A VALUATION UPDATE

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The Basis for Valuation

Theme 1: Characterizing Valuation as a discipline

- In a science, if you get the inputs right, you should get the output right. The laws of physics and mathematics are universal and there are no exceptions. **Valuation is not a science**.
- In an art, there are elements that can be taught but there is also a magic that you either have or you do not. The essence of an art is that you are either a great artist or you are not. **Valuation is not an art.**
- A craft is a skill that you learn <u>by doing</u>. The more you do it, the better you get at it. **Valuation is a craft.**

Theme 2: Valuing an asset is not the same as pricing that asset

Drivers of intrinsic value
- Cashflows from existing assets
- Growth in cash flows
- Quality of Growth

Drivers of price
- Market moods & momentum
- Surface stories about fundamentals

Accounting Estimates

Valuation Estimates

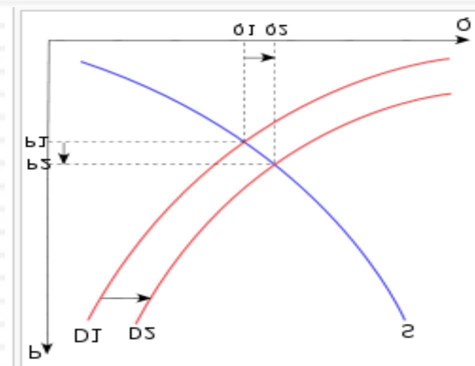
INTRINSIC VALUE

Value

THE GAP
Is there one?
If so, will it close?
If it will close, what will cause it to close?

Price

PRICE



Theme 3: Good valuation = Story + Numbers

Favored Tools
- Accounting statements
- Excel spreadsheets
- Statistical Measures
- Pricing Data

A Good Valuation

Favored Tools
- Anecdotes
- Experience (own or others)
- Behavioral evidence

The Numbers People ⟷ The Narrative People

Illusions/Delusions
1. Precision: Data is precise
2. Objectivity: Data has no bias
3. Control: Data can control reality

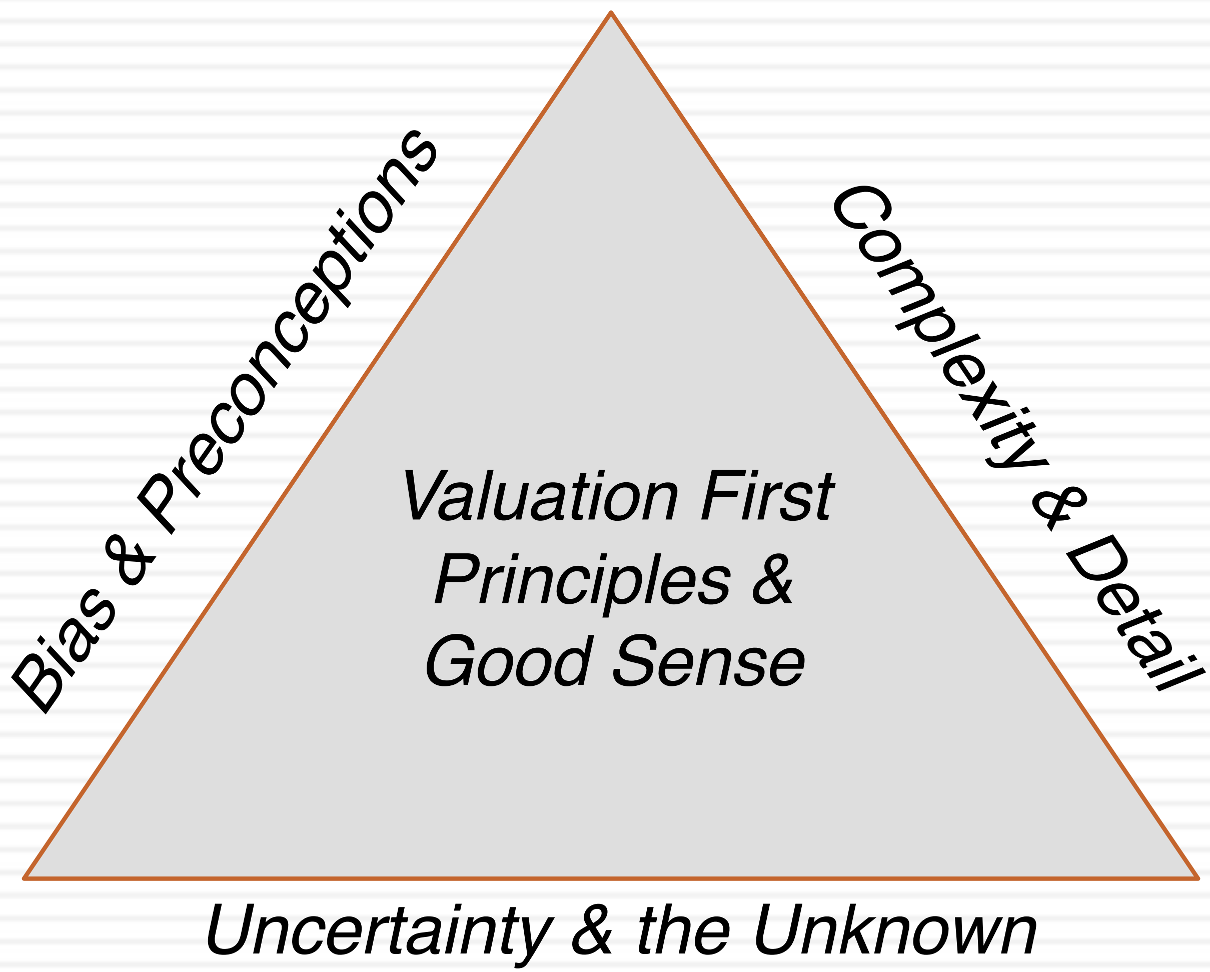
Illusions/Delusions
1. Creativity cannot be quantified
2. If the story is good, the investment will be.
3. Experience is the best teacher

Theme 4: If you value something, you should be willing to act on it..

- There is very little theory in valuation and I am not sure what an academic valuation would like like and am not sure that I want to find out.
- Pragmatism, not purity: The end game is to estimate a value for an asset. I plan to get there, even if it means taking short cuts and making assumptions that would make purists blanch.
- To act on your valuations, you have to have faith in
  - In your own valuation judgments.
  - In markets: that prices will move towards your value estimates.

That faith will have to be earned.

The Bermuda Triangle of Valuation



Valuing the Market

The ”One” Metric

- Investors are often in search of a single metric that will tell them whether a market is under or over valued, and consequently whether they should buying or selling holdings in that market.
- With equities, the metric that has been in use the longest is the PE ratio, modified in recent years to the CAPE, where earnings are normalized (by averaging over time) and sometimes adjusted for inflation.
  - That metric, though, has been signaling that stocks are over valued for most of the last decade, a ten-year period when stocks delivered blockbuster returns.
  - The failures of the signal have been variously attributed to low interest rates, accounting mis-measurement of earnings (especially at tech companies), and by some, to animal spirits.
- In this post, I offer an alternative, albeit a more complicated, metric that I believe not only offers a more comprehensive measure of pricing levels, but also a barometer of the ups and downs in the market in 2020.

