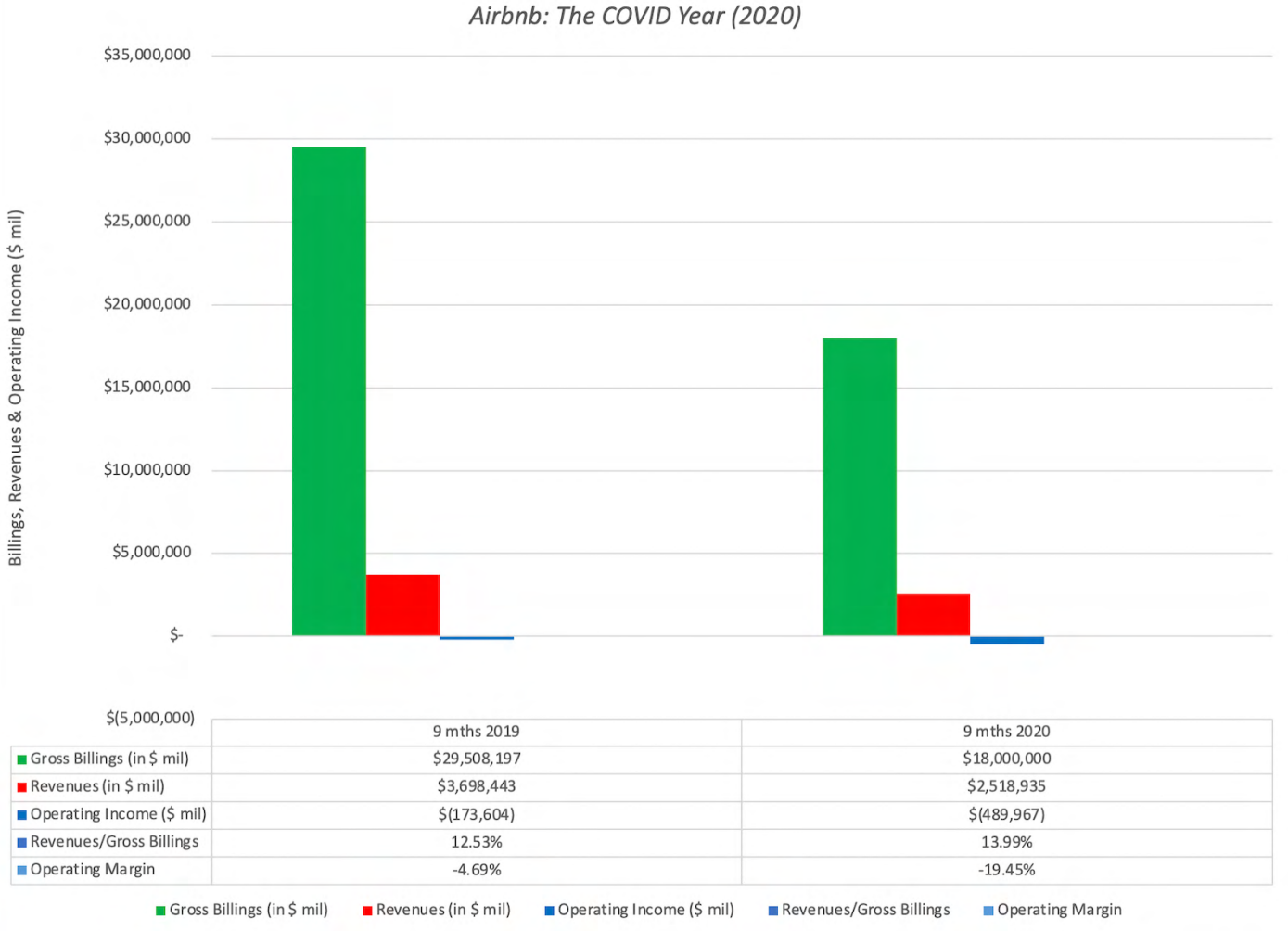
- Growth is high, but the rate is declining: It may seem churlish to take issue with a company that has grown its revenues more than five fold over a five-year period, but as the company's base gets bigger, its growth rate, not surprisingly, is also declining.
- Airbnb's revenue share has stayed stable: As gross bookings have increased, Airbnb's share of these bookings has remained stable, ranging from 12-13% of overall revenues. Note that the shift to the new business model for professional hosts (where Airbnb keeps 14% of the transaction revenue) is relatively recent, and it will take some time for that change to play out in the numbers.
- The company is edging towards profitability: To Airbnb's credit, it is closer to profitability than many of its high profile sharing-economy predecessors (such as Uber and Lyft) and the fact that it was able to report positive operating profits, albeit fleetingly in 2018, puts them ahead of the pack.

# The COVID Effect.. In nights booked





# And in financials..





# Prospectus Revelations: On Costs

## Airbnb: Cost and Profit Patterns

|                               | 2017         | 2018         | 2019         | LTM          |
|-------------------------------|--------------|--------------|--------------|--------------|
| Gross Bookings                | \$20,000,000 | \$29,400,000 | \$38,000,000 | \$26,491,803 |
| Revenues                      | \$ 2,561,721 | \$ 3,651,985 | \$ 4,805,239 | \$ 3,625,731 |
| COGS                          | \$ 1,043,429 | \$ 1,473,234 | \$ 2,011,387 | \$ 1,722,568 |
| Gross Profit                  | \$ 1,518,292 | \$ 2,178,751 | \$ 2,793,852 | \$ 1,903,163 |
| Product Development           | \$ 400,749   | \$ 579,193   | \$ 976,695   | \$ 973,576   |
| Sales & Marketing             | \$ 871,749   | \$ 1,101,327 | \$ 1,621,519 | \$ 982,523   |
| G&A                           | \$ 327,156   | \$ 479,487   | \$ 697,181   | \$ 628,001   |
| Restructuring Charges         |              |              |              | \$ 136,969   |
| Operating Profit              | \$ (81,362)  | \$ 18,744    | \$ (501,543) | \$ (817,906) |
|                               |              |              |              |              |
| Revenues/ Gross Bookings      | 12.81%       | 12.42%       | 12.65%       | 13.69%       |
| Gross Margin                  | 59.27%       | 59.66%       | 58.14%       | 52.49%       |
| Operating Margin              | -3.18%       | 0.51%        | -10.44%      | -22.56%      |
| COGS/Revenues                 | 40.73%       | 40.34%       | 41.86%       | 47.51%       |
| Product Development/ Revenues | 15.64%       | 15.86%       | 20.33%       | 26.85%       |
| Sales & Marketing/Revenues    | 34.03%       | 30.16%       | 33.74%       | 27.10%       |
| G&A/ Revenues                 | 12.77%       | 13.13%       | 14.51%       | 17.32%       |

Revenues as a % of gross billings has been relatively stable between 2017-19. In 2020, it did increase, perhaps because of the new host model.

Barring 2020, the direct operating expenses have been fairly stable at 40-42% of revenues. There is little evidence that scaling up is lowering this number.

Non-direct operating expenses (G&A, Selling and Product development) are all increasing as revenues grow, suggesting that growth demands are drowning out economies of scale, at least for the moment.

