



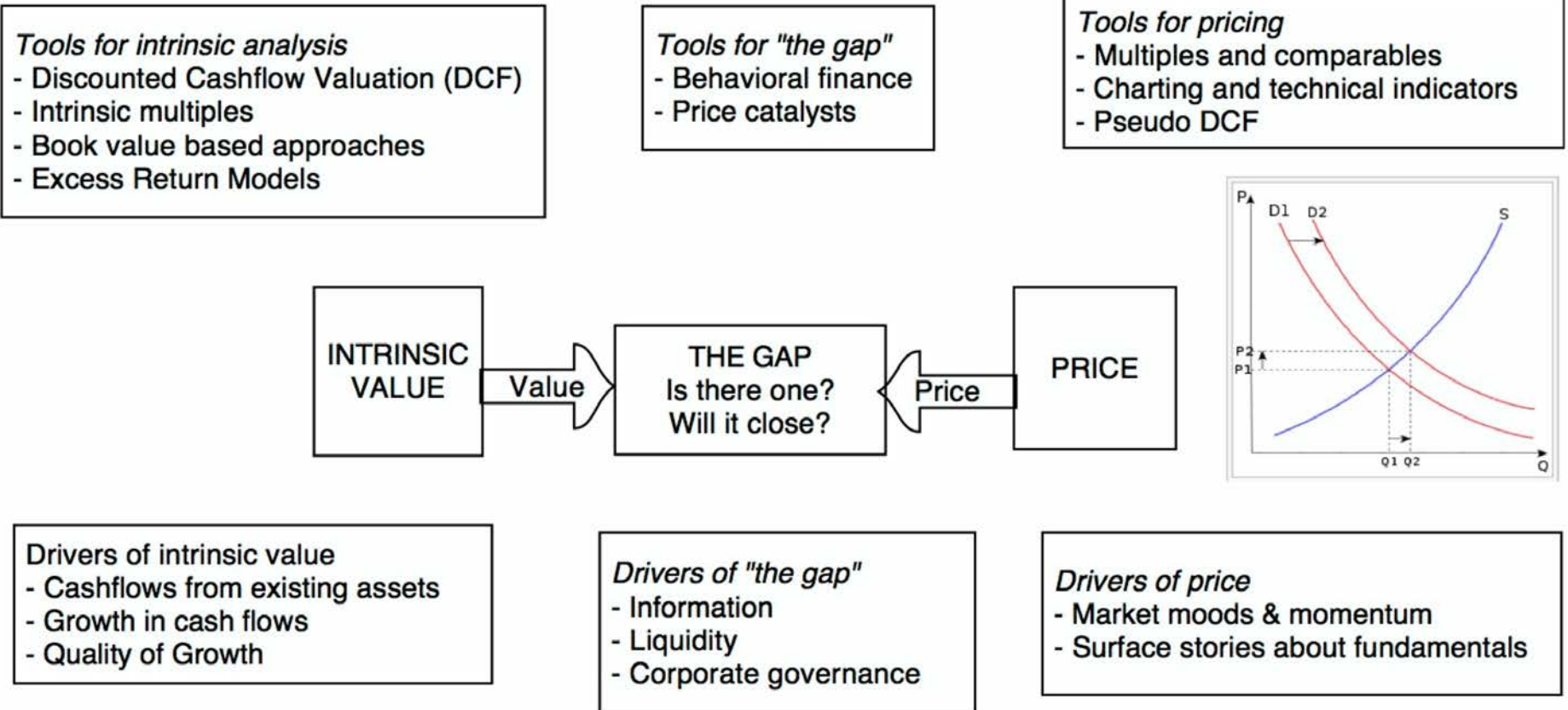
POSTCARDS FROM THE EDGE: COVID
LESSONS FOR INVESTING/BUSINESS

Glimmers of light?

Lesson 1: Listen to markets, not experts

- During a crisis, you will be often told by experts and market gurus that markets are irrational and behave in crazy and chaotic ways.
- To back this up, the evidence that they will offer is that markets have wild swings on a day-to-day basis, and that these swings are incompatible with rational investing.
- They very conveniently ignore the fact that their advice is even more volatile, veering from day to day...

The truth: Markets play a pricing game...



And price and value can diverge...

1. Value has upper & lower bounds. Price does not: Since price is determined by demand and supply, and there is nothing that requires that those buying and selling in markets have to be constrained, it follows that there is no upper or lower bound to prices. Value on the other hand has both upper and lower bounds, with both bounds being set by expected cash flows, growth and risk.
2. Price is reactive, value is proactive: Pricing forces can take information that, at least at first sight, seems insignificant to long term value and cause price changes that are disproportional.
3. Price may never converge on value: Absent a catalyst causing the convergence, price will not only diverge from value in the short term, but it could do so in the long term.

Equities, during the crisis...



Macro Review: Equity Indices

	Index	Country/Region	Levels			% Change				
			14-Feb	20-Mar	1-Jun	4/24-5/1	4/1-5/1	2/14-3/20	3/20-6/1	2/14 - 6/1
Americas	S&P 500	US	3214	2305	3044	0.48%	3.01%	-28.28%	32.06%	-5.29%
	NASDAQ 100	US	9624	6994	9556	1.47%	1.50%	-27.33%	36.63%	-0.71%
	TSX	Canada	17848	11852	15193	-0.46%	1.87%	-33.59%	28.19%	-14.88%
	IPC Mexico	Mexico	45000	34270	36123	-1.06%	0.95%	-23.84%	5.41%	-19.73%
	iBovespa	Brazil	114381	67069	87403	0.52%	6.36%	-41.36%	30.32%	-23.59%
Europe	FTSE 100	UK	7409	5191	6077	-2.29%	1.39%	-29.94%	17.07%	-17.98%
	DAX	Germany	13744	8929	11587	-1.65%	4.63%	-35.03%	29.77%	-15.69%
	CAC 40	France	6069	4131	4701	-1.48%	5.77%	-31.93%	13.80%	-22.54%
	S&P Europe 350	Europe	1731	1181	1398	-1.61%	2.81%	-31.77%	18.34%	-19.26%
Asia	Nikkei 225	Japan	23688	16553	21878	-0.18%	7.31%	-30.12%	32.17%	-7.64%
	Shanghai 50	China	2895	2628	2807	-0.11%	1.11%	-9.22%	6.81%	-3.04%
	Hang Seng	Hong Kong	27816	22805	22961	-0.74%	0.14%	-18.01%	0.68%	-17.45%
	Sensex	India	41258	29916	32424	0.69%	5.71%	-27.49%	8.38%	-21.41%
Australia & NZ	ASX 200	Australia	7133	4825	5756	-1.63%	4.71%	-32.36%	19.30%	-19.30%
	NZX 50	New Zealand	11835	9202	10882	0.24%	2.06%	-22.25%	18.26%	-8.05%
Africa	FTSE/JSE TOP 40	South Africa	52050	36302	46545	-1.89%	0.24%	-30.26%	28.22%	-10.58%
	NSE-All Share	Nigeria	27756	22198	25268	0.40%	0.25%	-20.02%	13.83%	-8.96%

Macro Review: US Treasuries

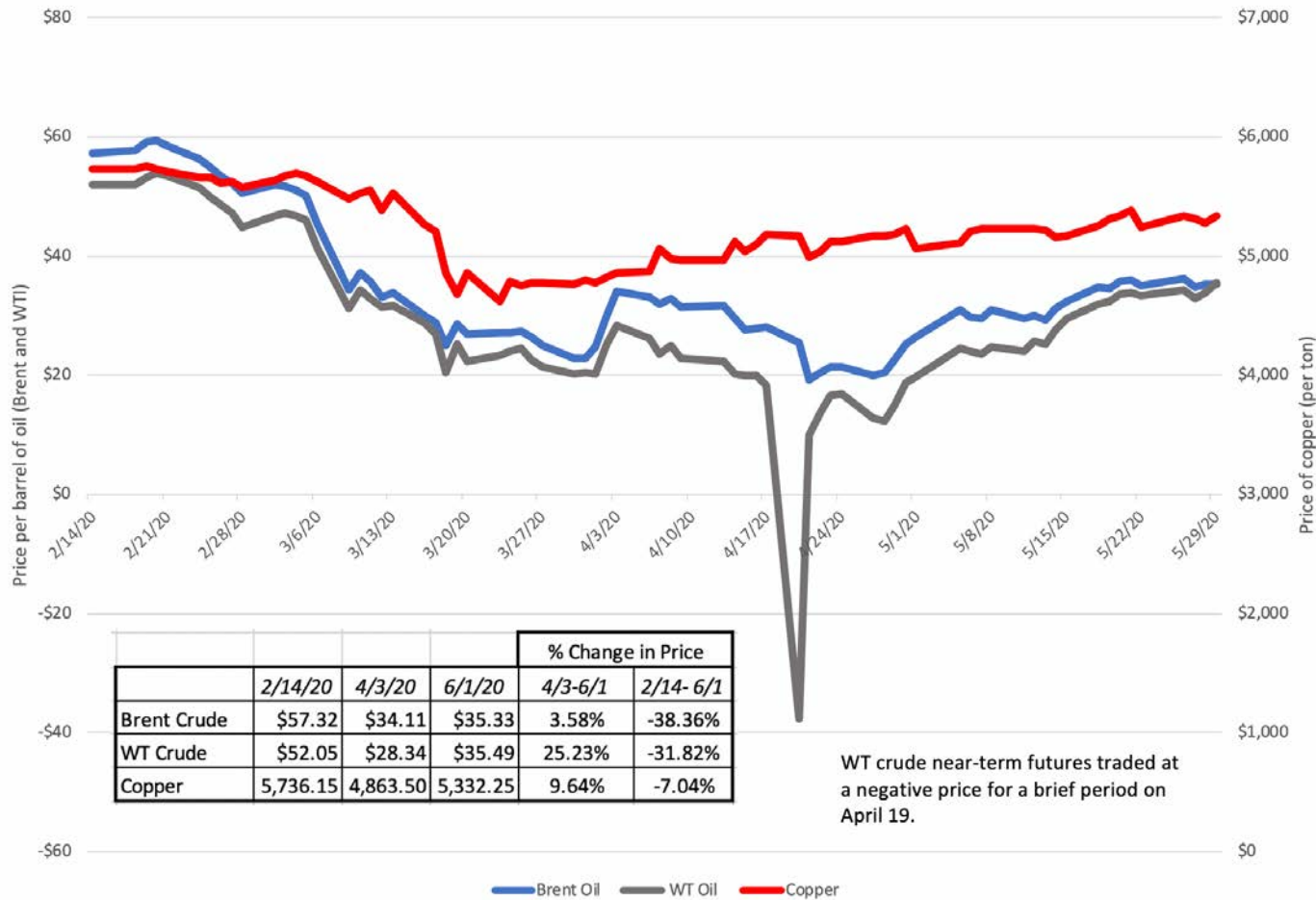
	Yields on US Treasuries				
Maturity	2/14/20	3/20/20	4/3/20	5/1/20	6/1/20
3 month	1.58%	0.05%	0.10%	0.12%	0.14%
2 year	1.42%	0.37%	0.23%	0.20%	0.14%
5 year	1.42%	0.52%	0.39%	0.36%	0.31%
10 year	1.59%	0.92%	0.62%	0.64%	0.66%
20 year	1.89%	1.35%	1.05%	1.04%	1.22%
30 year	2.04%	1.55%	1.24%	1.27%	1.46%
	Yield curve slope				
2 yr - 3 month	-0.16%	0.32%	0.13%	0.08%	0.00%
10 yr - 2 yr	0.17%	0.55%	0.39%	0.44%	0.52%
30 yr - 10 yr	0.45%	0.63%	0.62%	0.63%	0.80%