The Price of Risk

Risk Premium	This is the "extra" return you demand for investing in a risky investment. It will be a function of (a) how risk averse you are, with premium increasing with risk aversion. (b) how much risk is perceive in the investment, with premium higher for riskier investments.
Risk free Rate	Expected return on an investment with guaranteed cash flows

The ERP on January 1, 2021

In 2020, COVID caused major drops in both earnings & cash return from 2019 levels

Base year cash flow (last 12 mths)
Dividends (TTM): 58.89
+ Buybacks (TTM): 68.89
= Cash to investors (TTM): **127.78**

Expected earnings/cashflow growth in next 5 years
Earnings for next year based upon analyst estimates for 2021 and 10.15% growth in earnings from 2021-25, mostly a recovery from COVID drop in 2020.

Actual numbers | Forecasted numbers

	2019	*Last 12 months*	2021	2022	2023	2024	2025	*Terminal Year*
Expected Earnings	$ 163.00	$123.35	138.55	152.62	168.11	185.18	203.98	205.88
Expected cash payout as % of earnings	89.76%	103.59%	89.09%	90.21%	91.33%	92.46%	93.58%	93.58%
Expected Dividends + Buybacks =	$ 146.31	$127.78	$123.43	$137.67	$153.54	$171.21	$190.88	192.66

Earnings and Cash flows grow @0.93% (set equal to risk free rate) a year forever.

S&P 500 on 1/1/21= **3756.07**

$$3756.07 = \frac{123.43}{(1+r)} + \frac{137.67}{(1+r)^2} + \frac{153.54}{(1+r)^3} + \frac{171.21}{(1+r)^4} + \frac{190.88}{(1+r)^5} + \frac{190.88\,(1.0093)}{(r-.0093)(1+r)^5}$$

The last term in this equation is the expected index level at the end of year 5 (capturing price appreciation)