# Prospectus Revelations: On Proceeds & Control

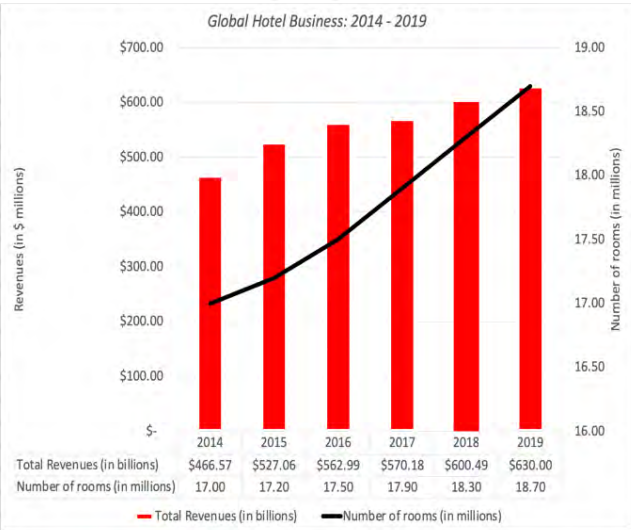
- Use of Proceeds: While the details are still being worked out, it is rumored that Airbnb is looking to raise about \$3 billion in proceeds on the offering date, and that while some of the proceeds will be used to retire existing debt, most of it will be held by the company to cover future investment needs.
- Share classes: In keeping with the practices of tech companies that have gone public in recent years, Airbnb has shares with different voting rights: class A shares with one voting right per share, class B shares with 20 voting rights per share, and class C & class H shares with no voting rights per share. Not surprisingly, the class B shares will be held by founders and other insiders, allowing them control of the company, even if they own well below 50% of all shares outstanding.

# An ESG Twist?

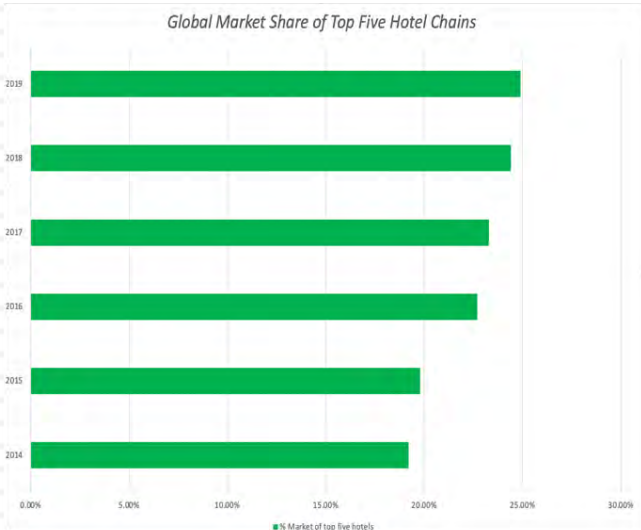
- It should come as no surprise that in an age where companies are valued on their "goodness", Airbnb is signaling it's intent to be socially responsible.
- Brian Chesky made explicit the corporate values for the company, including "having an infinite time horizon" and "serving all of our customers".
- In addition, the proceeds from the non-voting class H shares will be set aside is an endowment to serve Airbnb hosts, though it is not clear whether the primary intent is to give hosts a stake in the company's success, or to help them out during periods of need.
- I remain skeptical about ESG, but will hold off on passing judgment on whether this is just a public relations ploy.

# The Hospitality Business

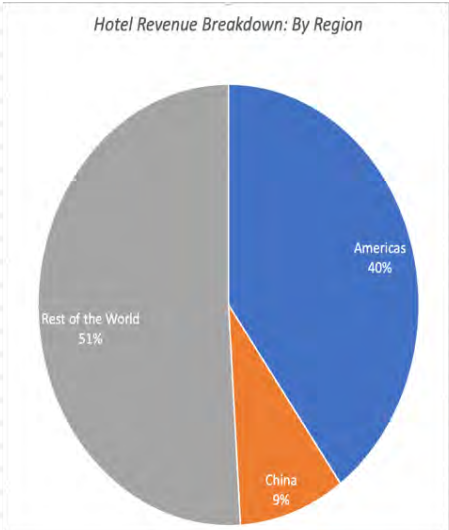
The market is big, but growth has slowed



It is concentrated, and getting more so...



The US is the biggest market, but China is growing.



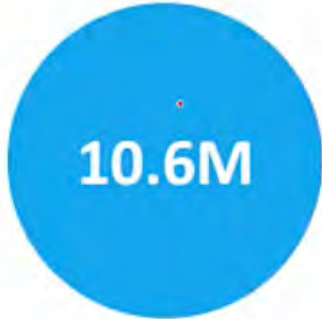
# Airbnb's TAM in 2011



**TRIPS BOOKED (WORDLWIDE)**  
Total Available Market



**BUDGET & ONLINE TRIPS**  
Serviceable Available Market



**TRIPS W/AB&B**  
Market Share



# Airbnb's TAM in 2020

- In its prospectus, Airbnb has expanded its estimate of market potential to \$3.4 trillion, as evidenced in this excerpt from the prospectus:
  - *We have a substantial market opportunity in the growing travel market and experience economy. We estimate our serviceable addressable market (“SAM”) today to be \$1.5 trillion, including \$1.2 trillion for short-term stays and \$239 billion for experiences. We estimate our total addressable market (“TAM”) to be \$3.4 trillion, including \$1.8 trillion for short-term stays, \$210 billion for long-term stays, and \$1.4 trillion for experiences.*
- In my view, Airbnb's targetable market falls somewhere in the middle, clearly higher than just the hotel business of \$600 billion, but below Airbnb's upper end estimate of \$2 trillion for this business.
- Given how much trouble Airbnb has had in the experiences business, I think Airbnb's estimate of \$1.4 trillion for that business is more fictional than even aspirational.