Macro Review: Corporate Bonds

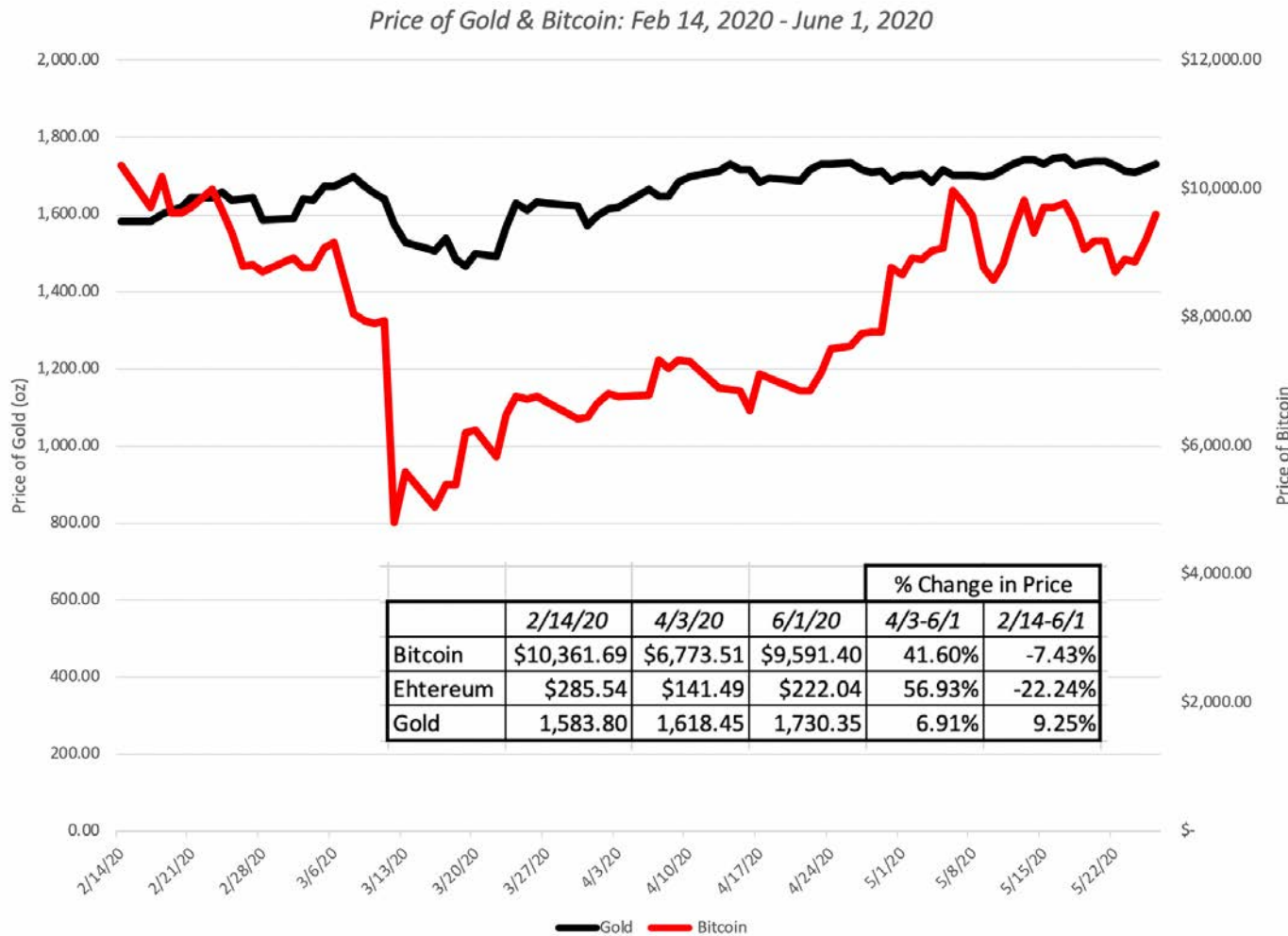
S&P Bond Rating	Yields and Spreads on Corporates								Change from 2/14 - 6/1	
	Spread over 10-yr Treasury				Yield on Treasury				Spread	Yield
	2/14/20	4/3/20	5/1/20	6/1/20	2/14/20	4/3/20	5/1/20	6/1/20		
AAA	0.69%	1.50%	1.19%	0.89%	2.28%	2.12%	1.85%	1.55%	0.20%	-0.73%
AA	0.72%	1.77%	1.24%	0.99%	2.31%	2.39%	1.90%	1.65%	0.27%	-0.66%
A	0.80%	2.29%	1.62%	1.36%	2.39%	2.91%	2.28%	2.02%	0.56%	-0.37%
BBB	1.33%	3.97%	2.78%	2.38%	2.92%	4.59%	3.44%	3.04%	1.05%	0.12%
BB	1.93%	6.76%	5.28%	4.44%	3.52%	7.38%	5.94%	5.10%	2.51%	1.58%
B	3.40%	10.14%	7.78%	6.29%	4.99%	10.76%	8.44%	6.95%	2.89%	1.96%
CCC or lower	9.65%	18.80%	17.56%	14.75%	11.24%	19.42%	18.22%	15.41%	5.10%	4.17%

Macro Review: Oil & Copper

Commodity Prices: February 14, 2020 to June 1, 2020



Macro Review: Gold & Bitcoin



Global Equities: By Region

Sub Region	Number of firms	Market Capitalization (in US dollars)			\$ Change			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1	2/14-3/20	3/20-6/1	2/14-6/1
Africa	655	\$ 576,084	\$ 359,853	\$ 414,035	\$ (216,232)	\$ 54,182	\$ (162,049)	-37.53%	15.06%	-28.13%
Australia & NZ	1,363	\$ 1,616,915	\$ 952,040	\$ 1,339,679	\$ (664,875)	\$ 387,639	\$ (277,236)	-41.12%	40.72%	-17.15%
Canada	1,564	\$ 2,228,711	\$ 1,353,111	\$ 1,836,062	\$ (875,600)	\$ 482,951	\$ (392,649)	-39.29%	35.69%	-17.62%
China	6,154	\$14,025,870	\$12,424,923	\$13,287,400	\$ (1,600,947)	\$ 862,477	\$ (738,470)	-11.41%	6.94%	-5.27%
EU & Environs	4,749	\$13,588,107	\$ 9,216,361	\$11,611,072	\$ (4,371,746)	\$ 2,394,711	\$ (1,977,035)	-32.17%	25.98%	-14.55%
Eastern Europe & Russia	415	\$ 817,097	\$ 490,049	\$ 648,184	\$ (327,048)	\$ 158,135	\$ (168,913)	-40.03%	32.27%	-20.67%
India	1,945	\$ 2,196,185	\$ 1,513,439	\$ 1,662,964	\$ (682,746)	\$ 149,525	\$ (533,221)	-31.09%	9.88%	-24.28%
Japan	3,811	\$ 6,038,139	\$ 4,465,538	\$ 5,670,480	\$ (1,572,601)	\$ 1,204,942	\$ (367,659)	-26.04%	26.98%	-6.09%
Latin America & Caribbean	938	\$ 2,376,669	\$ 1,375,966	\$ 1,617,132	\$ (1,000,703)	\$ 241,166	\$ (759,537)	-42.11%	17.53%	-31.96%
Middle East	1,212	\$ 3,090,712	\$ 2,571,686	\$ 2,914,860	\$ (519,026)	\$ 343,175	\$ (175,852)	-16.79%	13.34%	-5.69%
Small Asia	7,848	\$ 5,072,793	\$ 3,548,190	\$ 4,433,098	\$ (1,524,603)	\$ 884,908	\$ (639,694)	-30.05%	24.94%	-12.61%
UK	1,092	\$ 3,060,708	\$ 1,917,843	\$ 2,415,155	\$ (1,142,865)	\$ 497,312	\$ (645,553)	-37.34%	25.93%	-21.09%
United States	4,901	\$35,637,157	\$23,876,241	\$32,025,273	\$ (11,760,916)	\$ 8,149,031	\$ (3,611,885)	-33.00%	34.13%	-10.14%
Global	36,647	\$90,325,147	\$64,065,238	\$79,231,056	\$ (26,259,909)	\$15,165,818	\$ (11,094,091)	-29.07%	23.67%	-12.28%

Global Equities: By Sector

Primary Sector	Number of firms	Market Capitalization (in US dollars)			\$ Change			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1	2/14-3/20	3/20-6/1	2/14-6/1
Communication Services	1,686	\$ 7,347,019	\$ 5,489,830	\$ 6,770,054	\$ (1,857,189)	\$ 1,280,224	\$ (576,965)	-25.28%	23.32%	-7.85%
Consumer Discretionary	4,971	\$10,150,616	\$ 7,060,810	\$ 9,323,383	\$ (3,089,806)	\$ 2,262,573	\$ (827,233)	-30.44%	32.04%	-8.15%
Consumer Staples	2,342	\$ 7,122,436	\$ 5,706,302	\$ 6,682,282	\$ (1,416,133)	\$ 975,980	\$ (440,154)	-19.88%	17.10%	-6.18%
Energy	1,310	\$ 5,934,869	\$ 3,849,972	\$ 4,772,551	\$ (2,084,896)	\$ 922,579	\$ (1,162,317)	-35.13%	23.96%	-19.58%
Financials	3,904	\$14,928,359	\$ 9,928,379	\$11,040,564	\$ (4,999,981)	\$ 1,112,185	\$ (3,887,796)	-33.49%	11.20%	-26.04%
Health Care	3,412	\$ 8,913,236	\$ 6,860,569	\$ 9,064,738	\$ (2,052,667)	\$ 2,204,168	\$ 151,502	-23.03%	32.13%	1.70%
Industrials	6,575	\$10,108,324	\$ 6,889,556	\$ 8,471,348	\$ (3,218,768)	\$ 1,581,791	\$ (1,636,977)	-31.84%	22.96%	-16.19%
Information Technology	4,866	\$13,593,804	\$ 9,733,574	\$12,866,228	\$ (3,860,230)	\$ 3,132,654	\$ (727,576)	-28.40%	32.18%	-5.35%
Materials	4,418	\$ 4,979,016	\$ 3,515,132	\$ 4,342,273	\$ (1,463,884)	\$ 827,141	\$ (636,743)	-29.40%	23.53%	-12.79%
Real Estate	2,332	\$ 4,044,904	\$ 2,703,365	\$ 3,165,400	\$ (1,341,538)	\$ 462,035	\$ (879,504)	-33.17%	17.09%	-21.74%
Utilities	826	\$ 3,201,607	\$ 2,326,996	\$ 2,731,318	\$ (874,611)	\$ 404,321	\$ (470,290)	-27.32%	17.38%	-14.69%
All	36,647	\$90,325,147	\$64,065,238	\$79,231,056	\$(26,259,909)	\$15,165,818	\$(11,094,091)	-29.07%	23.67%	-12.28%