Solve for r

r = Implied Expected Return on Stocks = 5.65%

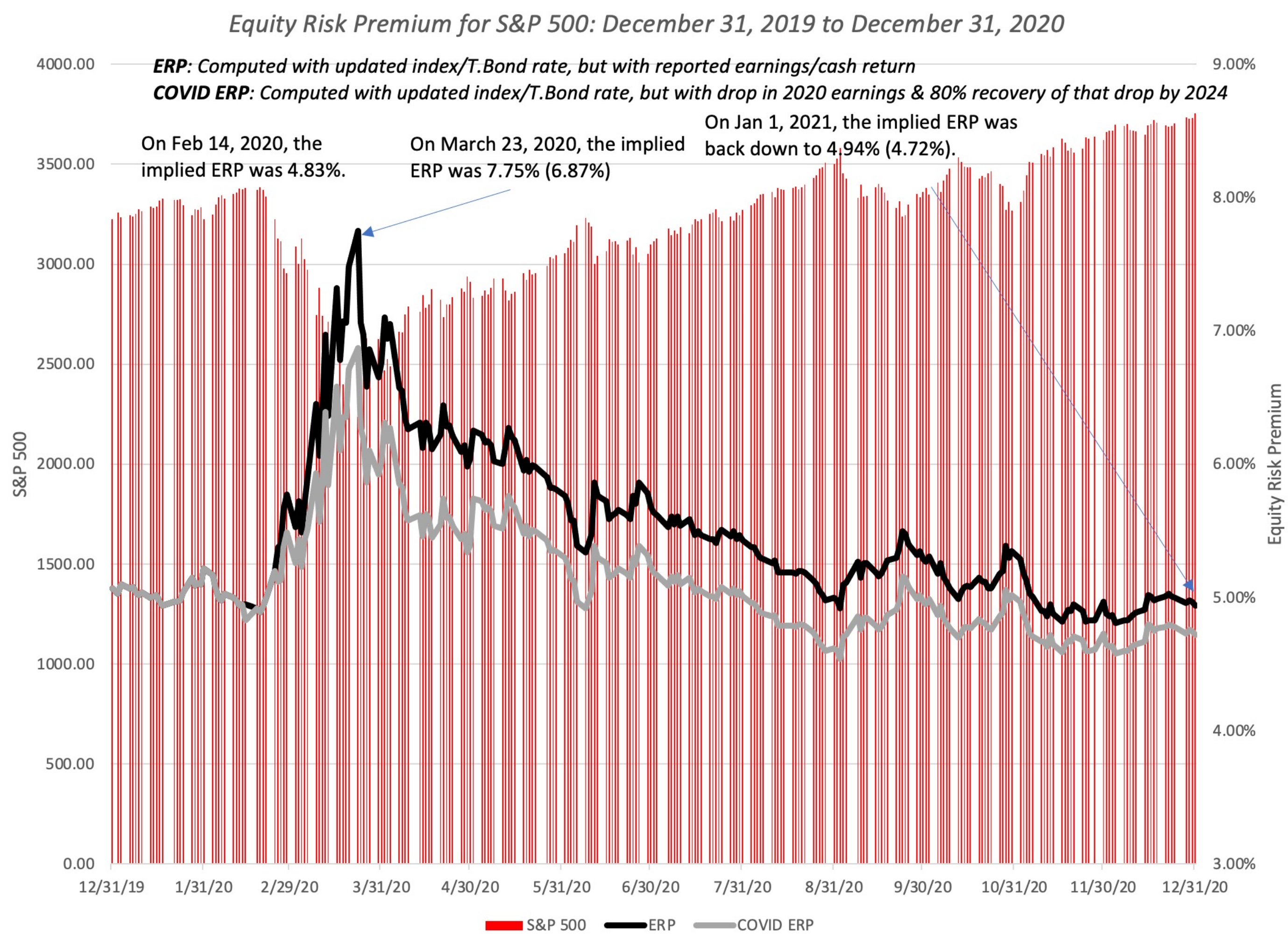
Minus

Risk free rate = T.Bond rate on 1/1/21= 0.93%

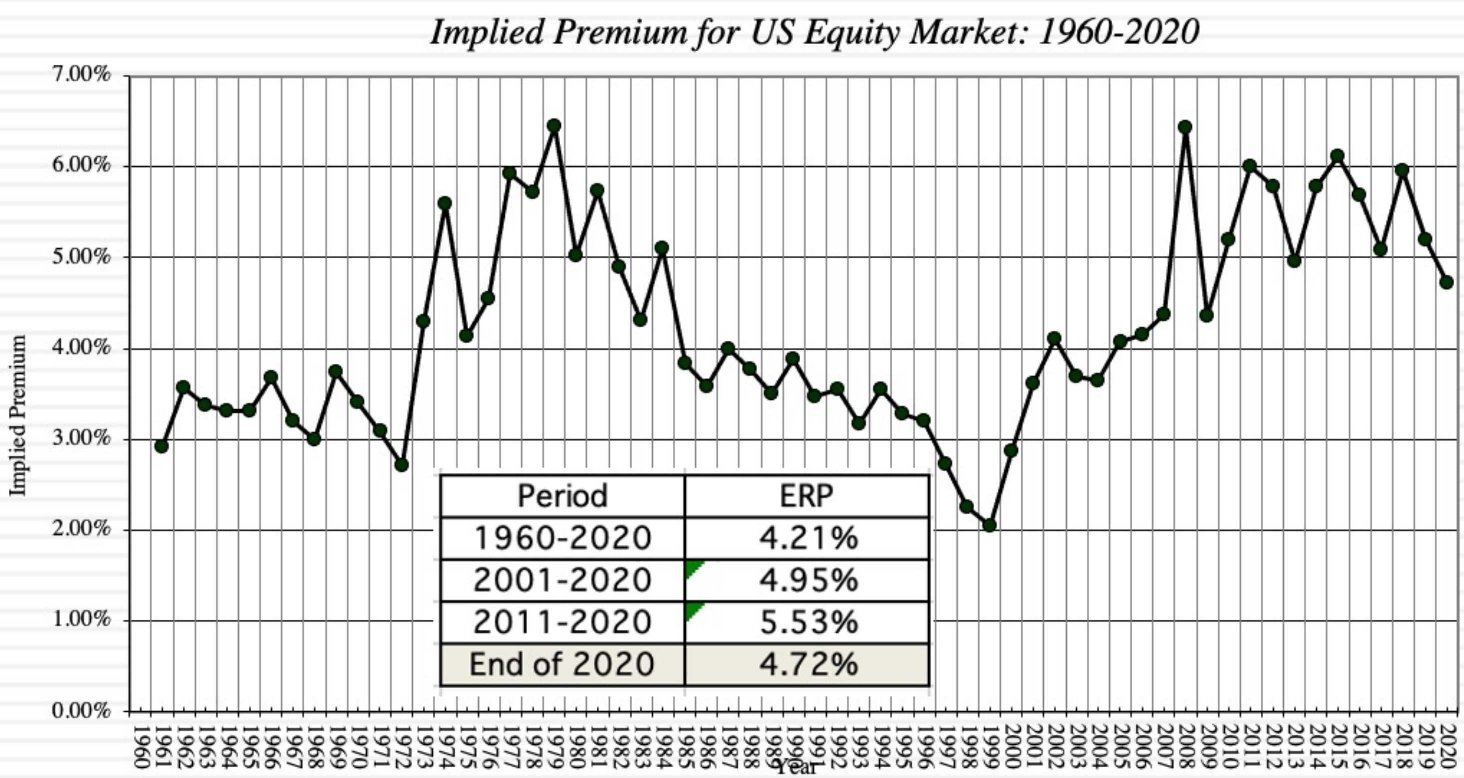
Equals

Implied Equity Risk Premium (1/1/21) = 5.65% - 0.93% = 4.72%

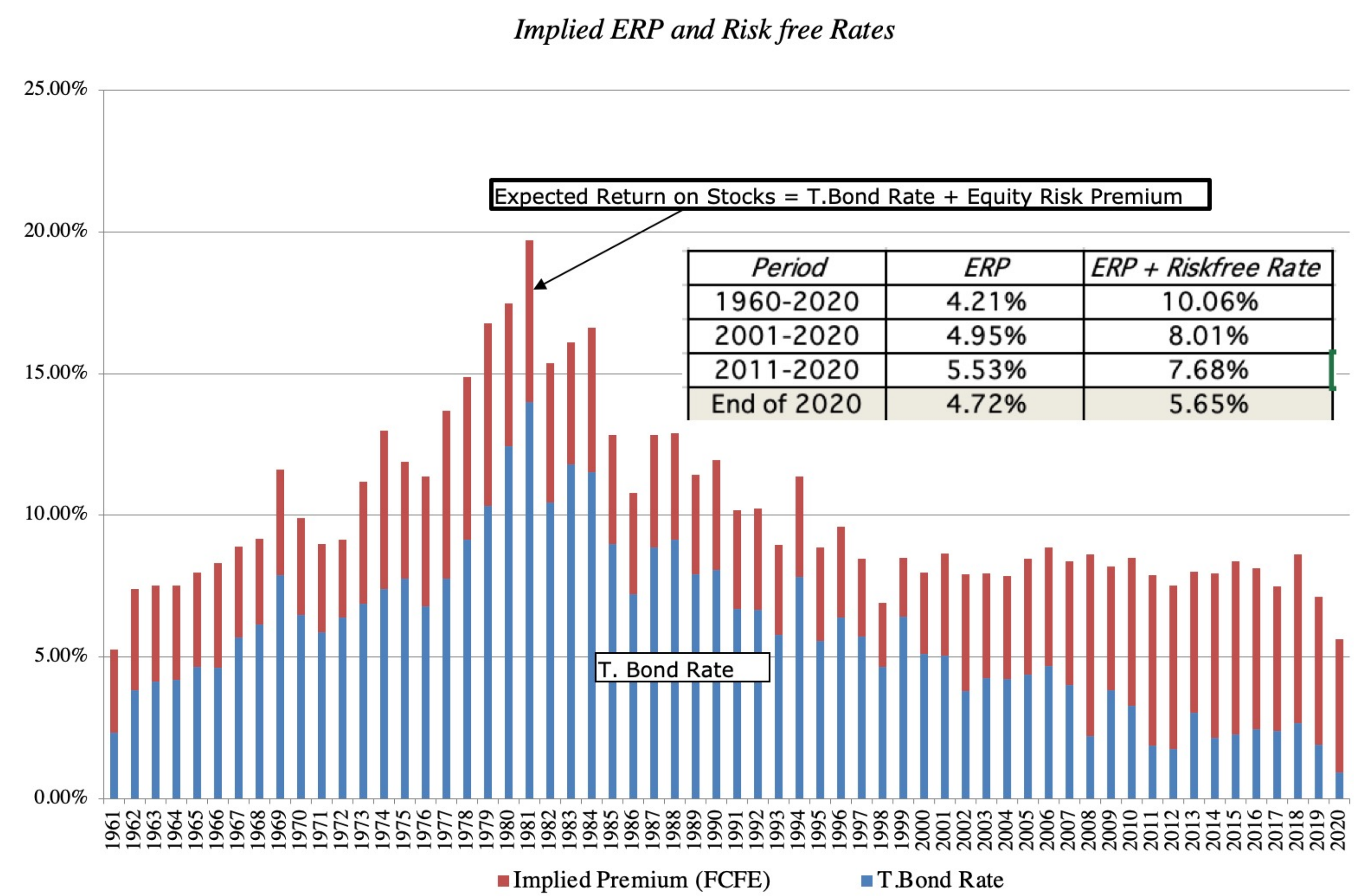
And the wild ride in 2020…



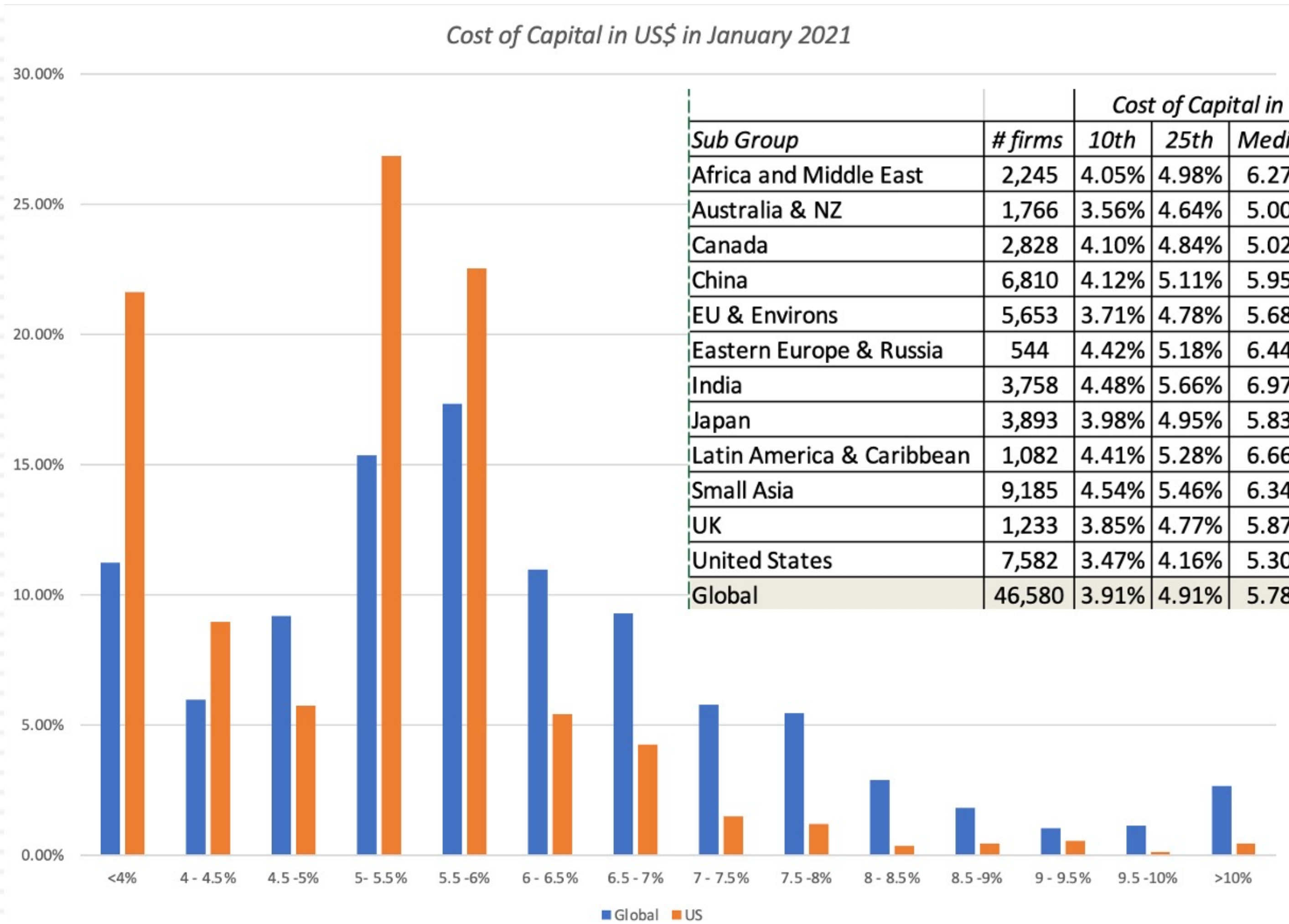
Comparison to History



But, there is a cautionary note….



Playing out in costs of capital



		Cost of Capital in US$: Percentiles				
Sub Group	*# firms*	*10th*	*25th*	*Median*	*75th*	*90th*
Africa and Middle East	2,245	4.05%	4.98%	6.27%	8.01%	10.14%
Australia & NZ	1,766	3.56%	4.64%	5.00%	5.33%	5.93%
Canada	2,828	4.10%	4.84%	5.02%	5.35%	5.98%
China	6,810	4.12%	5.11%	5.95%	6.64%	7.60%
EU & Environs	5,653	3.71%	4.78%	5.68%	6.72%	8.28%
Eastern Europe & Russia	544	4.42%	5.18%	6.44%	7.67%	8.71%
India	3,758	4.48%	5.66%	6.97%	7.69%	8.25%
Japan	3,893	3.98%	4.95%	5.83%	6.44%	7.03%
Latin America & Caribbean	1,082	4.41%	5.28%	6.66%	8.29%	10.92%
Small Asia	9,185	4.54%	5.46%	6.34%	7.51%	8.94%
UK	1,233	3.85%	4.77%	5.87%	6.37%	6.81%
United States	7,582	3.47%	4.16%	5.30%	5.73%	6.32%
Global	46,580	3.91%	4.91%	5.78%	6.73%	7.90%

To value the market…

- Earnings on the index: You cannot value a market based upon last year's earnings (though many do so). Investing is about the future, and uncomfortable as it makes you, you have to make estimates for the future. With an index like the S&P 500, you can even outsource these estimates, by looking at consensus forecasts from analysts tracking the index.
- Cash returned, relative to earnings: Since it is cash returned to stockholders that drives value, you also have to make judgments on what percent of earnings will be returned to stockholders, either in dividends or buybacks. To this, you can look to history, but recognize that it is also a function of the confidence that companies have about the future, with more confidence leading to higher cash being returned.
- Risk free rates over time: While it is generally not a good idea to play interest rate forecaster, we are in unusual times, especially because your views on future growth in the economy are intertwined with what will happen to risk free rates.