# The Players: Hotels

| Company Name  | Country/Region of Incorporation | Revenues (2019)     | Revenues (LTM)     | Operating Income (2019) | Operating Income (LTM) | Revenue Growth Rate (2015-2019) | Revenue change in LTM | Operating Margin (2019) | Operating Margin (LTM) |
|---|---------------------------------|---------------------|--------------------|-------------------------|------------------------|---------------------------------|-----------------------|-------------------------|------------------------|
| Marriott International, Inc. (NasdaqGS:MAR)           | United States                   | \$ 20,972.00        | \$13,770.00        | \$ 2,070.00             | \$ 675.00              | 14.41%                          | -42.93%               | 9.87%                   | 4.90%                  |
| Hilton Worldwide Holdings Inc. (NYSE:HLT)             | United States                   | \$ 9,452.00         | \$ 7,248.00        | \$ 1,565.00             | \$ 288.00              | 3.83%                           | -29.81%               | 16.56%                  | 3.97%                  |
| Huazhu Group Limited (NasdaqGS:HTHT)                  | Cayman Islands                  | \$ 1,724.92         | \$ 1,667.38        | \$ 302.70               | \$ (50.10)             | 15.00%                          | -4.42%                | 17.55%                  | -3.00%                 |
| InterContinental Hotels Group PLC (LSE:IHG)           | United Kingdom                  | \$ 4,627.00         | \$ 3,595.00        | \$ 837.00               | \$ 392.00              | 13.22%                          | -28.57%               | 18.09%                  | 10.90%                 |
| Accor SA (ENXTPA:AC)                                  | France                          | \$ 4,543.80         | \$ 3,421.10        | \$ 557.70               | \$ (405.10)            | -7.20%                          | -31.50%               | 12.27%                  | -11.84%                |
| Hyatt Hotels Corporation (NYSE:H)                     | United States                   | \$ 5,020.00         | \$ 4,772.00        | \$ 234.00               | \$ (334.00)            | -1.13%                          | -6.53%                | 4.66%                   | -7.00%                 |
| Choice Hotels International, Inc. (NYSE:CHH)          | United States                   | \$ 1,114.80         | \$ 826.00          | \$ 335.10               | \$ 180.90              | 8.02%                           | -32.95%               | 30.06%                  | 21.90%                 |
| Marriott Vacations Worldwide Corporation (NYSE:VAC)   | United States                   | \$ 4,355.00         | \$ 4,262.00        | \$ 564.00               | \$ 163.00              | 19.74%                          | -2.84%                | 12.95%                  | 3.82%                  |
| Wyndham Hotels & Resorts, Inc. (NYSE:WH)              | United States                   | \$ 2,053.00         | \$ 1,675.00        | \$ 464.00               | \$ 301.00              | NA                              | -23.76%               | 22.60%                  | 17.97%                 |
| Minor International Public Company Limited (SET:MINT) | Thailand                        | \$ 4,110.10         | \$ 2,359.80        | \$ 351.00               | \$ (415.90)            | 28.52%                          | -52.28%               | 8.54%                   | -17.62%                |
| Wyndham Destinations, Inc. (NYSE:WYND)                | United States                   | \$ 4,043.00         | \$ 1,947.00        | \$ 828.00               | \$ 198.00              | -5.20%                          | -62.25%               | 20.48%                  | 10.17%                 |
| Shangri-La Asia Limited (SEHK:69)                     | Bermuda                         | \$ 2,431.20         | \$ 1,689.80        | \$ 241.10               | \$ (133.10)            | 2.86%                           | -38.43%               | 9.92%                   | -7.88%                 |
| BTG Hotels (Group) Co., Ltd. (SHSE:600258)            | China                           | \$ 1,193.60         | \$ 833.00          | \$ 191.80               | \$ (48.90)             | 21.54%                          | -38.10%               | 16.07%                  | -5.87%                 |
| TUI AG (XTRA:TUI1)                                    | Germany                         | \$ 21,551.00        | \$15,999.40        | \$ 462.00               | \$ (1,191.30)          | -0.82%                          | -32.78%               | 2.14%                   | -7.45%                 |
| Pandox AB (publ) (OM:PNDX B)                          | Sweden                          | \$ 594.40           | \$ 277.90          | \$ 323.30               | \$ 210.70              | 8.62%                           | -63.71%               | 54.39%                  | 75.82%                 |
| Hilton Grand Vacations Inc. (NYSE:HGV)                | United States                   | \$ 1,670.00         | \$ 835.00          | \$ 328.00               | \$ 67.00               | 6.66%                           | -60.31%               | 19.64%                  | 8.02%                  |
| Mandarin Oriental International Limited (SGX:M04)     | Bermuda                         | \$ 566.50           | \$ 382.40          | \$ 71.00                | \$ (45.80)             | -3.58%                          | -40.79%               | 12.53%                  | -11.98%                |
| Extended Stay America, Inc. (NasdaqGS:STAY)           | United States                   | \$ 1,201.50         | \$ 1,052.30        | \$ 324.50               | \$ 175.50              | -0.20%                          | -16.20%               | 27.01%                  | 16.68%                 |
| Shanghai Jin Jiang International Hotels (SHSE:900934) | China                           | \$ 2,168.50         | \$ 1,593.20        | \$ 226.00               | \$ (55.70)             | 35.79%                          | -33.70%               | 10.42%                  | -3.50%                 |
| The Indian Hotels Company Limited (BSE:500850)        | India                           | \$ 660.10           | \$ 385.70          | \$ 99.90                | \$ (18.10)             | -0.27%                          | -51.15%               | 15.13%                  | -4.69%                 |
| Resorttrust, Inc. (TSE:4681)                          | Japan                           | \$ 1,734.40         | \$ 1,528.60        | \$ 190.60               | \$ 125.90              | 11.76%                          | -15.50%               | 10.99%                  | 8.24%                  |
| NH Hotel Group, S.A. (BME:NHH)                        | Spain                           | \$ 1,916.80         | \$ 1,066.70        | \$ 303.70               | \$ (167.00)            | 4.89%                           | -54.23%               | 15.84%                  | -15.66%                |
| The Hongkong and Shanghai Hotels, Limited (SEHK:45)   | Hong Kong                       | \$ 754.10           | \$ 569.90          | \$ 102.80               | \$ 13.40               | 0.03%                           | -31.16%               | 13.63%                  | 2.35%                  |
| GreenTree Hospitality Group Ltd. (NYSE:GHG)           | Cayman Islands                  | \$ 156.80           | \$ 135.20          | \$ 72.10                | \$ 49.30               | NA                              | -17.93%               | 45.98%                  | 36.46%                 |
| Meliá Hotels International, S.A. (BME:MEL)            | Spain                           | \$ 2,008.20         | \$ 1,025.50        | \$ 246.50               | \$ (426.60)            | 2.10%                           | -59.18%               | 12.27%                  | -41.60%                |
| Kyoritsu Maintenance Co., Ltd. (TSE:9616)             | Japan                           | \$ 1,582.90         | \$ 1,253.50        | \$ 135.70               | \$ (22.30)             | 11.69%                          | -26.74%               | 8.57%                   | -1.78%                 |
| Fattal Holdings (1998) Ltd (TASE:FTAL)                | Israel                          | \$ 1,546.70         | \$ 1,095.30        | \$ 227.20               | \$ 11.60               | 35.86%                          | -36.88%               | 14.69%                  | 1.06%                  |
| Fosun Tourism Group (SEHK:1992)                       | Cayman Islands                  | \$ 2,489.90         | \$ 1,812.30        | \$ 291.90               | \$ 135.10              | NA                              | -34.53%               | 11.72%                  | 7.45%                  |
| <b>Aggregate</b>                                      |                                 | <b>\$106,242.22</b> | <b>\$77,078.98</b> | <b>\$11,946.60</b>      | <b>\$ (327.50)</b>     | <b>5.23%</b>                    | <b>-34.81%</b>        | <b>11.24%</b>           | <b>-0.42%</b>          |
| <b>Median</b>   |                                 |                     |                    |                         |                        | <b>6.66%</b>                    | <b>-33.33%</b>        | <b>14.16%</b>           | <b>1.71%</b>           |

Margins vary widely, and are higher at fee-based, asset light firms, where another entity owns the real estate, and lower at asset-heavy model, where the hotel company owns the real estate.

Revenues have been growing at a moderate rate (6.66%) from 2014-19, but dropped 33.33% in LTM 2020.

# The Players: Booking Companies

|                         | Expedia      |             |                       | Booking.com |             |                       |
|-------------------------|--------------|-------------|-----------------------|-------------|-------------|-----------------------|
|                         | 2019         | 1TM         | % Change (Annualized) | 2019 LTM    | LTM         | % Change (Annualized) |
| Gross Bookings          | \$107,870.00 | \$52,470.00 | -51.75%               | \$96,400.00 | \$48,752.00 | -59.71%               |
| Revenues                | \$ 12,067.00 | \$ 7,026.00 | -51.38%               | \$13,066.00 | \$ 8,197.00 | -50.46%               |
| Operating Income        | \$ 161.00    | \$ (892.00) | NA                    | \$ 5,345.00 | \$ 3,881.00 | -76.85%               |
| Revenues/Gross Bookings | 11.19%       | 13.39%      |                       | 15.63%      | 18.25%      |                       |
| Operating Margin        | 7.95%        | -12.70%     |                       | 35.48%      | 20.58%      |                       |

### Business Model

Airbnb generates revenue from its revenues from selling and booking intermediaries. Expedia & Booking.com derive some of their revenues from bookings (agency services), but also have a merchant business (where they buy hotel rooms at discounted rates & sell them at higher prices) and an advertising revenue stream.

**Expedia:** Merchant (50%), Agency (47%), Ads (3%)

**Booking.com:** Merchant (25%), Agency (68%), Ads (7%)

**Startup Class vs Disruptive**  
Expedia & Booking.com derive most of their revenues from traditional hotel companies, whereas Airbnb plays a more disruptive role, allowing home owners to list their housing units for rent.

**The COVID effect**  
With the COVID shutdown, both Expedia & Booking.com saw a sharp drop in revenues in 2020, with the second quarter of 2020 being the worst so far.



# Airbnb vs Booking Companies

- Other businesses: Both Expedia and Booking.com also operate in other businesses that drive revenues and margins. First, they generate revenues by buying blocks of hotel rooms at a discount from hotels, and then reselling them at a higher price, in what they call the "merchant" business. Second, they also derive revenues from online advertising by hotels and travel providers. Expedia gets a much larger share (47%) of its revenues from the merchant business than Booking.com (25%), which may explain its lower margins.
- Status Quo vs Disruption: Both Expedia and Booking.com were designed to make money off the status quo and derived all of their revenues until recently from existing hotels and airlines. In reaction to Airbnb's success, both companies have tried to expand into the home and apartment rental businesses, but these listings still represent a small fraction of overall revenues.