Global Equities: Industry Winners & Losers

Worst Performing Industries										
Industry	Number of firms	Market Capitalization (in US dollars)			\$ Change			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1	2/14-3/20	3/20-6/1	2/14-6/1
Air Transport	149	\$ 556,213	\$ 313,549	\$ 360,990	\$ (242,665)	\$ 47,441	\$ (195,223)	-43.63%	15.13%	-35.10%
Reinsurance	34	\$ 180,664	\$ 98,286	\$ 120,010	\$ (82,379)	\$ 21,725	\$ (60,654)	-45.60%	22.10%	-33.57%
Oil/Gas (Production and Exploration)	472	\$ 692,325	\$ 317,620	\$ 467,201	\$ (374,705)	\$ 149,581	\$ (225,123)	-54.12%	47.09%	-32.52%
Aerospace/Defense	211	\$1,217,804	\$ 674,126	\$ 835,696	\$ (543,678)	\$161,571	\$ (382,107)	-44.64%	23.97%	-31.38%
Bank (Money Center)	577	\$6,822,648	\$4,637,480	\$4,739,982	\$(2,185,168)	\$102,502	\$(2,082,666)	-32.03%	2.21%	-30.53%
Broadcasting	122	\$ 164,633	\$ 93,940	\$ 118,442	\$ (70,693)	\$ 24,502	\$ (46,191)	-42.94%	26.08%	-28.06%
Food Wholesalers	120	\$ 93,278	\$ 50,166	\$ 67,431	\$ (43,112)	\$ 17,264	\$ (25,847)	-46.22%	34.41%	-27.71%
Hotel/Gaming	538	\$ 708,307	\$ 381,770	\$ 514,681	\$ (326,538)	\$132,911	\$ (193,626)	-46.10%	34.81%	-27.34%
Insurance (General)	177	\$ 831,734	\$ 506,306	\$ 611,193	\$ (325,428)	\$104,887	\$ (220,541)	-39.13%	20.72%	-26.52%
Best Performing Industries										
Industry	Number of firms	Market Capitalization (in US dollars)			\$ Change			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1	2/14-3/20	3/20-6/1	2/14-6/1
Software (Internet)	108	\$ 226,923	\$ 166,709	\$ 281,047	\$ (60,214)	\$114,338	\$ 54,125	-26.54%	68.59%	23.85%
Precious Metals	515	\$ 417,720	\$ 296,911	\$ 471,378	\$ (120,810)	\$174,468	\$ 53,658	-28.92%	58.76%	12.85%
Drugs (Biotechnology)	908	\$1,407,999	\$1,133,945	\$1,561,080	\$ (274,054)	\$427,135	\$ 153,081	-19.46%	37.67%	10.87%
Healthcare Information and Technology	316	\$ 780,832	\$ 614,357	\$ 858,979	\$ (166,475)	\$244,623	\$ 78,147	-21.32%	39.82%	10.01%
Retail (Online)	249	\$2,455,458	\$1,989,439	\$2,688,216	\$ (466,019)	\$698,777	\$ 232,758	-18.98%	35.12%	9.48%
Healthcare Products	633	\$1,831,401	\$1,351,145	\$1,861,377	\$ (480,256)	\$510,232	\$ 29,977	-26.22%	37.76%	1.64%
Software (System & Application)	1,072	\$3,763,152	\$2,790,639	\$3,768,913	\$ (972,513)	\$978,274	\$ 5,761	-25.84%	35.06%	0.15%
Drugs (Pharmaceutical)	1,055	\$3,561,443	\$2,835,198	\$3,542,117	\$ (726,245)	\$706,919	\$ (19,327)	-20.39%	24.93%	-0.54%
Retail (Building Supply)	82	\$ 452,742	\$ 269,623	\$ 449,064	\$ (183,119)	\$179,441	\$ (3,677)	-40.45%	66.55%	-0.81%
Entertainment	510	\$1,114,636	\$ 843,035	\$1,090,046	\$ (271,601)	\$247,011	\$ (24,589)	-24.37%	29.30%	-2.21%

A Sum-up on Markets..

- Uncertainty barometer: The market has had its ups and downs, with volatility in the mix. It has looked uncertain about direction, with big up days followed by big down days. It is reflecting the uncertainty that we all feel, on a day-to-day basis.
- Order in chaos: When we look at the full effects, the market has been remarkably orderly in how it has meted out punishment and doled out reward.
- Liquidity is a solution, not a problem: To those who argued that markets should be shut down, this crisis should be a reminder that removing liquidity during a crisis often makes it worse, rather than better.

Lesson 2: Opinions are trumped by data...

- Every crisis brings forth explanations for why it is happening, and what we should do about it, with half-baked rationales and anecdotal evidence. Listen, with respect, but verify for yourself.
- For people with agendas, the crisis has offered an opportunity to not only say, “I told you so”, but also to push for legal and regulatory changes to advance their viewpoints.
- Here are two stories that are making the rounds
 - Just punishment: The market drop is well-deserved punishment for those who invested in high flying companies and on momentum.
 - Buybacks are the problem: The surge in buybacks are caused companies to become weak and exposed, and the market is punishing those companies.

Value versus Growth: A pre-crisis lead in..

Value vs Growth: US Stocks, by decade

	<i>Lowest PBV</i>	<i>Highest PBV</i>	<i>Difference</i>	<i>Lowest PE</i>	<i>Highest PE</i>	<i>Difference</i>
1930-39	6.04%	4.27%	1.77%	NA	NA	NA
1940-49	22.96%	7.43%	15.53%	NA	NA	NA
1950-59	25.06%	20.92%	4.14%	34.33%	19.16%	15.17%
1960-69	13.23%	9.57%	3.66%	15.27%	9.79%	5.48%
1970-79	17.05%	3.89%	13.16%	14.83%	2.28%	12.54%
1980-89	24.48%	12.94%	11.54%	18.38%	14.46%	3.92%
1990-99	20.17%	21.88%	-1.71%	21.61%	22.03%	-0.41%
2000-09	8.59%	-0.49%	9.08%	13.84%	0.61%	13.23%
2010-19	11.27%	16.67%	-5.39%	11.35%	17.09%	-5.75%

The under performance of value has played out not only in the mutual fund business, but has also brought many legendary value investors down to earth. We were told that this was temporary, and that a crisis would put value back on top again...

PE and Market Returns – During Crisis

<i>Trailing PE</i>	<i>Number of firms</i>	Market Capitalization (in US dollars)			Percentage Change		
		<i>2/14/20</i>	<i>3/20/20</i>	<i>6/1/20</i>	<i>2/14-3/20</i>	<i>3/20-6/1</i>	<i>2/14-6/1</i>
Bottom decile	2,444	\$ 3,061,076	\$ 2,351,948	\$ 2,594,261	-23.17%	10.30%	-15.25%
2nd decile	2,444	\$ 3,760,687	\$ 2,643,016	\$ 3,041,725	-29.72%	15.09%	-19.12%
3rd decile	2,444	\$ 4,714,250	\$ 3,168,954	\$ 3,773,153	-32.78%	19.07%	-19.96%
4th decile	2,445	\$ 7,747,037	\$ 5,166,733	\$ 6,030,835	-33.31%	16.72%	-22.15%
5th decile	2,444	\$ 6,980,675	\$ 4,880,317	\$ 5,776,611	-30.09%	18.37%	-17.25%
6th decile	2,444	\$ 12,238,312	\$ 8,934,428	\$ 10,752,901	-27.00%	20.35%	-12.14%
7th decile	2,445	\$ 12,931,401	\$ 9,348,278	\$ 11,682,177	-27.71%	24.97%	-9.66%
8th decile	2,444	\$ 14,074,833	\$ 10,186,052	\$ 12,989,969	-27.63%	27.53%	-7.71%
9th decile	2,444	\$ 10,247,107	\$ 7,470,118	\$ 9,438,631	-27.10%	26.35%	-7.89%
Top decile	2,445	\$ 6,787,975	\$ 5,089,776	\$ 6,555,668	-25.02%	28.80%	-3.42%
Negative Earnings	12,204	\$ 7,781,793	\$ 4,825,619	\$ 6,595,127	-37.99%	36.67%	-15.25%
All	36,647	\$ 90,325,147	\$ 64,065,238	\$ 79,231,056	-29.07%	23.67%	-12.28%

Momentum and Damage

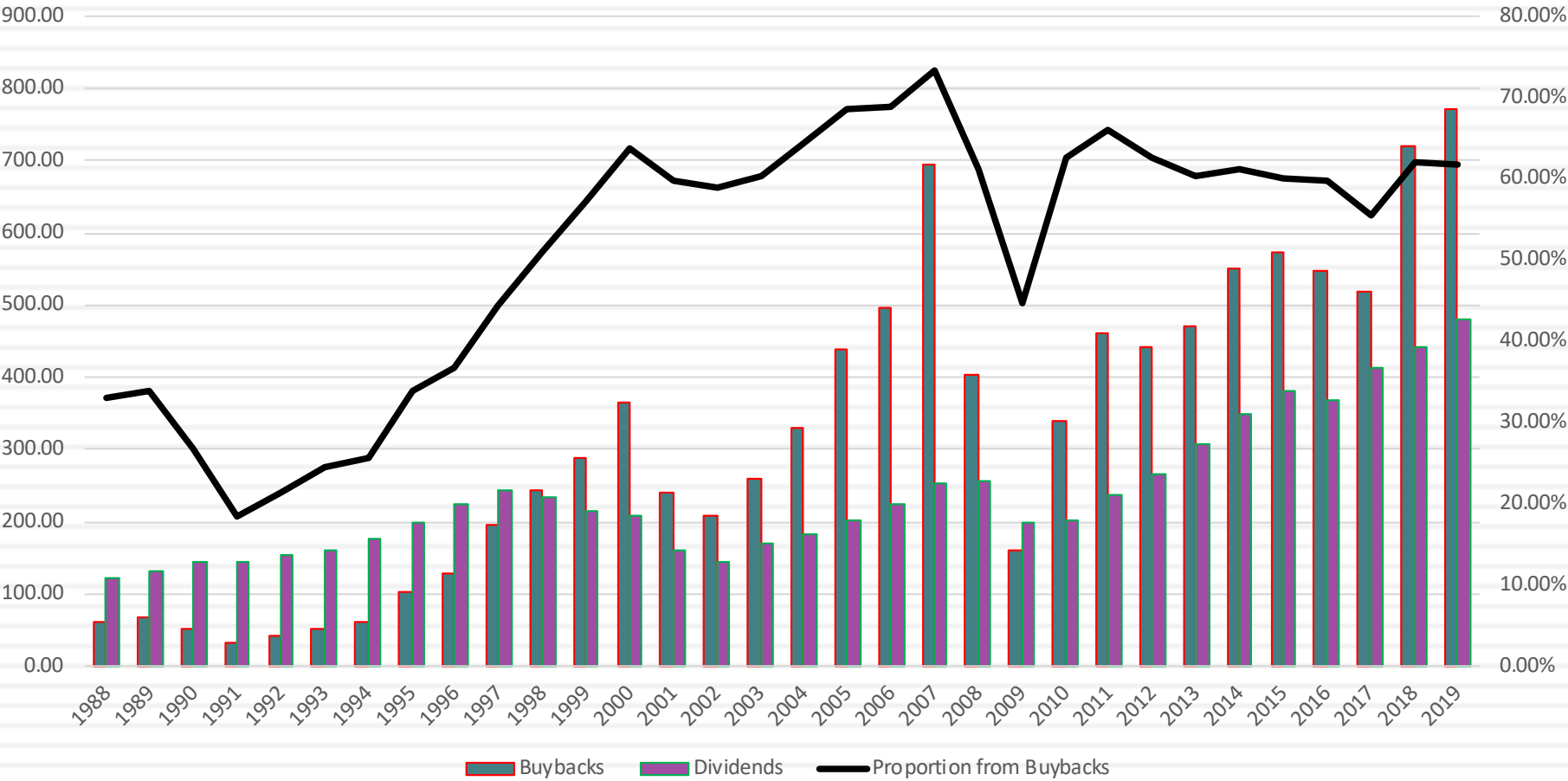
% Price Change (2/14/19-2/14/20)	Number of firms	Market Capitalization (in US dollars)			Percentage Change		
		2/14/20	3/20/20	6/1/20	2/14-3/20	3/20-6/1	2/14-6/1
Bottom decile	3,438	\$ 919,383	\$ 576,793	\$ 752,403	-37.26%	30.45%	-18.16%
2nd decile	3,439	\$ 2,477,964	\$ 1,700,301	\$ 1,882,297	-31.38%	10.70%	-24.04%
3rd decile	3,439	\$ 5,426,550	\$ 3,647,359	\$ 4,210,121	-32.79%	15.43%	-22.42%
4th decile	3,439	\$ 5,627,021	\$ 3,909,348	\$ 4,446,376	-30.53%	13.74%	-20.98%
5th decile	3,439	\$ 7,592,126	\$ 5,393,414	\$ 6,339,128	-28.96%	17.53%	-16.50%
6th decile	3,438	\$ 8,215,466	\$ 5,899,859	\$ 6,988,211	-28.19%	18.45%	-14.94%
7th decile	3,439	\$ 12,946,293	\$ 9,102,865	\$ 11,036,764	-29.69%	21.24%	-14.75%
8th decile	3,439	\$ 21,259,458	\$ 14,960,556	\$ 18,988,325	-29.63%	26.92%	-10.68%
9th decile	3,439	\$ 13,493,728	\$ 9,577,270	\$ 12,397,337	-29.02%	29.45%	-8.13%
Top decile	3,439	\$ 8,835,277	\$ 6,383,971	\$ 8,705,721	-27.74%	36.37%	-1.47%
Missing	2,259	\$ 3,531,881	\$ 2,913,502	\$ 3,484,374	-17.51%	19.59%	-1.35%
All	36,647	\$ 90,325,147	\$ 64,065,238	\$ 79,231,056	-29.07%	23.67%	-12.28%

Bottom Line on Value vs Growth

- Value failed this crisis test: During this crisis, following the value investing playbook of buying low PE stocks with high dividend yields would have resulted in far worse punishment being meted out than buying high PE stocks, based upon momentum.
- In my view: I believe that value investing has become ritualistic (worshiping at the altar of Buffett and Munger, and paying lip service to Ben Graham) and righteous (with finger wagging and worse reserved for anyone who invested in growth or tech companies).
- Hope? On a hopeful note, I think that value investing can recover, but only if it is open to more flexible thinking about value, less hero worship and less of a sense of entitlement.