- An acceptable ERP: As I noted in the last section, equity risk premiums have been volatile over time, and particularly so in years in 2020. The equity risk premium, added to the risk free rate, will determine what you need stock returns to be, to break even on a risk-adjusted basis.

My S&P 500 valuation on Jan 1, 2021

Valuing the S&P 500 on January 1, 2021

Expected earnings in 2021 & 2022 represent consensus estimates for earnings on the S&P 500 from analysts. After 2022, earnings grow at the same rate as the riskfree rate.

Assume that the **10-year T.Bond rate** will rise garudally over the next 5 years to 2%.

Intrinsic Value Estimate (based on your choice of ERP)							
	2020	1	2	3	4	5	*Terminal Year*
Expected Earnings	$138.12	169.18	197.20	200.36	203.96	208.04	212.20
Expected cash payout as % of earnings	70.00%	75.00%	78.16%	81.33%	84.49%	87.65%	87.65%
Expected Dividends + Buybacks =	$96.68	$126.89	$154.14	$162.94	$172.33	$182.36	186.00
Expected Terminal Value =						$ 3,720.08	
Riskfree Rate	1.00%	1.20%	1.40%	1.60%	1.80%	2.00%	2.00%
Required Return on Stocks	6.00%	6.20%	6.40%	6.60%	6.80%	7.00%	7.00%
Present Value =		$ 119.48	$ 136.41	$ 135.27	$ 133.96	$ 2,835.03	
Intrinsic Value of Index =	**3360.14**	*Present value of expected cash flows & terminal value*					
Intrinsic Trailing PE =	**19.86**	*Based upon estimated earnings for 2020*					
Intrinsic CAPE =	**29.49**	*Based upon 10-year average earnings, adjusted for inflation*					
Level of the Index (1/1/21)	**3756.07**						
% Under or Over Valuation	**11.78%**						

Expected cash payout of 75% in 2021 is well below the 93% returned in 2019 & the 88% ten-year average but a step above the 70% returned in 2020. Over 2022-25, it moves to the payout in the terminal year, which is based upon a growth rate = risk freee rate and a ROE of 16.20% (2019 estimate for the S&P 500):
Payout ratio = 1 - g/ ROE

Required Return = T.Bond Rate + ERP. I am using a 5% ERP, higher than the 4.21% average from 1960-2020, but lower than the 5.5% average in the last decade.