# The Airbnb Story

- Continued Growth: Airbnb will continue to grow, while finding a pathway to profitability. Airbnb's growth in gross bookings will come not only from disrupting and taking market share from the hotel business, bad news for conventional hotel companies and travel providers who serves them, but also from continued expansion of non-conventional hospitality providers (home and apartment owners).
- Revenue share stable + Improving margins: As it grows, Airbnb's share of those gross bookings is likely to plateau at close to current levels, but its operating margins will continue to improve towards travel booking industry levels, as product development, marketing and G&A costs decrease, not in dollar terms, but as a percent of revenues.
- Experiences business is tangential: While Airbnb is enthusiastic about the experiences business, it is likely to remain a tangential business, contributing only marginally to revenues and profitability.
- Low Risk, for a young company: Since Airbnb has a light debt load and is closer to profitability than most of the sharing-economy companies that have gone public in recent years

**The Story**

Airbnb has brought the sharing economy to housing, connecting home owners (hosts) who own units or houses that they want to rent with renters (guests) online, collecting a percentage of the transaction revenues from both sides of the transaction. Its low capital intensity model and extended reach has allowed it to expand not only to almost every part of the world (220 countries) but also provide an unmatched range of offerings. The growth in gross bookings has started to slow down, as the company gets bigger, and the COVID shut downs made 2020 a regressive year. That said, as its competitors in the hotel business have been damaged far more by the crisis, Airbnb will be able to recover quickly from the crisis, and continue on its growth path. Economies of scale will allow for only mild improvements in revenues as a % of gross billings, but the brokerage-based business will generate high margins, in steady state, and require relatively little reinvestment.

**The Assumptions**

|                                 | Base year        | In 2021            | Years 2-5 | Years 6-10 | After year 10 | Link to story  |
|---------------------------------|------------------|--------------------|-----------|------------|---------------|--|
| Gross Bookings & Growth Rate    | \$ 26,491,803.00 | 40.00%             | 25.00%    |            | 2.00%         | Growth continues, as hotels scale back growth plans after COVID shock.       |
| Revenues as % of Gross Bookings | 13.69%           | 12.65%             |           |            | 14.00%        | Mild economies of scale allow slight increase in percent over time           |
| Operating margin (b)            | -13.69%          | -10.0%             |           |            | 25.00%        | Higher margins than the hotel business, but lower than ad driven businesses. |
| Tax rate                        | 25.00%           | 0.00%              |           |            | 25.00%        | Global/US marginal tax rate, after NOLs are used up.                         |
| Reinvestment (c)                |                  | Sales to Capital = |           | 2.00       | 20.00%        | Low capital intensity business   |
| Return on capital               | -25.61%          | Marginal ROIC =    |           | 65.81%     | 10.00%        | Networking benefits allow for high value growth                              |
| Cost of capital (d)             |                  |                    | 6.50%     | 7.23%      | 7.23%         | Cost of capital moves up over time.  |

**The Cash Flows**

|               | Gross Bookings    | Revenues      | Operating Margin | EBIT (1-t)   | Reinvestment | FCFF           |
|---------------|-------------------|---------------|------------------|--------------|--------------|----------------|
| 1             | \$ 37,088,524.20  | \$ 4,691,698  | -10.00%          | \$ (469,170) | \$ 532,984   | \$ (1,002,153) |
| 2             | \$ 46,360,655.25  | \$ 5,989,797  | -3.00%           | \$ (179,694) | \$ 649,049   | \$ (828,743)   |
| 3             | \$ 57,950,819.06  | \$ 7,565,479  | 0.50%            | \$ 37,827    | \$ 787,841   | \$ (750,014)   |
| 4             | \$ 72,438,523.83  | \$ 9,554,641  | 4.00%            | \$ 382,186   | \$ 994,581   | \$ (612,395)   |
| 5             | \$ 90,548,154.79  | \$ 12,065,542 | 7.50%            | \$ 777,799   | \$ 1,255,450 | \$ (477,651)   |
| 6             | \$ 109,019,978.36 | \$ 14,674,089 | 9.52%            | \$ 1,047,952 | \$ 1,304,274 | \$ (256,322)   |
| 7             | \$ 126,245,134.94 | \$ 17,163,026 | 13.39%           | \$ 1,723,792 | \$ 1,244,469 | \$ 479,323     |
| 8             | \$ 140,384,590.06 | \$ 19,274,804 | 17.26%           | \$ 2,495,269 | \$ 1,055,889 | \$ 1,439,380   |
| 9             | \$ 149,649,973.00 | \$ 20,748,969 | 21.13%           | \$ 3,288,271 | \$ 737,082   | \$ 2,551,189   |
| 10            | \$ 152,642,972.46 | \$ 21,370,016 | 25.00%           | \$ 4,006,878 | \$ 310,524   | \$ 3,696,354   |
| Terminal year | \$ 155,695,831.91 | \$ 21,797,416 | 25.00%           | \$ 4,087,016 | \$ 817,403   | \$ 3,269,612   |

**The Value**

|                                     |                      |  |         |
|-------------------------------------|----------------------|--|---------|
| Terminal value                      | \$ 62,516,491        |  |         |
| PV(Terminal value)                  | \$ 32,633,194        |  |         |
| PV (CF over next 10 years)          | \$ 1,234,582         |  |         |
| Value of operating assets =         | \$ 33,867,776        |  |         |
| Adjustment for distress             | \$ 1,693,389         | Probability of failure =   | 10.00%  |
| - Debt & Minority Interests         | \$ 2,192,381         |  |         |
| + IPO Proceeds                      | \$ 3,000,000         | Based upon early news stories. May change as final offering details are set. |         |
| + Cash & Other Non-operating assets | \$ 4,495,211         |  |         |
| <b>Value of equity</b>              | <b>\$ 37,477,217</b> |  |         |
| - Value of equity options           | \$ 1,351,835         |  |         |
| Number of shares                    | 935,298.09           | Filler for the moment. Will update when final prospectus is filed            |         |
| Value per share                     | \$ 38.62             | Stock was trading at =   | \$35.00 |

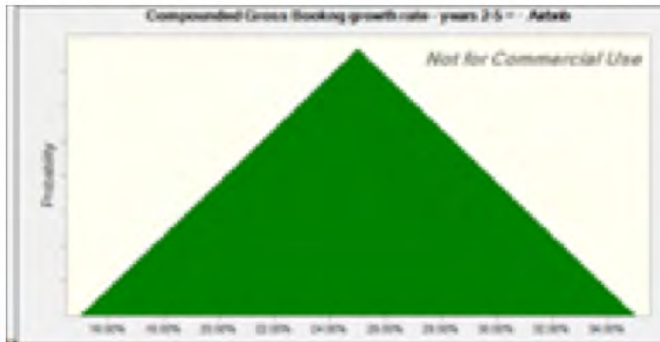
# The Key Drivers

| <b>Value of Airbnb Equity today (in \$ billions)</b> |  |            |            |            |            |
|--|--|------------|------------|------------|------------|
|  | <i>Target Operating Margin (in 2031)</i> |            |            |            |            |
| <i>Gross Billings in 2031 (in \$ billions)</i>       | <i>15%</i>                               | <i>20%</i> | <i>25%</i> | <i>30%</i> | <i>35%</i> |
| <i>\$100.00</i>                                      | \$14.44                                  | \$19.83    | \$25.22    | \$30.61    | \$35.99    |
| <i>\$125.00</i>                                      | \$16.86                                  | \$23.52    | \$30.17    | \$36.82    | \$43.87    |
| <i>\$150.00</i>                                      | \$19.42                                  | \$27.40    | \$35.38    | \$43.34    | \$51.30    |
| <i>\$175.00</i>                                      | \$21.78                                  | \$30.97    | \$40.16    | \$49.35    | \$58.53    |
| <i>\$200.00</i>                                      | \$24.22                                  | \$34.67    | \$45.11    | \$55.54    | \$65.98    |