The Buyback Bogeyman...

Dividends and Buybacks on S&P 500: 1988- 2019



A Test: Buybacks vs No Buybacks

Sub Region	[Buybacks/Market Cap = 0.00%]	count	Market Cap (2/14/20)	Market Cap (3/20/20)	Market Cap (3/27/20)	3/20-3/27		2/14 - 3/27	
						\$ Change	% Change	\$ Change	% Change
Africa	Buybacks	131	\$ 184,573	\$ 104,839	\$ 104,697	\$ (142)	-0.14%	\$ (79,876)	-43.28%
	No Buybacks	518	\$ 393,802	\$ 258,553	\$ 263,368	\$ 4,814	1.86%	\$ (130,435)	-33.12%
Australia & NZ	Buybacks	198	\$ 918,106	\$ 524,059	\$ 548,057	\$ 23,998	4.58%	\$ (370,049)	-40.31%
	No Buybacks	1,025	\$ 698,233	\$ 428,103	\$ 466,865	\$ 38,762	9.05%	\$ (231,368)	-33.14%
Canada	Buybacks	311	\$ 1,329,530	\$ 811,789	\$ 882,146	\$ 70,357	8.67%	\$ (447,385)	-33.65%
	No Buybacks	1,072	\$ 947,707	\$ 577,118	\$ 645,859	\$ 68,741	11.91%	\$ (301,848)	-31.85%
China	Buybacks	517	\$ 3,079,745	\$ 2,644,924	\$ 2,737,579	\$ 92,655	3.50%	\$ (342,167)	-11.11%
	No Buybacks	5,638	\$ 10,952,414	\$ 9,786,548	\$ 9,933,086	\$ 146,538	1.50%	\$ (1,019,328)	-9.31%
EU & Environs	Buybacks	981	\$ 7,410,273	\$ 5,109,535	\$ 5,608,557	\$ 499,021	9.77%	\$ (1,801,717)	-24.31%
	No Buybacks	3,667	\$ 6,268,130	\$ 4,197,365	\$ 4,564,530	\$ 367,166	8.75%	\$ (1,703,600)	-27.18%
Eastern Europe &	Buybacks	72	\$ 273,054	\$ 169,736	\$ 171,615	\$ 1,879	1.11%	\$ (101,439)	-37.15%
	No Buybacks	344	\$ 548,064	\$ 327,937	\$ 349,479	\$ 21,541	6.57%	\$ (198,585)	-36.23%
India	Buybacks	10	\$ 87,380	\$ 64,478	\$ 63,050	\$ (1,428)	-2.22%	\$ (24,330)	-27.84%
	No Buybacks	1,751	\$ 2,119,358	\$ 1,456,768	\$ 1,411,620	\$ (45,148)	-3.10%	\$ (707,738)	-33.39%
Japan	Buybacks	404	\$ 2,581,570	\$ 1,926,472	\$ 2,253,688	\$ 327,215	16.99%	\$ (327,882)	-12.70%
	No Buybacks	3,410	\$ 3,471,934	\$ 2,554,470	\$ 2,989,679	\$ 435,209	17.04%	\$ (482,256)	-13.89%
Latin America &	Buybacks	197	\$ 721,055	\$ 428,766	\$ 449,556	\$ 20,790	4.85%	\$ (271,499)	-37.65%
	No Buybacks	719	\$ 1,664,005	\$ 953,425	\$ 1,040,531	\$ 87,106	9.14%	\$ (623,474)	-37.47%
Middle East	Buybacks	111	\$ 1,971,311	\$ 1,705,871	\$ 1,742,222	\$ 36,352	2.13%	\$ (229,089)	-11.62%
	No Buybacks	1,119	\$ 1,127,502	\$ 873,355	\$ 867,243	\$ (6,112)	-0.70%	\$ (260,259)	-23.08%
Small Asia	Buybacks	1,051	\$ 883,172	\$ 615,416	\$ 662,409	\$ 46,993	7.64%	\$ (220,763)	-25.00%
	No Buybacks	6,915	\$ 4,217,379	\$ 2,961,812	\$ 3,147,994	\$ 186,182	6.29%	\$ (1,069,385)	-25.36%
UK	Buybacks	324	\$ 2,140,244	\$ 1,317,339	\$ 1,479,924	\$ 162,585	12.34%	\$ (660,321)	-30.85%
	No Buybacks	730	\$ 931,038	\$ 610,024	\$ 673,132	\$ 63,108	10.35%	\$ (257,906)	-27.70%
United States	Buybacks	2,473	\$ 29,219,828	\$ 19,388,811	\$ 21,458,076	\$ 2,069,265	10.67%	\$ (7,761,752)	-26.56%
	No Buybacks	2,410	\$ 6,525,839	\$ 4,564,903	\$ 5,007,885	\$ 442,981	9.70%	\$ (1,517,955)	-23.26%
Global	Buybacks	6,780	\$ 50,799,843	\$ 34,812,035	\$ 38,161,575	\$ 3,349,539	9.62%	\$ (12,638,269)	-24.88%
	No Buybacks	29,318	\$ 39,865,405	\$ 29,550,382	\$ 31,361,270	\$ 1,810,888	6.13%	\$ (8,504,135)	-21.33%

A follow up with dividends

Dividend Yield Classes	Number of firms	Market Cap			Dollar Change			% Change		
		2/14/20	3/20/20	5/1/20	2/14-3/20	3/20-5/1	2/14 - 5/1	2/14-3/20	3/20-5/1	2/14 - 5/1
No Dividends	19,225	\$ 24,707,423	\$17,289,721	\$ 20,743,671	\$ (7,417,702)	\$ 3,453,950	\$ (3,963,753)	-30.02%	19.98%	-16.04%
Bottom quintile	3,440	\$ 14,683,166	\$10,815,860	\$ 13,009,503	\$ (3,867,306)	\$ 2,193,643	\$ (1,673,663)	-26.34%	20.28%	-11.40%
2nd quintile	3,440	\$ 15,339,511	\$10,891,211	\$ 13,012,951	\$ (4,448,300)	\$ 2,121,740	\$ (2,326,560)	-29.00%	19.48%	-15.17%
3rd quintile	3,439	\$ 14,326,211	\$10,101,474	\$ 11,784,654	\$ (4,224,737)	\$ 1,683,180	\$ (2,541,557)	-29.49%	16.66%	-17.74%
4th quintile	3,441	\$ 14,749,540	\$10,569,522	\$ 11,995,030	\$ (4,180,019)	\$ 1,425,508	\$ (2,754,510)	-28.34%	13.49%	-18.68%
Top quintile	3,440	\$ 6,558,097	\$ 4,440,724	\$ 5,007,719	\$ (2,117,372)	\$ 566,995	\$ (1,550,378)	-32.29%	12.77%	-23.64%
All firms	36,425	\$ 90,363,948	\$64,108,512	\$ 75,553,528	\$ (26,255,436)	\$ 11,445,016	\$ (14,810,420)	-29.06%	17.85%	-16.39%

The Real Culprit...

<i>Net Debt Ratio</i>	<i>Number of firms</i>	<i>Market Cap</i>			<i>Dollar Change</i>			<i>% Change</i>		
		<i>2/14/20</i>	<i>3/20/20</i>	<i>5/1/20</i>	<i>2/14-3/20</i>	<i>3/20-5/1</i>	<i>2/14 - 5/1</i>	<i>2/14-3/20</i>	<i>3/20-5/1</i>	<i>2/14 - 5/1</i>
Bottom decile	2,531	\$ 2,460,033	\$ 1,950,211	\$ 2,239,697	\$ (509,822)	\$ 289,487	\$ (220,335)	-20.72%	14.84%	-8.96%
2nd decile	2,532	\$ 5,331,445	\$ 4,109,946	\$ 4,892,012	\$ (1,221,499)	\$ 782,066	\$ (439,433)	-22.91%	19.03%	-8.24%
3rd decile	2,532	\$ 7,877,954	\$ 6,018,450	\$ 7,187,853	\$ (1,859,504)	\$ 1,169,403	\$ (690,101)	-23.60%	19.43%	-8.76%
4th decile	2,531	\$ 8,594,180	\$ 6,647,750	\$ 7,627,550	\$ (1,946,430)	\$ 979,800	\$ (966,630)	-22.65%	14.74%	-11.25%
5th decile	2,532	\$ 12,475,883	\$ 9,050,739	\$ 10,904,998	\$ (3,425,145)	\$ 1,854,259	\$ (1,570,886)	-27.45%	20.49%	-12.59%
6th decile	2,532	\$ 11,806,339	\$ 8,195,049	\$ 9,769,674	\$ (3,611,289)	\$ 1,574,624	\$ (2,036,665)	-30.59%	19.21%	-17.25%
7th decile	2,531	\$ 11,105,948	\$ 7,598,270	\$ 9,067,167	\$ (3,507,678)	\$ 1,468,897	\$ (2,038,781)	-31.58%	19.33%	-18.36%
8th decile	2,532	\$ 8,055,701	\$ 5,476,347	\$ 6,519,914	\$ (2,579,353)	\$ 1,043,567	\$ (1,535,787)	-32.02%	19.06%	-19.06%
9th decile	2,532	\$ 6,737,795	\$ 4,329,035	\$ 5,165,483	\$ (2,408,760)	\$ 836,448	\$ (1,572,312)	-35.75%	19.32%	-23.34%
Top decile	2,532	\$ 2,507,113	\$ 1,612,397	\$ 1,896,025	\$ (894,716)	\$ 283,628	\$ (611,088)	-35.69%	17.59%	-24.37%
Negative EBITDA	11,108	\$ 13,411,556	\$ 9,120,317	\$ 10,283,154	\$ (4,291,239)	\$ 1,162,837	\$ (3,128,402)	-32.00%	12.75%	-23.33%
All firms	36,425	\$ 90,363,948	\$64,108,512	\$ 75,553,528	\$ (26,255,436)	\$ 11,445,016	\$ (14,810,420)	-29.06%	17.85%	-16.39%