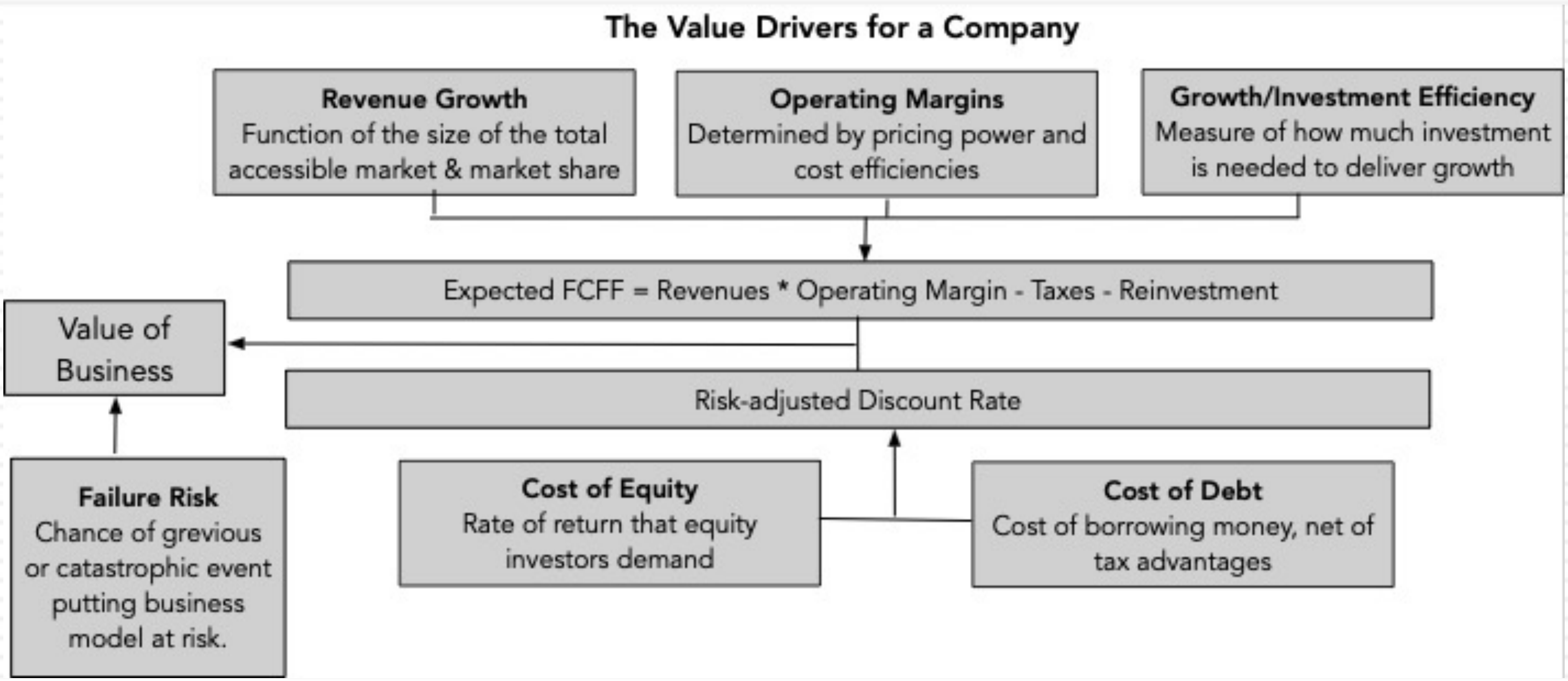
The Drivers.. And Scenarios

	Economy strong	Economy weak
Interest rates stay low	Goldilocks market, with interest rates staying low (1%), earnings above expectations (+10%) and ERP drifting back to historic norms (4.2%). Index is undervalued by 19.83%	Big Bear market, with interest rates low (1%), earnings below expectations (-5%) and ERP moving to crisis levels (5.5%). Index is overvalued by 23.07%
Interest rates rise gradually	Reality-check market, with interest rates rising gradually (to 2%), earnings above expectations (+5%) and ERP settling in at 5%. Index is overvalued by 6.46 %	Big Bear market, with interest rates rising gradually (to 2%), earnings below expectations (-5%) and ERP moving to crisis levels (5.5%). Index is overvalued by 30.42%
Interest rates rise quickly	Rate Shock market, with interest rates rising quickly (to 2%), earnings at expectations and ERP settling in at 5%. Index is overvalued by 13.21%	Meltdown market, with interest rates rising quickly (to 2%), earnings below expectations (-10%) and ERP moving to crisis levels (5.5%). Index is overvalued by 39.41%

Of Disruption and Value

A Life Cycle View of Uncertainty

Value: The Drivers



Healthy Valuation = Story + Numbers

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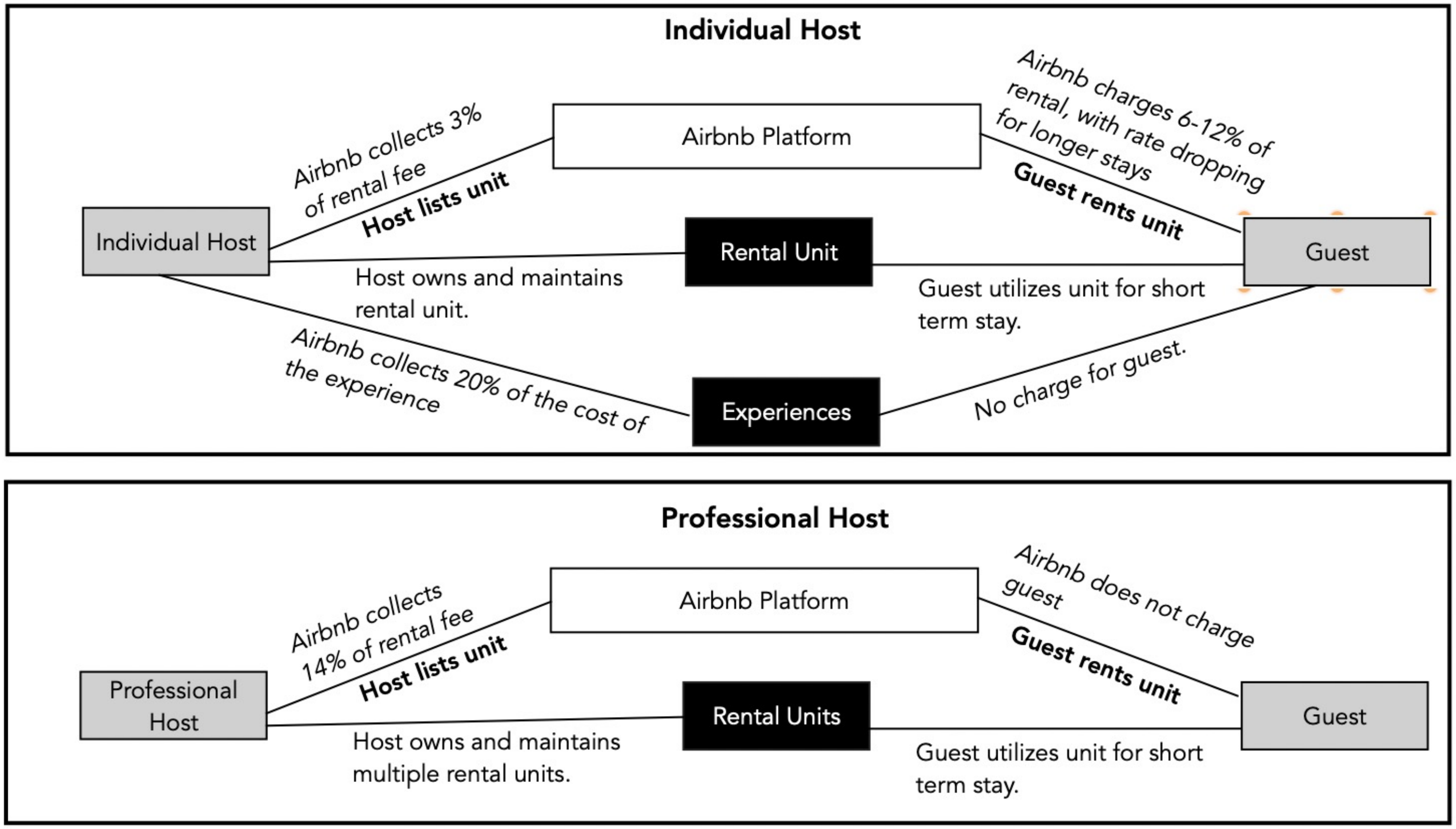
The steps in valuation