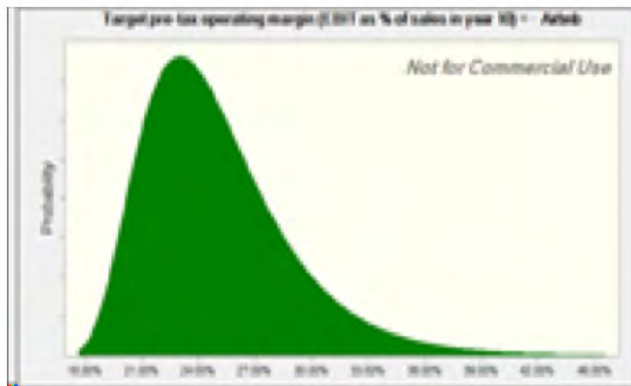


## Airbnb IPO: Simulation of Equity Value in November 2020

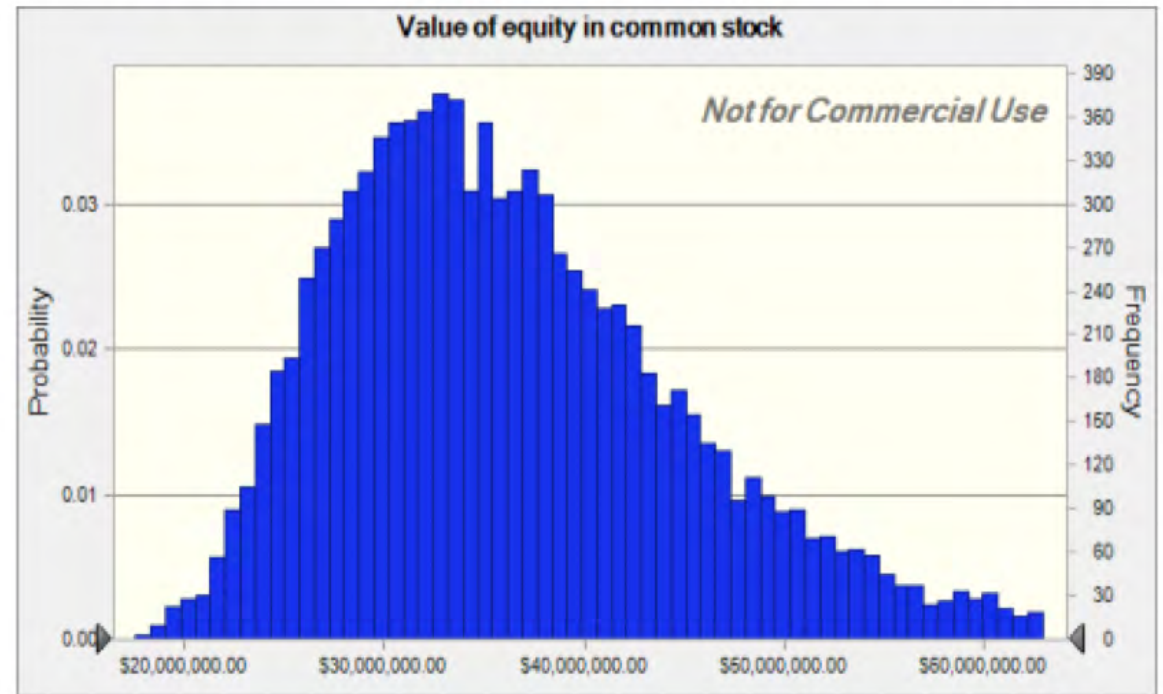
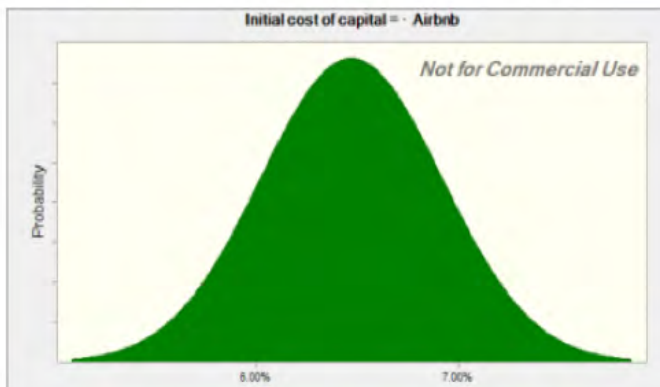
Growth rate in Gross Bookings: 2022-2025  
Expected = 25%, Max = 35%, Min = 15%



Target Operating Margin in year 10  
Expected = 25%, Std Dev = 4%



Cost of Capital (initial)  
Expected = 6.50%, Std Dev = 0.45%



| Percentile | Forecast values |
|------------|-----------------|
| 0%         | \$17,591,165    |
| 10%        | \$26,150,864    |
| 20%        | \$28,790,133    |
| 30%        | \$30,952,251    |
| 40%        | \$32,981,840    |
| 50%        | \$35,114,898    |
| 60%        | \$37,463,932    |
| 70%        | \$40,181,915    |
| 80%        | \$43,595,272    |
| 90%        | \$49,120,328    |
| 100%       | \$100,382,037   |