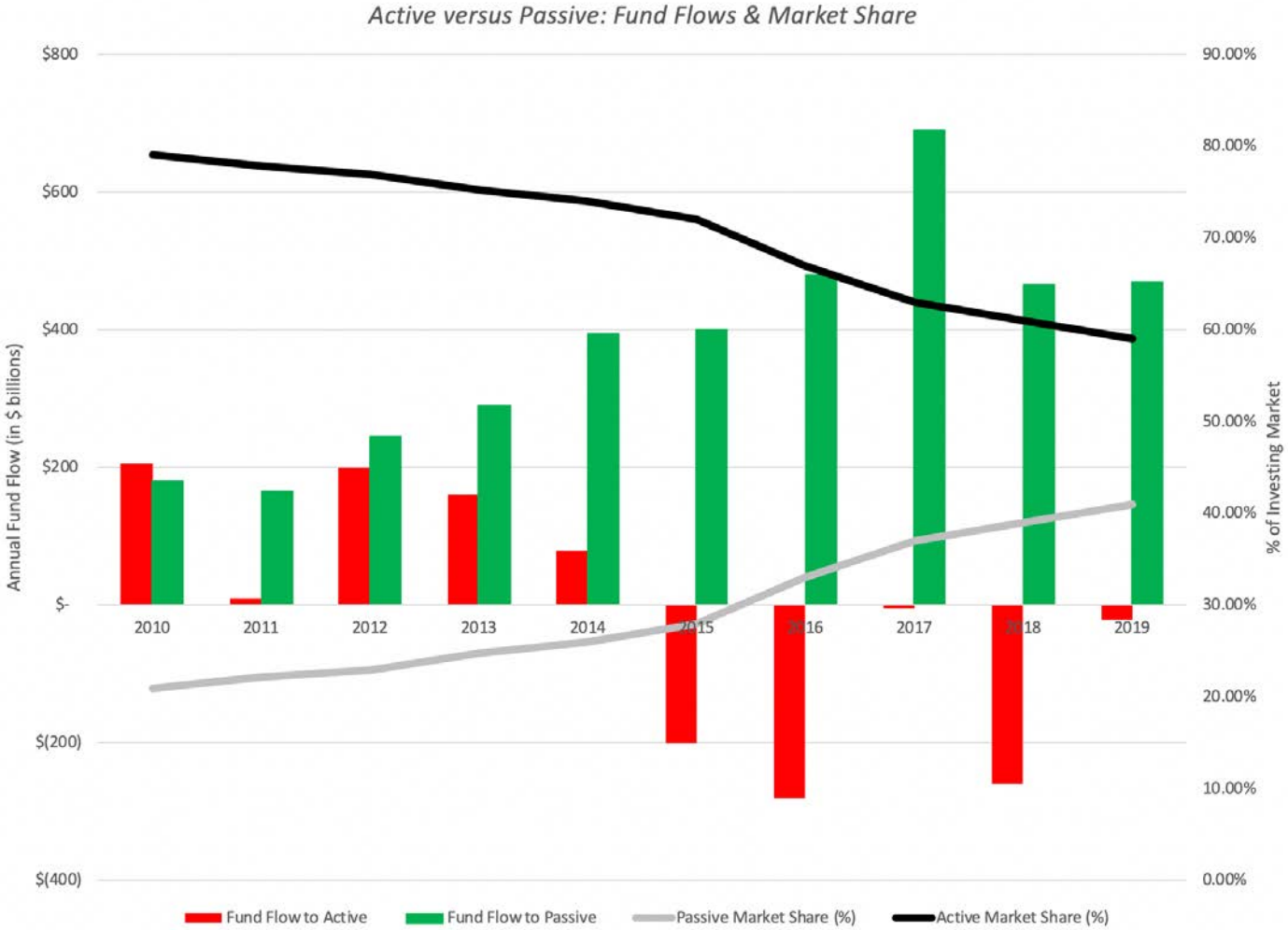
Lesson 3: There is no smart money...

- In investing mythology, there are smart investors and stupid investors.
 - Smart investors sense when markets are going to turn, and get in sooner than others, and get out sooner than others. After every crisis, there are a few who are anointed as gurus. They are also much better at picking the right stocks to buy and sell
 - Stupid investors are uninformed, act on emotion, and panic quickly.
- Professional money managers and talking heads on financial TV land are smart investors. Retail investors are stupid investors.

One test: Active vs Passive

- In passive investing, as an investor, you allocate your wealth across asset classes (equities, bonds, real assets) based upon your risk aversion, liquidity needs and time horizon, and within each class, rather than pick individual stocks, bonds or real assets, you invest in index funds or exchange traded funds (ETFs) to cover the spectrum of choices.
- In active investing, you try to time markets (by allocating more money to asset classes that you believe are under valued and less to those that you think are over valued) or pick individual assets that you believe offer the potential for higher returns.
- Active investing covers a whole range of different philosophies from day trading to buying entire companies and holding them for the long term.

The Lead In



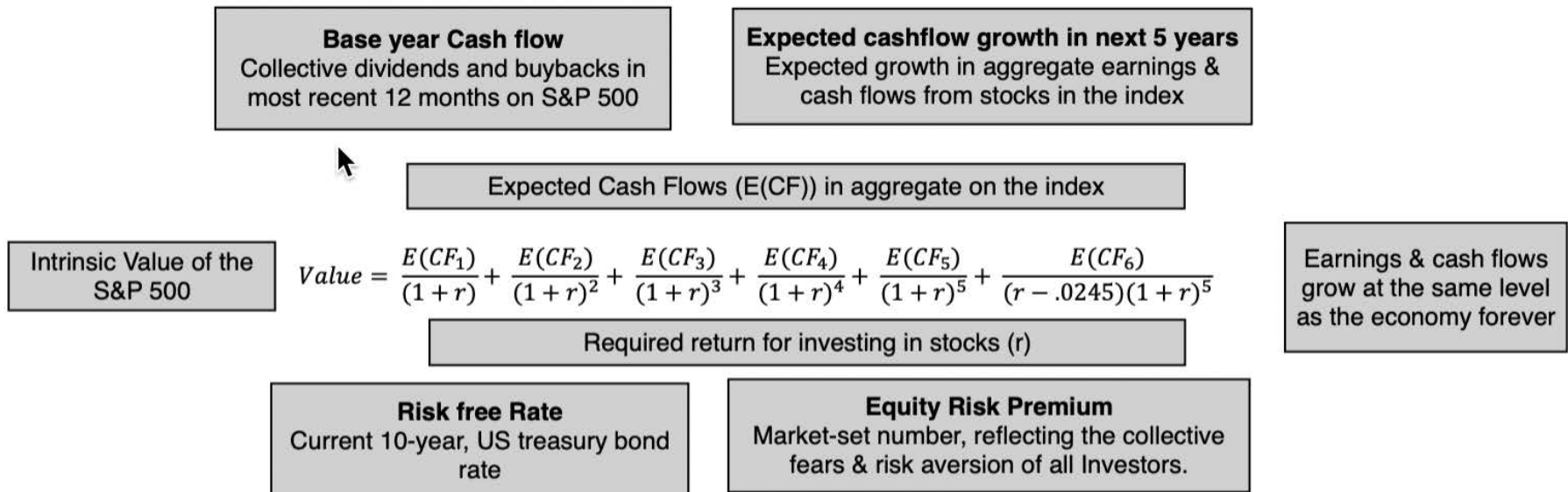
The Crisis Test

<i>Equity Mutual Funds</i>	<i>Returns in 2020, First Quarter</i>		
	<i>Mutual Funds</i>	<i>MS Index</i>	<i>Active Excess Return</i>
Large Blend	-20.92%	-17.86%	-3.06%
Large Growth	-15.48%	-11.51%	-3.97%
Large Value	-26.77%	-25.10%	-1.67%
Mid-Cap Blend	-28.28%	-26.42%	-1.86%
Mid-Cap Growth	-20.64%	-17.00%	-3.64%
Mid-Cap Value	-32.53%	-35.52%	2.99%
Small Blend	-32.37%	-31.61%	-0.76%
Small Growth	-24.59%	-21.45%	-3.14%
Small Value	-36.89%	-39.68%	2.79%
All US Equity Funds	-21.94%	-20.57%	-1.37%

A Different Classification

- Humble vs Arrogant: I think that investors are better grouped into humble and arrogant, with
 - ▣ Humble investors recognizing that success, when it comes, is as much a function of luck as it is of skill, and failure, when it too arrives, is part of investing and an occasion for learning.
 - ▣ Arrogant investors claim every investing win as a sign of their skill and view every loss as an affront, doubling down on their mistakes.
- If I had to pick someone to manage my money, the quality that I would value the most in making that choice is humility, since humble investors are less likely to overpromise and overcommit.

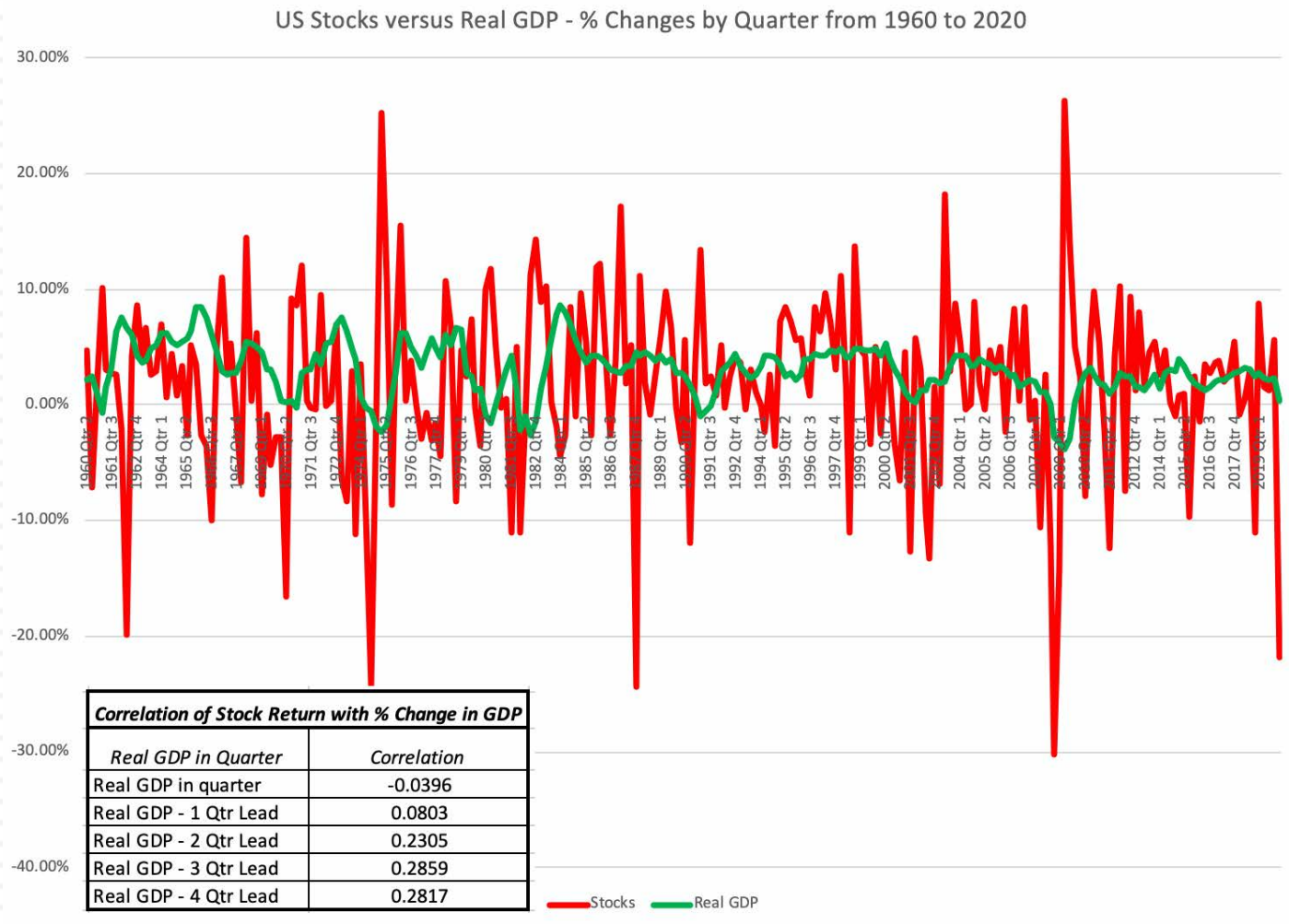
Lesson 4: The fundamentals matter, more than ever... in a crisis