Let’s start with its business model

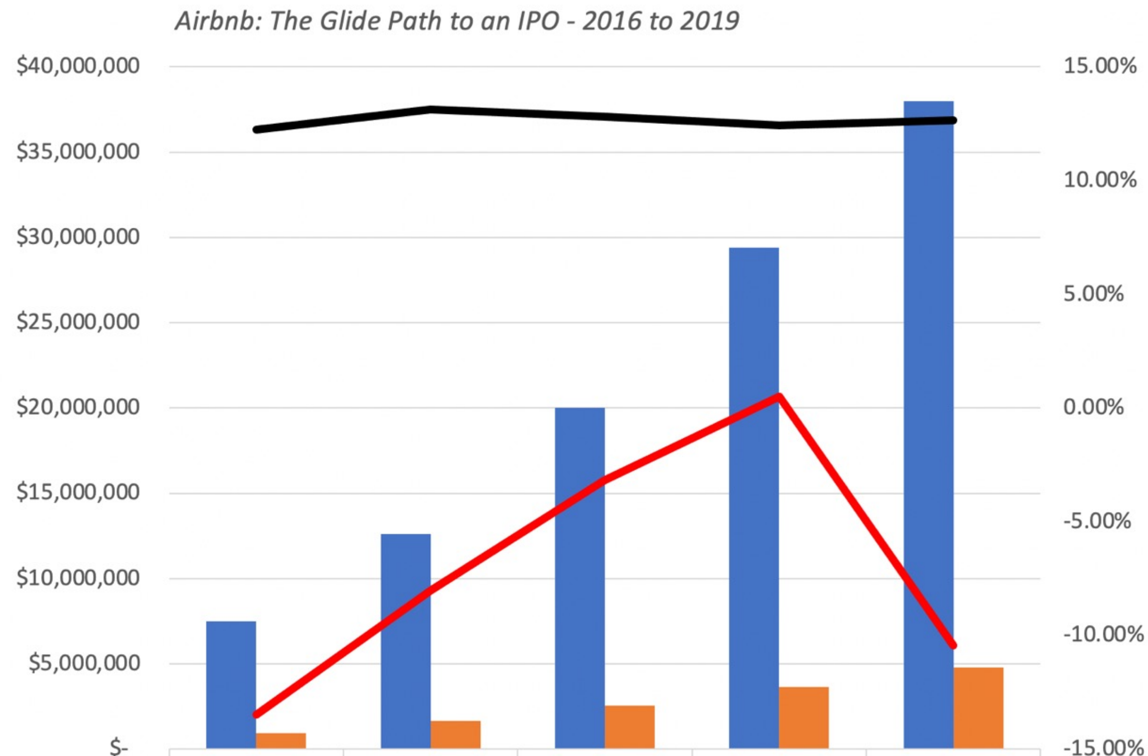


In 2019, there were 4 million hosts on the platform.

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 milllion nights.

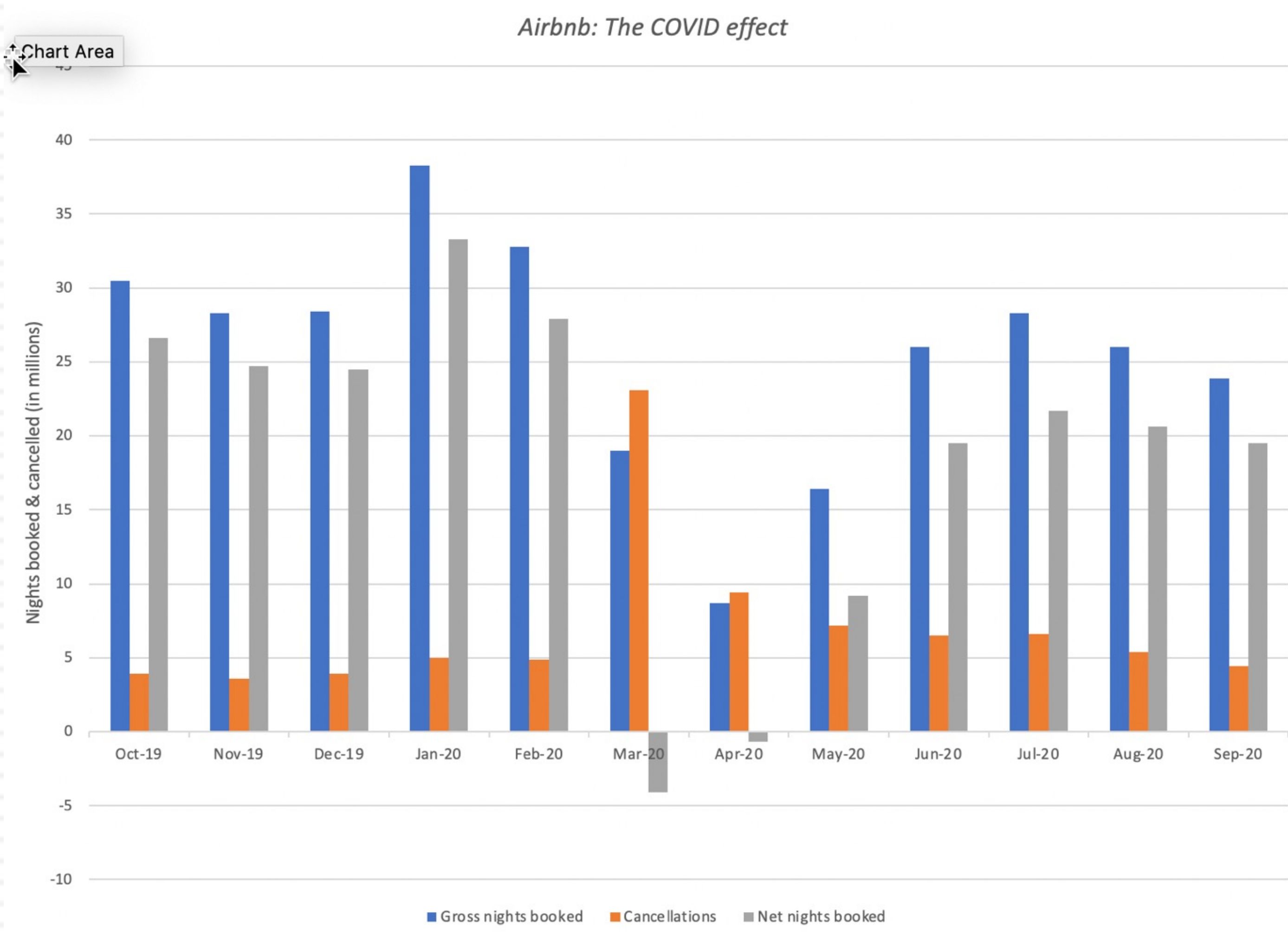
And the financial payoffs..