# Market Feedback

## Market Summary > Airbnb Inc NASDAQ: ABNB

+ Follow

**180.66** USD **-1.21 (0.66%)** ↓

Jan 25, 12:25 PM EST · Disclaimer

1 day   5 days   1 month   **6 months**   YTD   1 year   5 years   Max

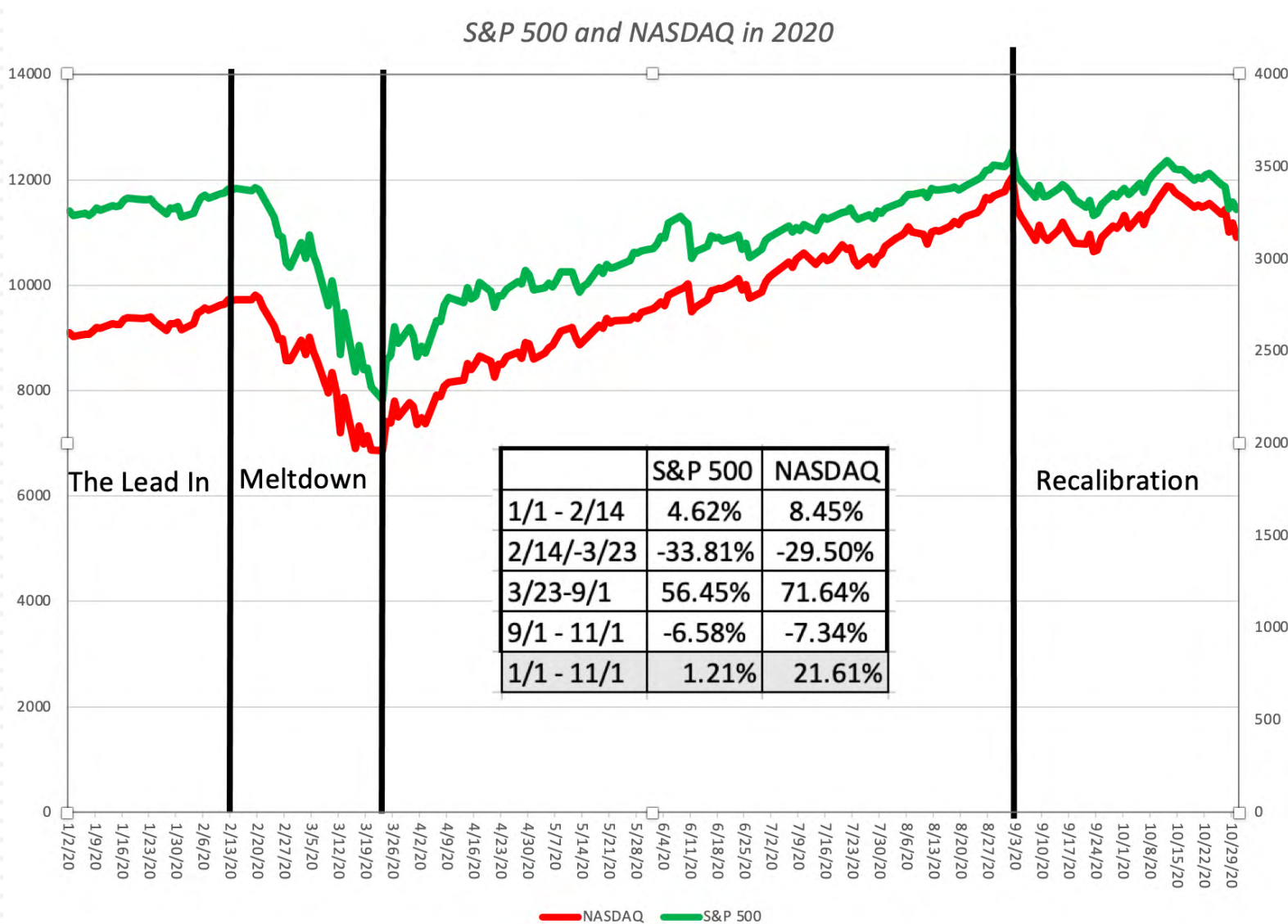


|           |         |            |        |
|-----------|---------|------------|--------|
| Open      | 186.05  | Div yield  | -      |
| High      | 192.47  | Prev close | 181.87 |
| Low       | 170.03  | 52-wk high | 192.47 |
| Mkt cap   | 108.62B | 52-wk low  | 121.50 |
| P/E ratio | -       |            |        |

# When a crisis hits, the dark side beckons...

- During a crisis, you will be told that you can no longer value companies with fundamentals, and that you have to play the trading game.
  - ▣ If your concept of valuation is downloading last year's financials for a company into a spread sheet and then using historical growth rates, with some mean reversion thrown in, to forecast future numbers, they are right.
  - ▣ If your notion of valuation is more dynamic and forward-looking, it is precisely at times like these that you need to go back to basics.
- More importantly, your story for the company matters more than ever before, since the numbers can no longer be used as a crutch.

# The COVID Crisis: US Equities, from February 14 to November 1, 2020





# Global Equities: By Region (in US \$)

| Sub Region                | Number of firms | Market Cap (\$ Millions) |              |              |              | \$ Change in Market Cap |              |                |              | % Change in Market Cap |           |          |             |
|---------------------------|-----------------|--------------------------|--------------|--------------|--------------|-------------------------|--------------|----------------|--------------|------------------------|-----------|----------|-------------|
|                           |                 | 2/14/20                  | 3/20/20      | 8/28/20      | 11/1/20      | 2/14 - 3/20             | 3/20- 9/1    | 9/1-11/1       | 2/14 - 11/1  | 2/14 - 3/20            | 3/20- 9/1 | 9/1-11/1 | 2/14 - 11/1 |
| Africa                    | 775             | \$ 551,313               | \$ 347,724   | \$ 453,676   | \$ 450,891   | \$ (203,590)            | \$ 105,953   | \$ (2,785)     | \$ (100,422) | -36.93%                | 30.47%    | -0.61%   | -18.22%     |
| Australia & NZ            | 1,544           | \$ 1,460,485             | \$ 867,789   | \$ 1,457,249 | \$ 1,377,797 | \$ (592,696)            | \$ 589,460   | \$ (79,452)    | \$ (82,688)  | -40.58%                | 67.93%    | -5.45%   | -5.66%      |
| Canada                    | 2,396           | \$ 2,069,846             | \$ 1,263,949 | \$ 2,025,929 | \$ 1,874,426 | \$ (805,897)            | \$ 761,980   | \$ (151,503)   | \$ (195,420) | -38.94%                | 60.29%    | -7.48%   | -9.44%      |
| China                     | 6,293           | \$13,955,224             | \$12,367,237 | \$16,742,877 | \$16,405,890 | \$ (1,587,987)          | \$ 4,375,641 | \$ (336,988)   | \$ 2,450,666 | -11.38%                | 35.38%    | -2.01%   | 17.56%      |
| EU & Environs             | 5,190           | \$13,195,783             | \$ 8,955,805 | \$12,849,117 | \$12,356,947 | \$ (4,239,979)          | \$ 3,893,312 | \$ (492,170)   | \$ (838,836) | -32.13%                | 43.47%    | -3.83%   | -6.36%      |
| Eastern Europe & Russia   | 494             | \$ 820,322               | \$ 495,278   | \$ 630,915   | \$ 543,773   | \$ (325,044)            | \$ 135,637   | \$ (87,142)    | \$ (276,549) | -39.62%                | 27.39%    | -13.81%  | -33.71%     |
| India                     | 3,314           | \$ 2,189,647             | \$ 1,510,005 | \$ 2,137,221 | \$ 2,074,926 | \$ (679,642)            | \$ 627,215   | \$ (62,295)    | \$ (114,721) | -31.04%                | 41.54%    | -2.91%   | -5.24%      |
| Japan                     | 3,732           | \$ 5,857,677             | \$ 4,367,763 | \$ 5,806,406 | \$ 5,793,928 | \$ (1,489,914)          | \$ 1,438,644 | \$ (12,479)    | \$ (63,749)  | -25.44%                | 32.94%    | -0.21%   | -1.09%      |
| Latin America & Caribbean | 1,164           | \$ 2,420,178             | \$ 1,418,615 | \$ 1,889,419 | \$ 1,764,617 | \$ (1,001,563)          | \$ 470,804   | \$ (124,802)   | \$ (655,561) | -41.38%                | 33.19%    | -6.61%   | -27.09%     |
| Middle East               | 1,430           | \$ 3,072,356             | \$ 2,555,641 | \$ 3,130,835 | \$ 3,056,482 | \$ (516,716)            | \$ 575,194   | \$ (74,353)    | \$ (15,875)  | -16.82%                | 22.51%    | -2.37%   | -0.52%      |
| Small Asia                | 8,625           | \$ 4,993,589             | \$ 3,496,975 | \$ 5,048,960 | \$ 4,995,842 | \$ (1,496,614)          | \$ 1,551,985 | \$ (53,118)    | \$ 2,253     | -29.97%                | 44.38%    | -1.05%   | 0.05%       |
| UK                        | 1,130           | \$ 2,899,163             | \$ 1,826,761 | \$ 2,506,942 | \$ 2,306,805 | \$ (1,072,402)          | \$ 680,181   | \$ (200,137)   | \$ (592,358) | -36.99%                | 37.23%    | -7.98%   | -20.43%     |
| United States             | 6,357           | \$33,844,978             | \$22,773,956 | \$35,589,058 | \$33,525,453 | \$(11,071,022)          | \$12,815,102 | \$ (2,063,605) | \$ (319,524) | -32.71%                | 56.27%    | -5.80%   | -0.94%      |
| Global                    | 42,445          | \$87,330,562             | \$62,247,496 | \$74,920,290 | \$87,744,240 | \$(25,083,065)          | \$12,672,794 | \$12,823,950   | \$ 413,679   | -28.72%                | 20.36%    | 17.12%   | 0.47%       |