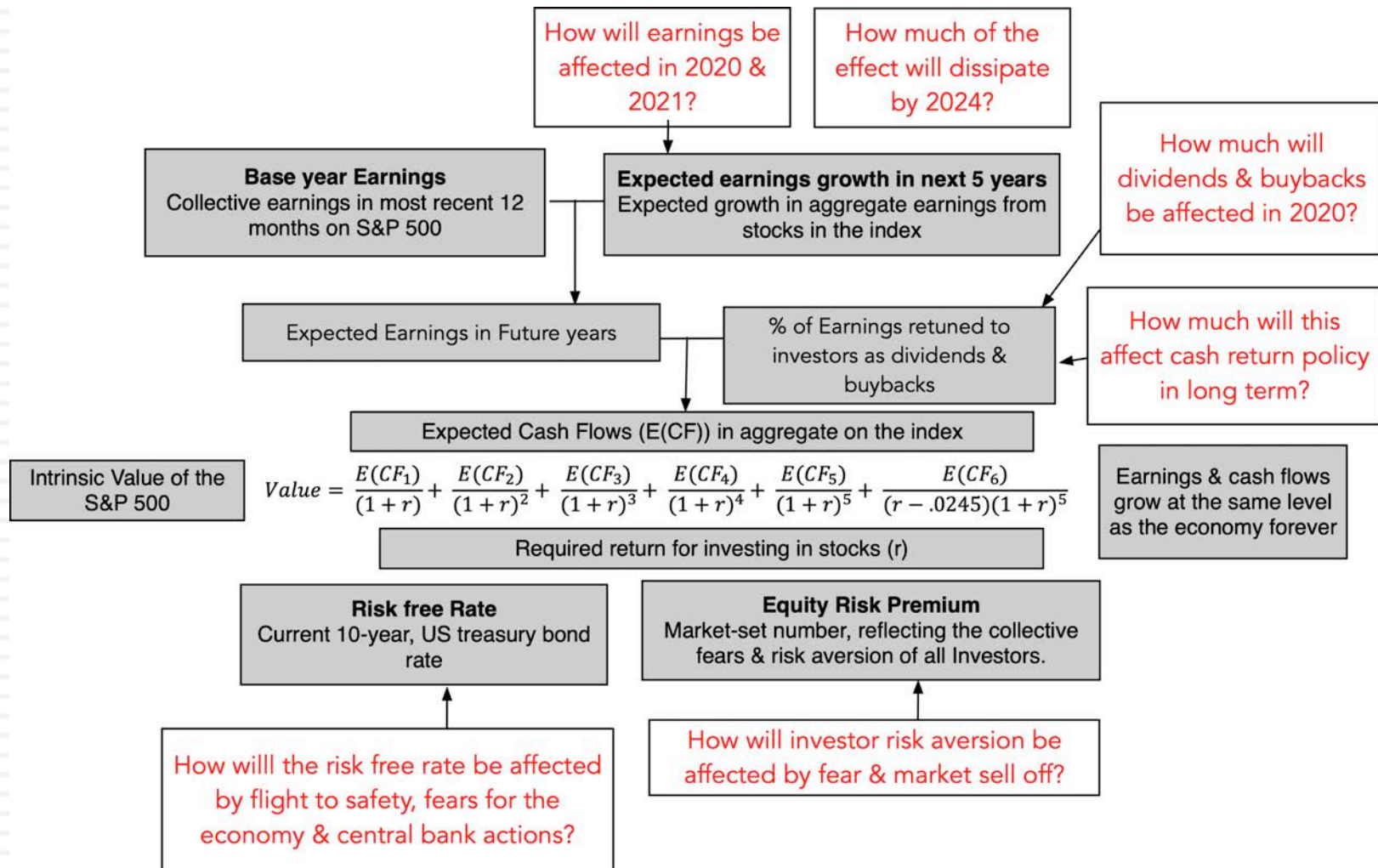
Market Worries

- Disconnect from economic news: For some, the skepticism comes from the disconnect with macroeconomic numbers that are abysmal, as unemployment claims climb into the tens of millions and consumer confidence hovers around historic lows. I will spend the first part of this section arguing that this reflects a fundamental misunderstanding of what markets try to do, and a misreading of history.
- In denial? For others, the question is whether markets are adequately reflecting the potential for long term damage to earnings and cash flows, as well as the cost of defaults, from this crisis. Since that answer to that question lies in the eyes of the beholder, I will provide a framework for converting your fears and hopes into numbers and a value for the market.

Explaining the disconnect...



Value Drivers for the Index



1. Earnings

Ed Yardeni (6/1/20)		Analyst Consensus (6/1/20)		Thomson Reuters (6/1/20)	
Year	Earnings on Index	Year	Earnings on Index	Year	Earnings on Index
2019	163	2019	162.97	2019	162.93
2020	120	2020	125.79	2020	125.22
2021	150	2021	164.04	2021	163.67

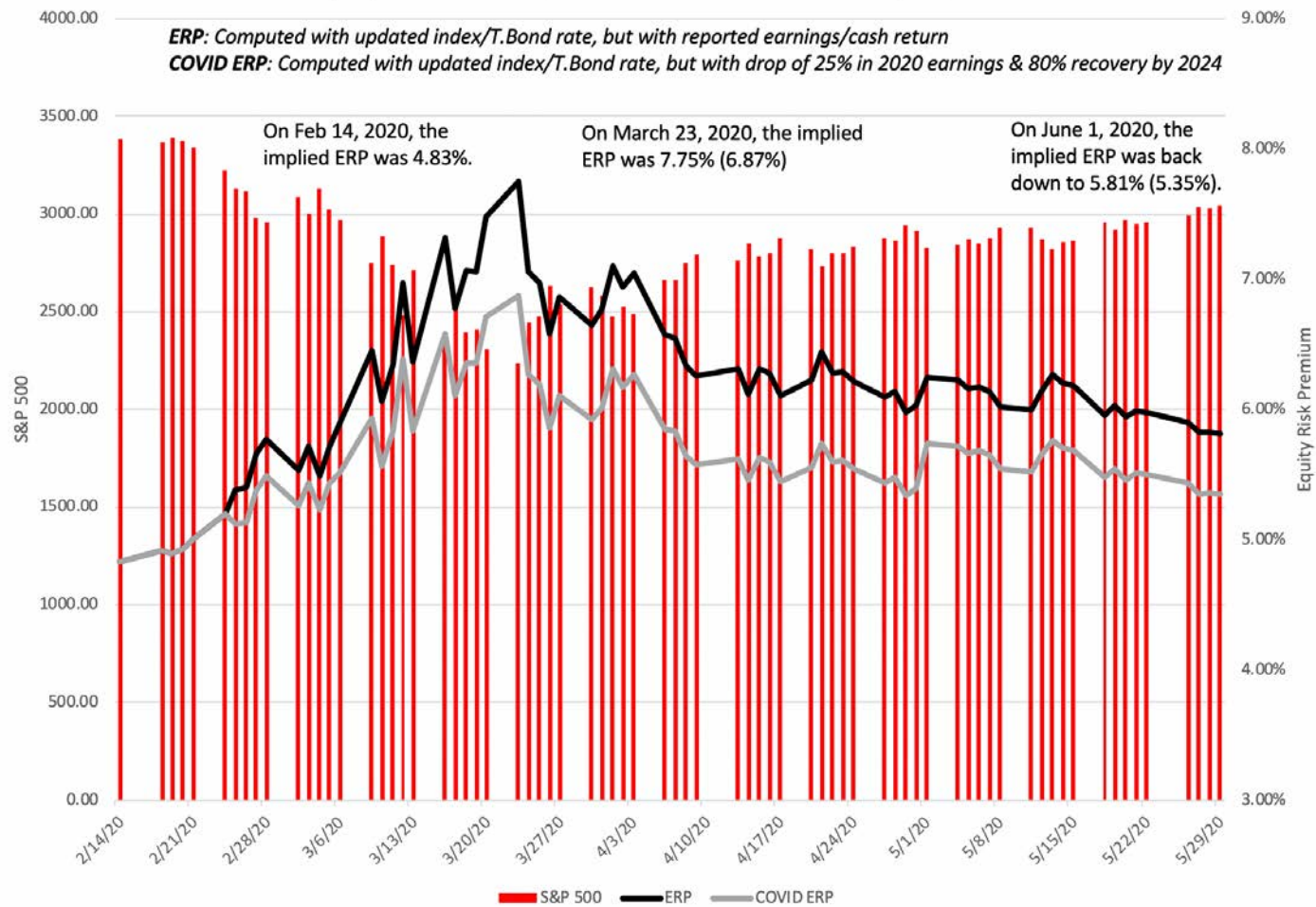
Market Strategists Forecasts for S&P 500 Earnings in 2020		
Firm	Strategist	2020 EPS Estimate
Bank of America Merrill Lynch	Savita Subramanian	\$115.00
Barclays	Maneesh Deshpande	\$119.00
BMO	Brian Belski	Suspended
BTIG	Julian Emanuel	\$127.00
Canaccord Genuity	Tony Dwyer	\$128.00
CFRA	Sam Stovall	\$162.37
Citigroup	Tobias Levkovich	\$125.00
Credit Suisse	Jonathan Golub	\$125.00
Deutsche Bank	Binky Chadha	\$133.00
Goldman Sachs	David Kostin	\$110.00
JPMorgan Chase	Dubravko Lakos-Bujas	\$150.00
Morgan Stanley	Mike Wilson	\$130.00
Oppenheimer	John Stoltzfus	Suspended
RBC	Lori Calvasina	\$135.00
UBS	Francois Trahan	\$140.00
Wells Fargo Investment Institute	Darrell Cronk	\$115.00
Average		\$129.60
Median		\$127.50
High		\$162.37
Low		\$110.00