	2015	2016	2017	2018	2019
Gross Bookings ($ mil)	$7,500,000	$12,600,000	$20,000,000	$29,400,000	$38,000,000
Revenues ($ mil)	$919,000	$1,656,000.0	$2,561,721	$3,651,985	$4,805,239
Revenue as % of Gross Bookings	12.25%	13.14%	12.81%	12.42%	12.65%
Operating Margin	-13.49%	-8.03%	-3.18%	0.51%	-10.44%

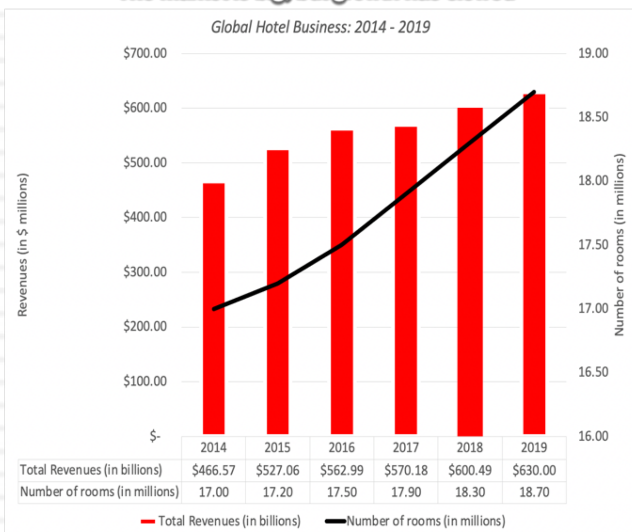
Gross Bookings ($ mil) Revenues ($ mil) Revenue as % of Gross Bookings Operating Margin

The COVID Effect.. In nights booked

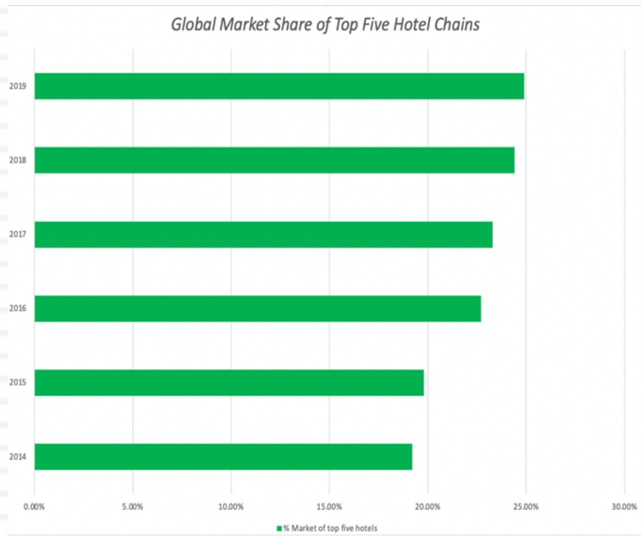


The Hospitality Business

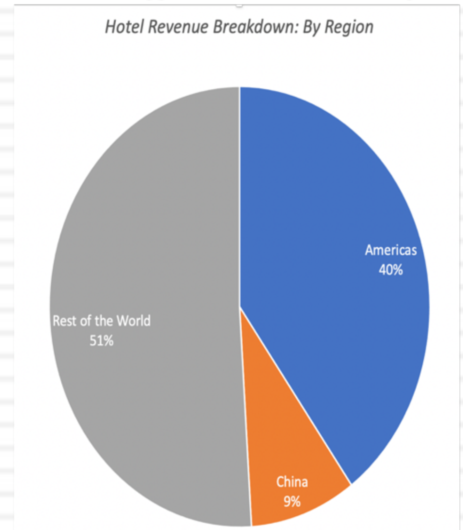
The market is big, but growth has slowed



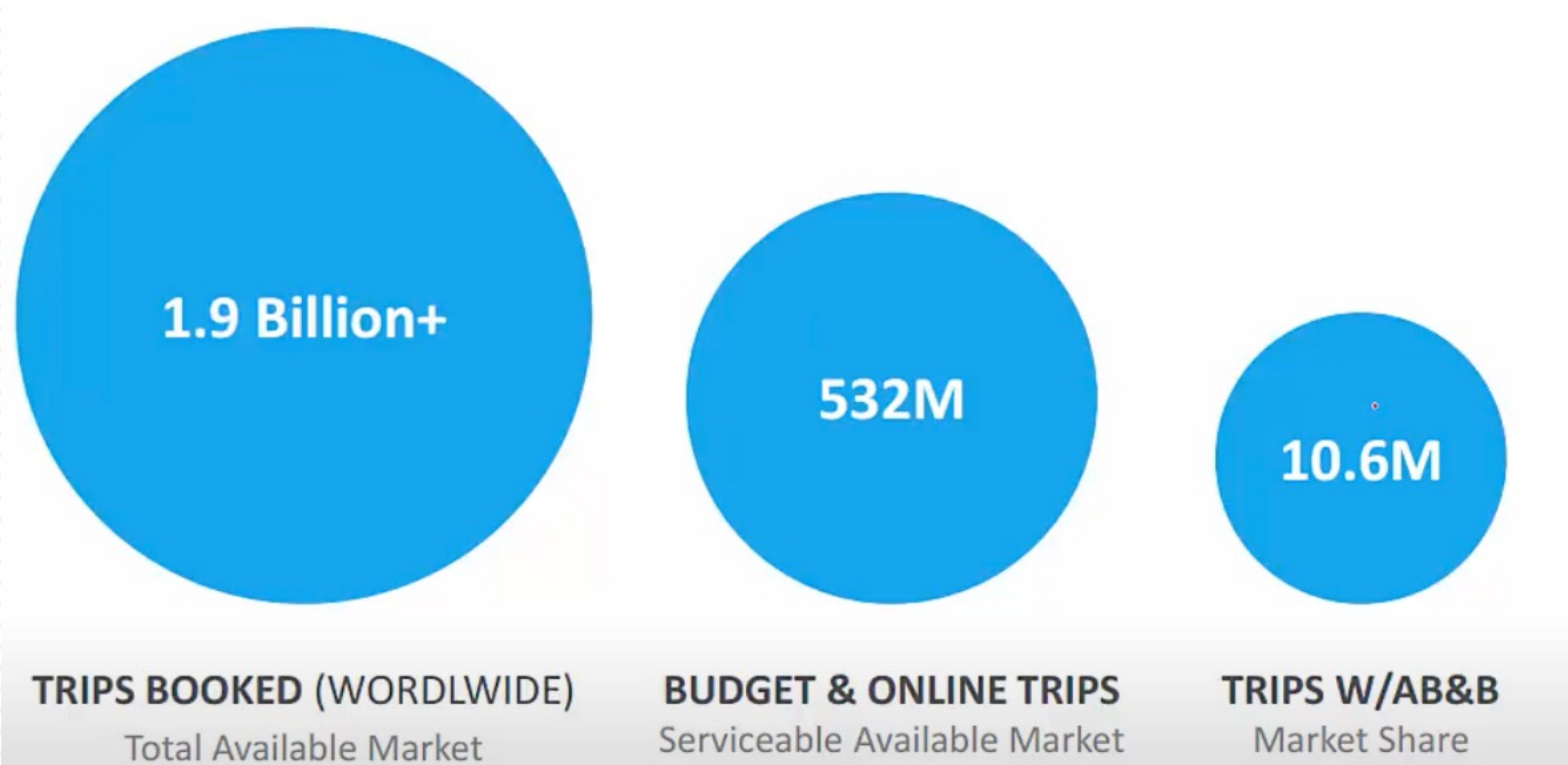
It is concentrated, and getting more so...