# Global Equities: By Sector

| Primary Sector         | Number of firms | Market Cap (\$ Millions) |              |              |              | \$ Change in Market Cap |              |              |                | % Change in Market Cap |            |          |             |
|------------------------|-----------------|--------------------------|--------------|--------------|--------------|-------------------------|--------------|--------------|----------------|------------------------|------------|----------|-------------|
|                        |                 | 2/14/20                  | 3/20/20      | 8/28/20      | 11/1/20      | 2/14 - 3/20             | 3/20 - 9/1   | 9/1-11/1     | 2/14 - 11/1    | 2/14 - 3/20            | 3/20 - 9/1 | 9/1-11/1 | 2/14 - 11/1 |
| Communication Services | 2,079           | \$ 7,291,713             | \$ 5,460,948 | \$ 7,920,931 | \$ 7,605,693 | \$ (1,830,765)          | \$ 2,459,983 | \$ (315,238) | \$ 313,980     | -25.11%                | 45.05%     | -3.98%   | 4.31%       |
| Consumer Discretionary | 5,945           | \$10,153,097             | \$ 7,068,864 | \$11,850,184 | \$12,063,642 | \$ (3,084,232)          | \$ 4,781,319 | \$ 213,459   | \$ 1,910,546   | -30.38%                | 67.64%     | 1.80%    | 18.82%      |
| Consumer Staples       | 2,847           | \$ 7,168,482             | \$ 5,729,650 | \$ 7,641,382 | \$ 7,237,898 | \$ (1,438,832)          | \$ 1,911,731 | \$ (403,484) | \$ 69,416      | -20.07%                | 33.37%     | -5.28%   | 0.97%       |
| Energy                 | 1,654           | \$ 5,922,675             | \$ 3,847,829 | \$ 4,991,620 | \$ 4,444,401 | \$ (2,074,846)          | \$ 1,143,792 | \$ (547,220) | \$ (1,478,274) | -35.03%                | 29.73%     | -10.96%  | -24.96%     |
| Financials             | 4,356           | \$14,234,754             | \$ 9,514,353 | \$12,061,179 | \$11,412,865 | \$ (4,720,402)          | \$ 2,546,827 | \$ (648,315) | \$ (2,821,889) | -33.16%                | 26.77%     | -5.38%   | -19.82%     |
| Health Care            | 3,955           | \$ 8,905,753             | \$ 6,857,601 | \$ 9,949,643 | \$ 9,527,764 | \$ (2,048,152)          | \$ 3,092,042 | \$ (421,879) | \$ 622,012     | -23.00%                | 45.09%     | -4.24%   | 6.98%       |
| Industrials            | 7,560           | \$10,081,864             | \$ 6,865,944 | \$ 9,922,741 | \$ 9,576,177 | \$ (3,215,919)          | \$ 3,056,797 | \$ (346,564) | \$ (505,687)   | -31.90%                | 44.52%     | -3.49%   | -5.02%      |
| Information Technology | 5,577           | \$13,560,982             | \$ 9,707,739 | \$15,984,270 | \$14,992,176 | \$ (3,853,242)          | \$ 6,276,531 | \$ (992,094) | \$ 1,431,194   | -28.41%                | 64.65%     | -6.21%   | 10.55%      |
| Materials              | 5,705           | \$ 4,976,622             | \$ 3,514,149 | \$ 5,380,546 | \$ 5,200,887 | \$ (1,462,473)          | \$ 1,866,397 | \$ (179,658) | \$ 224,265     | -29.39%                | 53.11%     | -3.34%   | 4.51%       |
| Real Estate            | 1,842           | \$ 1,836,062             | \$ 1,353,453 | \$ 1,679,779 | \$ 1,585,009 | \$ (482,609)            | \$ 326,326   | \$ (94,769)  | \$ (251,053)   | -26.29%                | 24.11%     | -5.64%   | -13.67%     |
| Utilities              | 917             | \$ 3,196,558             | \$ 2,325,395 | \$ 2,884,510 | \$ 2,879,452 | \$ (871,163)            | \$ 559,115   | \$ (5,058)   | \$ (317,106)   | -27.25%                | 24.04%     | -0.18%   | -9.92%      |
| Global                 | 42,445          | \$87,330,562             | \$62,247,496 | \$74,920,290 | \$87,744,240 | \$ (25,083,065)         | \$12,672,794 | \$12,823,950 | \$ 413,679     | -28.72%                | 20.36%     | 17.12%   | 0.47%       |

# Value Transfers

| Grouping       | Risk On             | Returns (2/14/20 - 11/1/20) |                      | Risk Off             | Returns (2/14/20 - 11/1/20) |                      |
|----------------|---------------------|-----------------------------|----------------------|----------------------|-----------------------------|----------------------|
|                |                     | % Change                    | \$ Change (billions) |                      | % Change                    | \$ Change (billions) |
| PE             | High PE             | 6.07%                       | \$313.00             | Low PE               | -3.23%                      | -\$57.00             |
| PBV            | High PBV            | 13.96%                      | \$3,387.00           | Low PBV              | -16.21%                     | -\$204.00            |
| Dividend Yield | No or low Dividends | 5.20%                       | \$1,546.00           | High Dividend Yields | -16.06%                     | -\$1,448.00          |
| Corporate Age  | Young companies     | 19.26%                      | \$466.00             | Old companies        | -13.96%                     | -\$3,807.00          |
| Growth         | High growth         | 64.12%                      | \$2,049.00           | Low growth           | -27.62%                     | -\$2,218.00          |
| Size           | Small Market Cap    | 100.40%                     | \$4,119.00           | Large Market Cap     | -1.50%                      | -\$1,150.00          |
| Debt           | High debt           | -18.62%                     | -\$459.00            | Low debt             | 20.81%                      | \$526.00             |

Returns reported for firms in the highest and lowest deciles of each grouping, except for dividends, reported in quintiles.



# How crises affect stories...

- **Stories can expand:** For some companies, a crisis can expand stories
  - ▣ By allowing them to reach new customers and devise new business models that have staying power (Zoom, Peloton)
  - ▣ By being in the right place at the right time (Moderna)
  - ▣ By handicapping or damaging the competition (Tesla, Airbnb)
- **Stories can contract:** For other companies, a crisis can shrink stories
  - ▣ By making their markets smaller (cruise lines definitely, airlines maybe)..
  - ▣ By being in the wrong place at the wrong time (commodity companies)
- **And the risk of failure becomes real and can no longer be ignored:** And for all companies, a crisis can increase the likelihood of failure (story break).

# A Roadmap to Story Telling & Valuation in a crisis

1. Separate the near term from the long term: During a crisis, the near-term effects are likely to be both large and unpredictable (negative for most companies, but positive for a few). Estimate the near term effects on earnings and cash flows, using all of the information you have and bringing in views on how the macro economy will evolve.
2. Revisit your story for the company: Evaluate how your story for the company has changed as a result of the crisis, and play out its effect on your long term value inputs (revenue growth, margins and reinvestment)
3. Bring in failure risk: For your story to play out, the company has to survive. Incorporate, as best as you can, the likelihood that your company will not make it through.

**The Streaming Story**

With its technology and ease of use, Zoom is uniquely positioned to take advantage of a boom in online business/other meetings, driven partly by increased comfort on the part of managers with the technology and partly by costs. The Corona Virius will accelerate this shift to online meetings, increasing the overall market size, and while competitors will emerge, the networking benefits that Zoom builds up will allow it to keep a significant market share. Along the way, Zoom's margins will converge on the lofty margins earned by business and application software companies and the cost of capital will decline to reflect the fact that once mature it will be a diversified business services company, giving it the cost of capital of a mature company (at today's riskfree rate of 0.67%).