2. Cash Flows

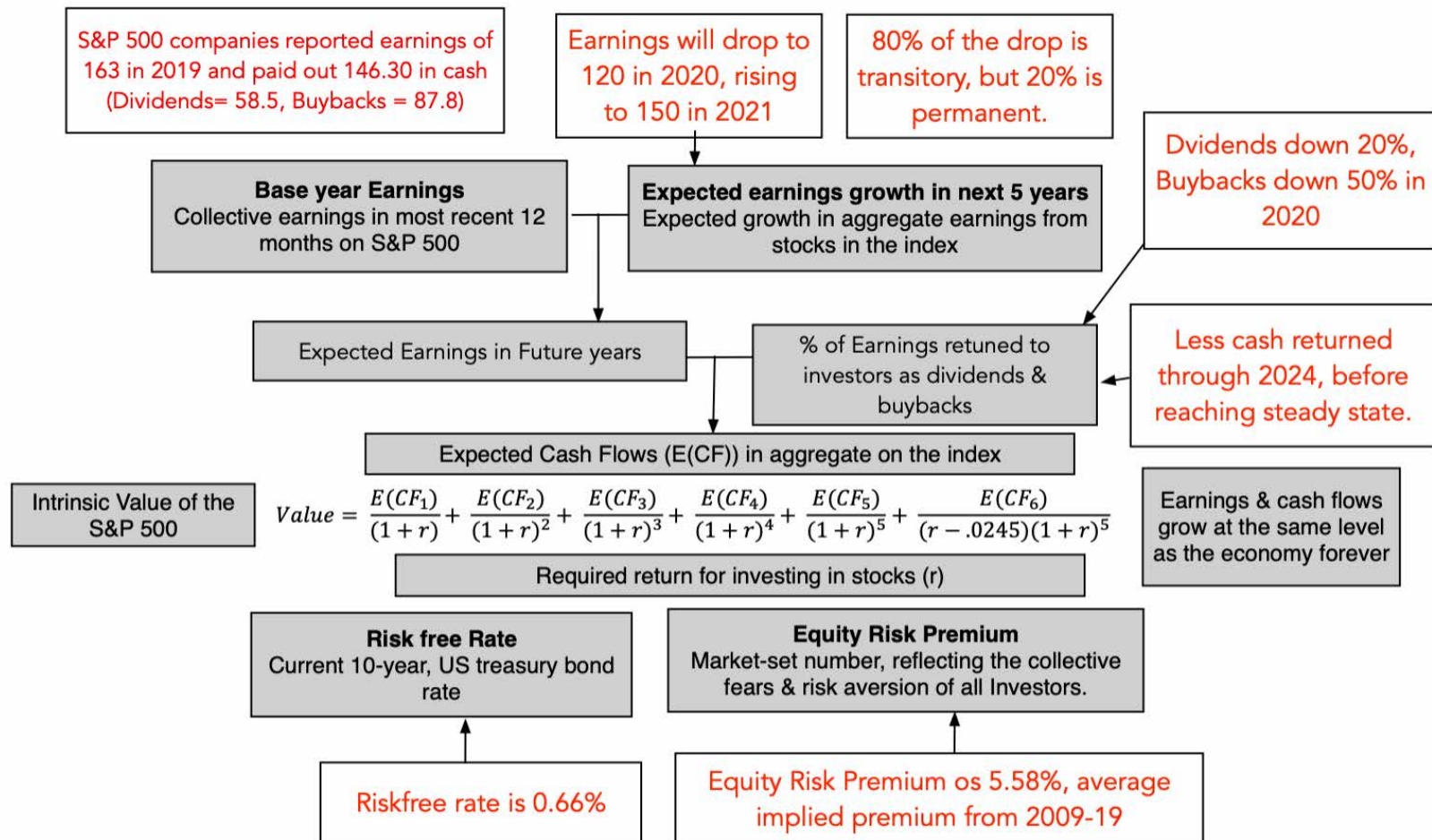
Year	S&P 500				Cash Returned as % of Earnings	Cash Returned as % of Market Cap
	Market value	Earnings	Dividends	Buybacks		
2001	1148.09	38.85	15.74	14.34	77.43%	2.62%
2002	879.82	46.04	15.96	13.87	64.78%	3.39%
2003	1111.91	54.69	17.88	13.70	57.74%	2.84%
2004	1211.92	67.68	19.01	21.59	59.99%	3.35%
2005	1248.29	76.45	22.34	38.82	80.01%	4.90%
2006	1418.30	87.72	25.04	48.12	83.40%	5.16%
2007	1468.36	82.54	28.14	67.22	115.53%	6.49%
2008	903.25	49.51	28.45	39.07	136.37%	7.47%
2009	1115.00	56.86	21.97	15.46	65.82%	3.36%
2010	1257.64	83.77	22.65	32.88	66.28%	4.42%
2011	1257.60	96.44	26.53	44.75	73.91%	5.67%
2012	1426.19	96.82	31.25	44.65	78.39%	5.32%
2013	1848.36	104.92	34.90	53.23	84.00%	4.77%
2014	2058.90	116.16	39.55	62.44	87.79%	4.95%
2015	2043.94	100.48	43.41	64.94	107.83%	5.30%
2016	2238.82	106.26	45.70	62.32	101.66%	4.82%
2017	2673.61	124.51	48.93	60.85	88.17%	4.11%
2018	2506.85	152.78	54.39	96.11	98.51%	6.00%
2019	3230.78	163.00	58.50	87.81	89.76%	4.53%
				Median	83.40%	4.82%
				High	136.37%	7.47%
				Low	57.74%	2.84%

3. Risk

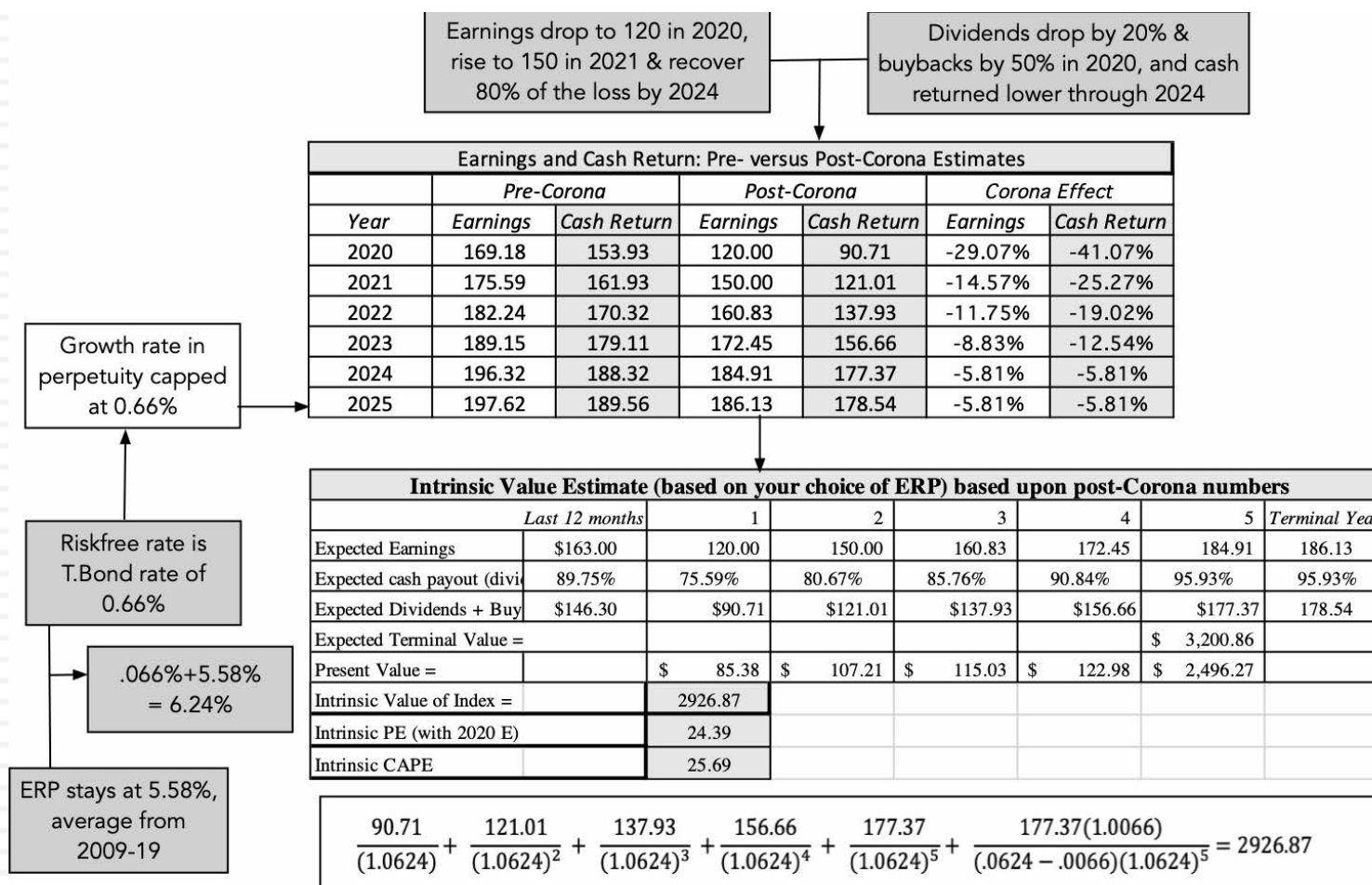
Equity Risk Premium for S&P 500: Feb 14, 2020 - May 30, 2020