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



Airbnb's TAM in 2011



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%
Aggregate		**$106,242.22**	**$77,078.98**	**$11,946.60**	**$ (327.50)**	**5.23%**	**-34.81%**	**11.24%**	-0.42%
Median						**6.66%**	**-33.33%**	**14.16%**	**1.71%**

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	LTM	% Change (Annualized)	2019	LTM	% Change (Annualized)
Gross Bookings	$107,870.00	$52,470.00	-61.75%	$96,400.00	$48,752.00	-59.71%
Revenues	$ 12,067.00	$ 7,026.00	-51.38%	$15,066.00	$ 8,897.00	-50.46%
Operating Income	$ 961.00	$ (892.00)	NA	$ 5,345.00	$ 1,831.00	-76.03%
Revenues/Gross Bookings	11.19%	13.39%		15.63%	18.25%	
Operating Margin	7.96%	-12.70%		35.48%	20.58%	

Business Mix
Airbnb derives almost of its revenues from acting as a booking intermediary. 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 (40%), Agency (47%), Ads (13%)
Booking.com: Merchant (25%), Agency (68%), Ads (8%)

Status Quo vs Disruption
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 hit.

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

Airbnb	Nov-20

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 expand 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

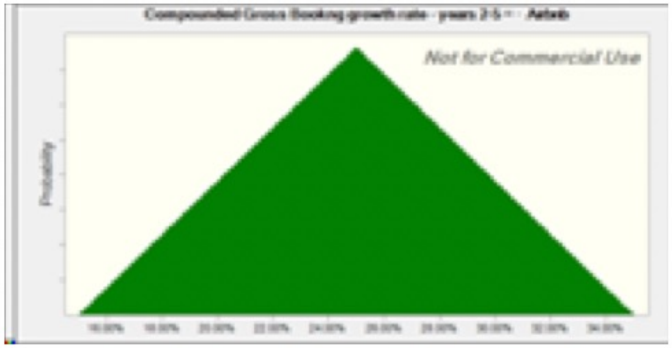
Terminal value	$ 62,516,491		
PV(Terminal value)	$ 32,633,194		
PV (CF over next 10 years)	$ 1,234,582		
Value of operating assets =	$ 33,867,776		
Adjustment for distress	$ 1,693,389	Probability of failure =	10.00%
- Debt & Minority Interests	$ 2,192,381		
+ IPO Proceeds	$ 3,000,000	Based upon early news stories. May change as final offering details are set.	
+ Cash & Other Non-operating assets	$ 4,495,211		
Value of equity	**$ 37,477,217**		
- 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

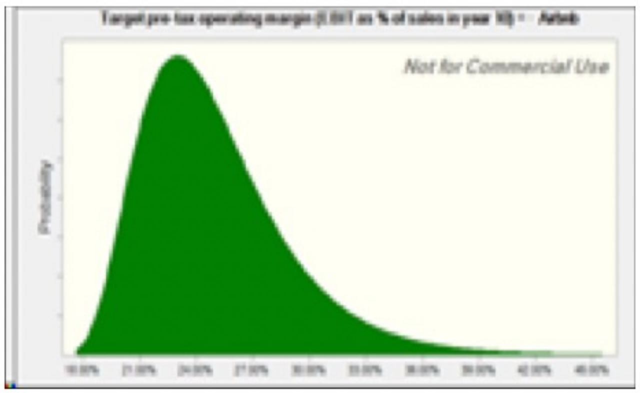
Value of Airbnb Equity today (in $ billions)					
	Target Operating Margin (in 2031)				
Gross Billings in 2031 (in $ billions)	*15%*	*20%*	*25%*	*30%*	*35%*
$100.00	$14.44	$19.83	$25.22	$30.61	$35.99
$125.00	$16.86	$23.52	$30.17	$36.82	$43.87
$150.00	$19.42	$27.40	$35.38	$43.34	$51.30
$175.00	$21.78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

Airbnb IPO: Simulation of Equity Value in November 2020

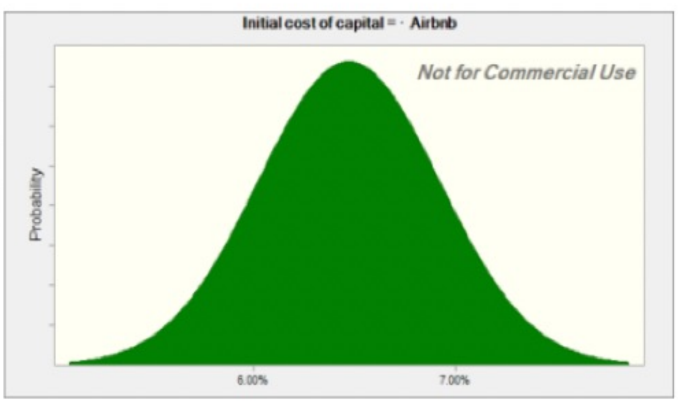
Growth rate in Gross Bookings: 2022-2025
Expected = 25%, Max = 35%, Min = 15%

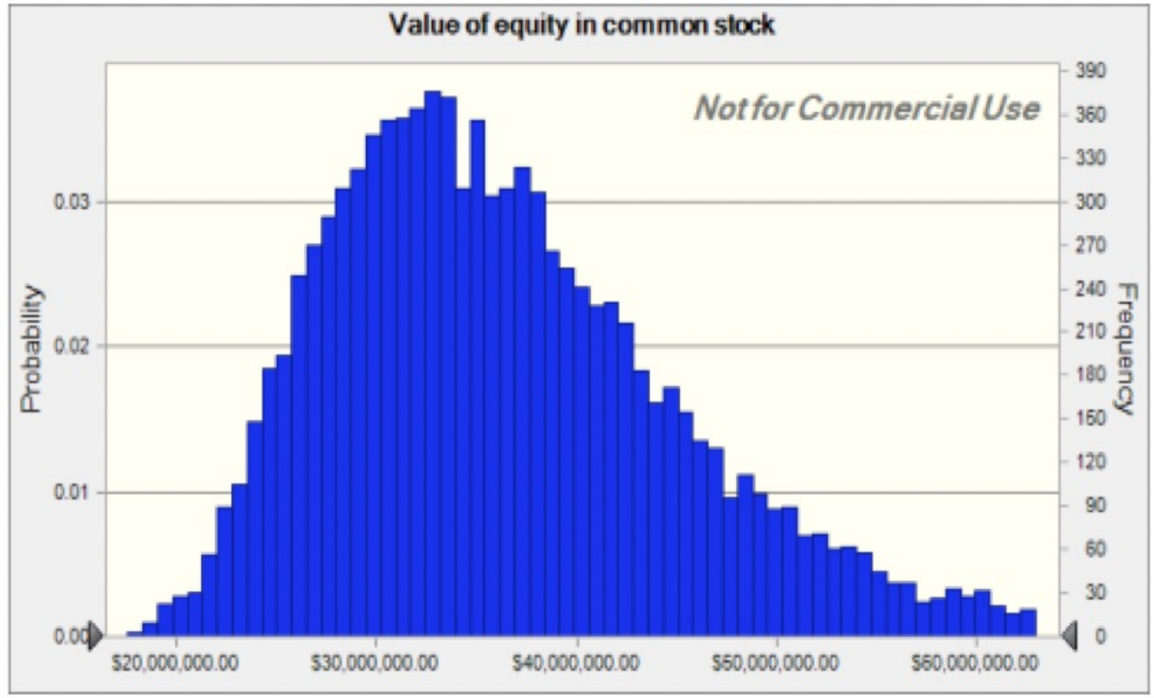


Target Operating Margin in year 10
Expected = 25%, Std Dev = 4%



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