**The Assumptions**

|                      | Base year | Years 1-5                   | Years 6-10 |       | After year 10 | Link to story |
|----------------------|-----------|-----------------------------|------------|-------|---------------|---------------|
| Revenues (a)         | \$ 623    | 50.00%                      | 0.67%      |       | 0.67%         |               |
| Operating margin (b) | 9.70%     | 9.70%                       | 22.25%     |       | 22.25%        |               |
| Tax rate             | 25.00%    | 25.00%                      | 25.00%     |       | 25.00%        |               |
| Reinvestment (c)     |           | Sales to capital ratio 3.25 |            | RIR = | 6.70%         |               |
| Return on capital    | 23.66%    | Marginal ROIC = 74.66%      |            |       | 10.00%        |               |
| Cost of capital (d)  |           | 7.39%                       | 6.00%      |       | 6.00%         |               |

**The Cash Flows**

|               | Revenues  | Operating Margin | EBIT     | EBIT (1-t) | Reinvestment | FCFF     |
|---------------|-----------|------------------|----------|------------|--------------|----------|
| 1             | \$ 934    | 12.21%           | \$ 114   | \$ 86      | \$ 96        | \$ (10)  |
| 2             | \$ 1,401  | 14.72%           | \$ 206   | \$ 155     | \$ 144       | \$ 11    |
| 3             | \$ 2,102  | 17.23%           | \$ 362   | \$ 272     | \$ 215       | \$ 56    |
| 4             | \$ 3,152  | 19.74%           | \$ 622   | \$ 467     | \$ 323       | \$ 144   |
| 5             | \$ 4,729  | 22.25%           | \$ 1,052 | \$ 789     | \$ 485       | \$ 304   |
| 6             | \$ 6,626  | 22.25%           | \$ 1,474 | \$ 1,106   | \$ 584       | \$ 522   |
| 7             | \$ 8,632  | 22.25%           | \$ 1,921 | \$ 1,441   | \$ 617       | \$ 824   |
| 8             | \$ 10,393 | 22.25%           | \$ 2,313 | \$ 1,734   | \$ 542       | \$ 1,193 |
| 9             | \$ 11,488 | 22.25%           | \$ 2,556 | \$ 1,917   | \$ 337       | \$ 1,580 |
| 10            | \$ 11,565 | 22.25%           | \$ 2,573 | \$ 1,930   | \$ 24        | \$ 1,906 |
| Terminal year | \$ 11,643 | 22.25%           | \$ 2,591 | \$ 1,943   | \$ 130       | \$ 1,813 |

**The Value**

|                                     |           |                          |          |
|-------------------------------------|-----------|--------------------------|----------|
| Terminal value                      | \$ 34,011 |                          |          |
| PV(Terminal value)                  | \$ 17,331 |                          |          |
| PV (CF over next 10 years)          | \$ 3,721  |                          |          |
| Value of operating assets =         | \$ 21,052 |                          |          |
| Adjustment for distress             | \$ -      | Probability of failure = | 0.00%    |
| - Debt & Minority Interests         | \$ 119    |                          |          |
| + Cash & Other Non-operating assets | \$ 855    |                          |          |
| Value of equity                     | \$ 21,789 |                          |          |
| - Value of equity options           | \$ 868    |                          |          |
| Number of shares                    | 276.40    |                          |          |
| Value per share                     | \$ 75.69  | Stock was trading at =   | \$113.75 |



| Company             | Base Year Numbers           | Valuation Story   | Valuation Inputs                   | Value per Share (Simulation) |             | Pricing per share |              |
|---------------------|-----------------------------|---|------------------------------------|------------------------------|-------------|-------------------|--------------|
| Facebook            | Revenues = \$75 B           | <b>User Base pays off:</b><br>Immense & Intense user base allows for continued ad growth & new business potential.                      | Rev Growth = 10%                   | 10th:                        | \$ 267.77   |                   |              |
|                     | EBIT = \$27.9 B             |   | Target Margin = 40%                | 25th:                        | \$ 293.89   | Price =           | \$262.59     |
|                     | Oper. margin =44.3%         |   | Sales to capital = 2.64            | Median:                      | \$ 327.68   | Under/Over =      | Under valued |
|                     | Rev Growth (LTM) = 13.02%   |   | Cost of capital = 6.08%            | 75th:                        | \$ 364.79   | % under/over      | -19.86%      |
|                     |                             |   |                                    | 90th:                        | \$ 398.85   | IRR               | 7.16%        |
| Amazon              | Revenues = \$ 322 B         | <b>Disruption Platform rolls on:</b> Continue to expand into new businesses, delaying profitability to deliver higher growth.           | Rev Growth = 20%                   | 10th:                        | \$1,479.65  |                   |              |
|                     | EBIT = \$16.7 B             |   | Target Margin = 12%                | 25th:                        | \$ 1,969.46 | Price =           | \$3,260.48   |
|                     | Oper. margin = 7.99%        |   | Sales to capital = 1.94            | Median:                      | \$ 2,778.22 | Under/Over =      | Over valued  |
|                     | Rev Growth (LTM) = 31.58%   |   | Cost of capital = 6.11%            | 75th:                        | \$ 3,617.74 | % under/over      | 17.36%       |
|                     |                             |   |                                    | 90th:                        | \$ 4,295.58 | IRR               | 5.77%        |
| Netflix             | Revenues = \$ 22.6 B        | <b>Streaming Player:</b> Wiith new competitors, will continue to add subscribers, but struggle to control content costs.                | Value/Existing Subscriber = \$446. | 10th:                        | \$ 312.79   |                   |              |
|                     | # Subscribers = 192.3 mil   |   | Growth in Subscribers = 12%        | 25th:                        | \$ 372.49   | Price =           | \$484.53     |
|                     | Growth in LTM = 27.3%       |   | Growth in Content Costs = 5%       | Median:                      | \$ 445.53   | Under/Over =      | Over valued  |
|                     | Cost/New Subscriber = \$103 |   | Cost of capital (Existing)= 6.5%   | 75th:                        | \$ 519.34   | % under/over      | 8.75%        |
|                     | Content Cost = \$9.95 B     |   | Cost of capital (New) = 7.5%       | 90th:                        | \$ 585.58   | IRR               | 6.16%        |
| Google/<br>Alphabet | Revenues = \$166 B          | <b>More than a Search Engine:</b> While the search box will continue to be the money-maker, other bets will start to pay off in growth. | Rev Growth = 8%                    | 10th:                        | \$ 1,165.57 |                   |              |
|                     | EBIT = \$33.4 B             |   | Target Margin = 24%                | 25th:                        | \$ 1,267.31 | Price =           | \$1,544.61   |
|                     | Oper. margin = 23.8%        |   | Sales to capital = 2.64            | Median:                      | \$ 1,406.96 | Under/Over =      | Over valued  |
|                     | Rev Growth (LTM) = 5.22%    |   | Cost of capital = 6.25%            | 75th:                        | \$ 1,551.26 | % under/over      | 9.78%        |
|                     |                             |   |                                    | 90th:                        | \$ 1,676.02 | IRR               | 5.87%        |
| Apple               | Revenues = \$274 B          | <b>Cash Machine revs up:</b><br>The iPhone will keep the cash machine going up, but services business will be growth driver.            | Rev Growth = 8%                    | 10th:                        | \$ 285.67   |                   |              |
|                     | EBIT = \$52.6 B             |   | Target Margin = 26%                | 25th:                        | \$ 312.28   | Price =           | \$462.83     |
|                     | Oper. margin = 25.9%        |   | Sales to capital =4.00             | Median:                      | \$ 350.22   | Under/Over =      | Over valued  |
|                     | Rev Growth (LTM) = 7.07%    |   | Cost of capital = 6.58%            | 75th:                        | \$ 390.66   | % under/over      | 32.15%       |
|                     |                             |   |                                    | 90th:                        | \$ 425.04   | IRR               | 5.30%        |
| Microsoft           | Revenues = \$143 B          | <b>Old company Reborn:</b><br>Cloud/software business mix will continue to deliver growth with high margins.                            | Rev Growth = 12%                   | 10th:                        | \$ 143.98   |                   |              |
|                     | EBIT = \$52.6 B             |   | Target Margin = 40%                | 25th:                        | \$ 157.81   | Price =           | \$209.70     |
|                     | Oper. margin =40.1%         |   | Sales to capital = 1.44            | Median:                      | \$ 176.66   | Under/Over =      | Over valued  |
|                     | Rev Growth (LTM) = 13.65%   |   | Cost of capital = 7.11%            | 75th:                        | \$ 196.77   | % under/over      | 18.70%       |
|                     |                             |   |                                    | 90th:                        | \$ 214.83   | IRR               | 6.32%        |