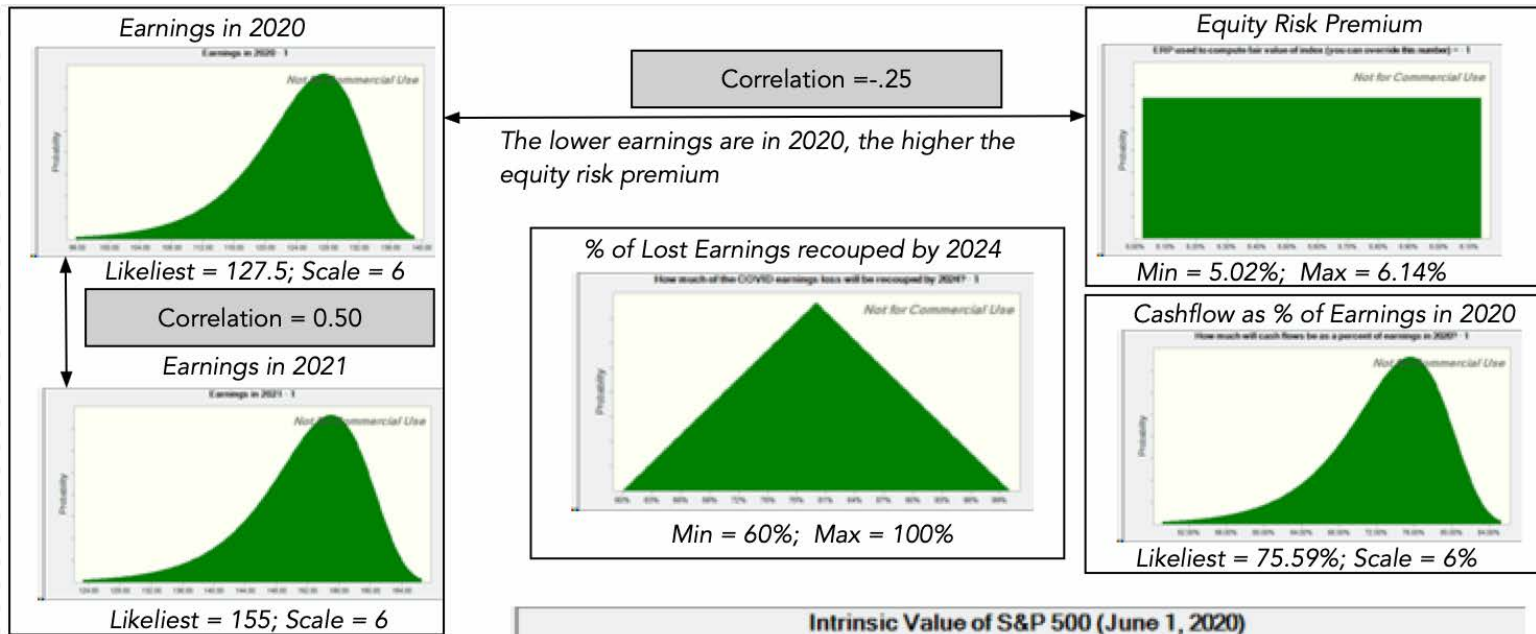
My Story for the Market



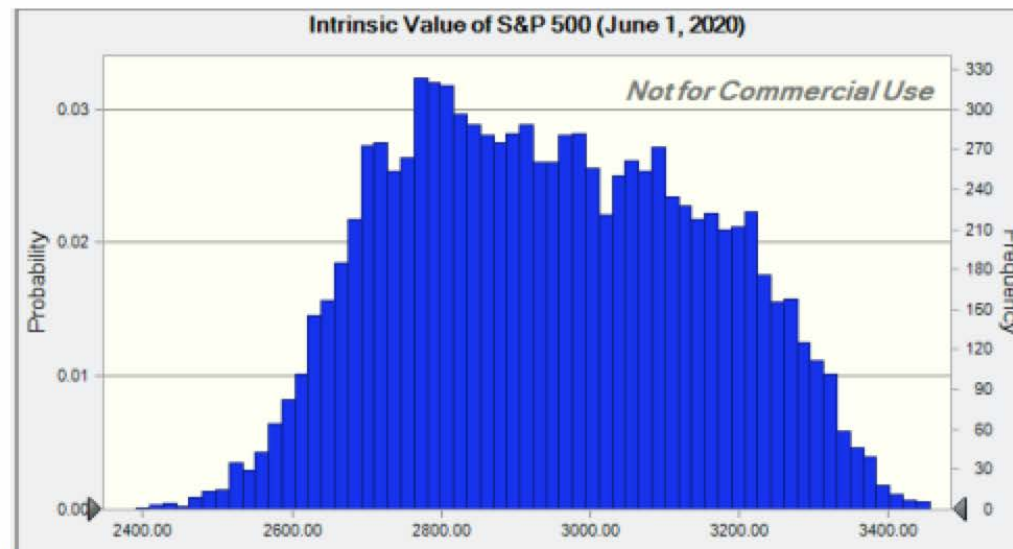
My Valuation of the Index



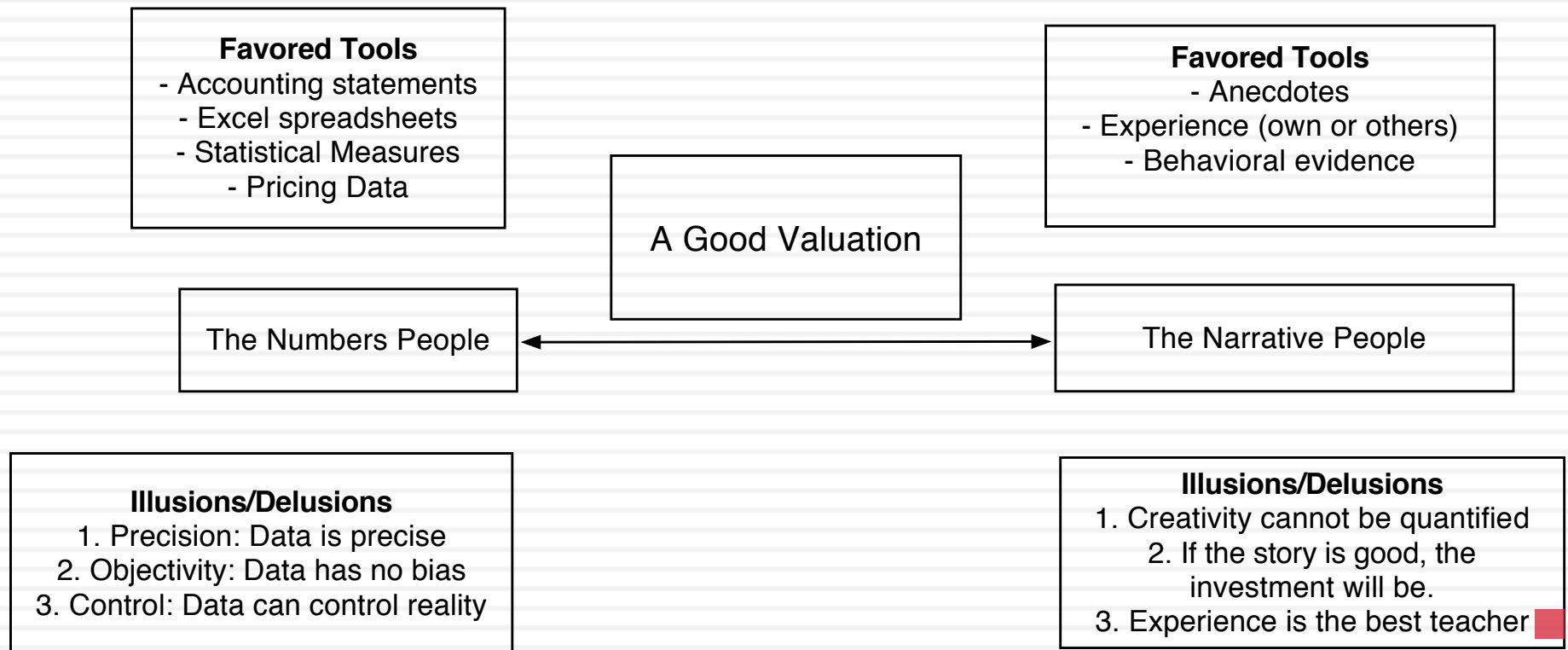
Facing up to uncertainty



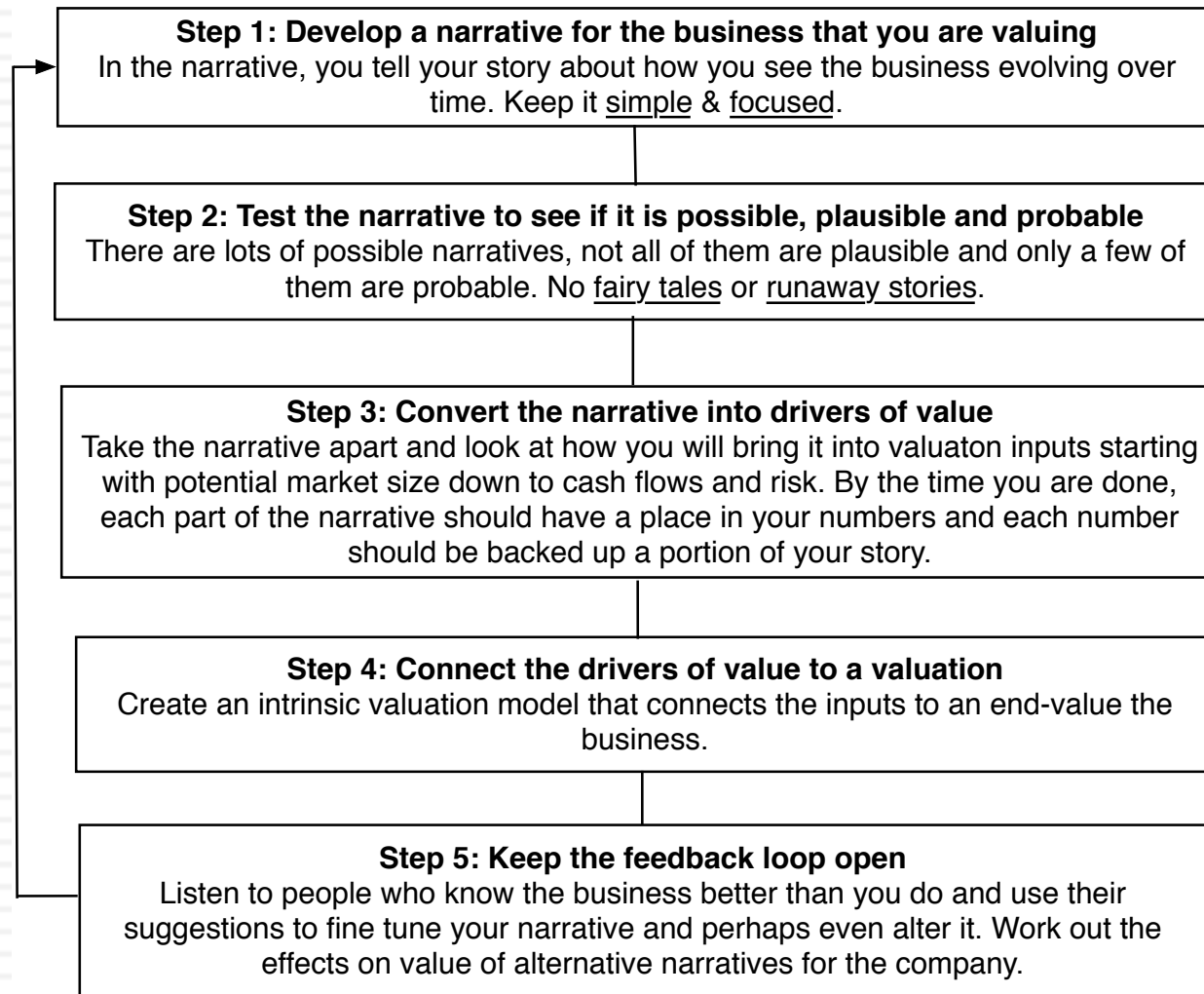
Percentile	Forecast values
0%	2277.04
10%	2685.17
20%	2752.07
30%	2809.79
40%	2870.31
50%	2932.91
60%	2999.98
70%	3072.14
80%	3144.45
90%	3226.31
100%	3455.33



Lesson 5: Stories + Numbers

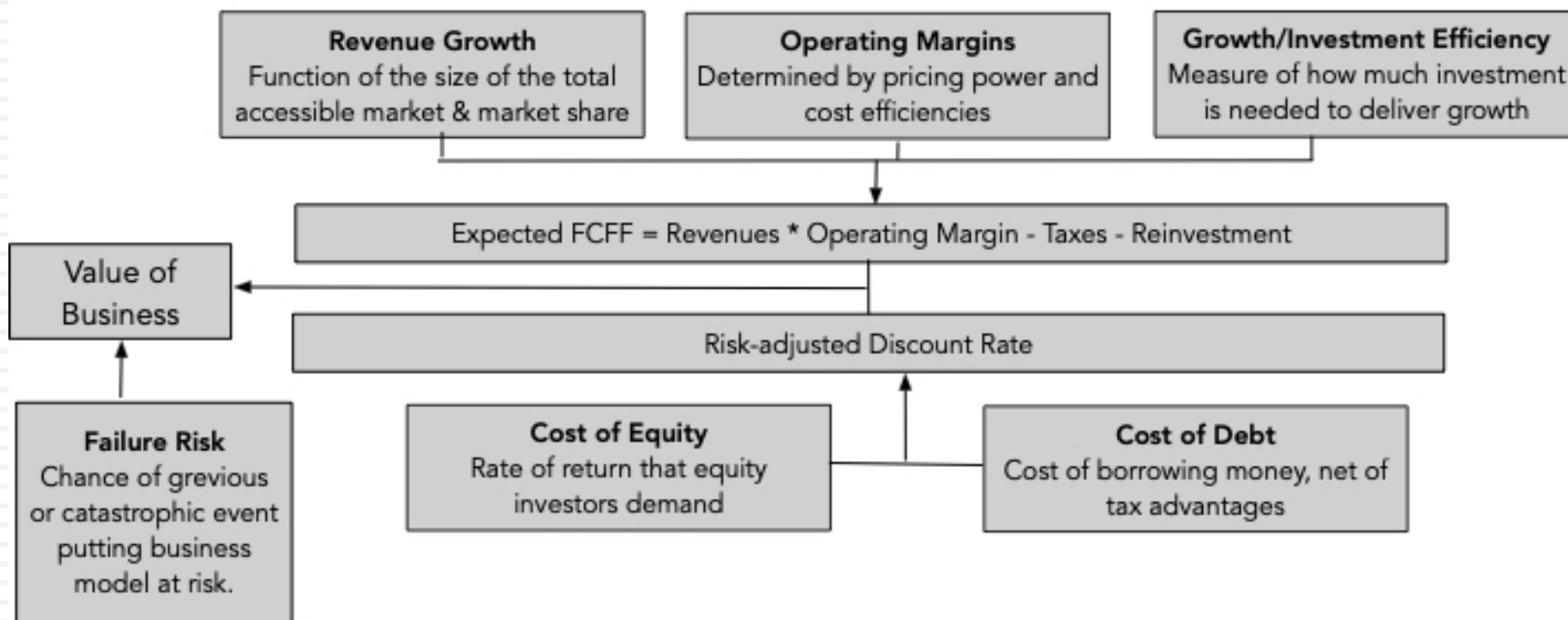


From story to numbers and beyond..



The Basics of Value

The Value Drivers for a Company



Tesla

Silence is golden!

With the wind behind its back, Tesla has consolidated its hold on the electric car market and will continue to grow that market, at the expense of conventional car makers. Pushing its production towards 2 million cars by 2030, it will also be able to deliver higher margins than conventional auto companies in steady state. The rise in its market capitalization has reduced its cost of capital and the chance of failure. While Tesla will be able to invest less than other auto companies to add to capacity, its need to ramp up production will require more capital, creating negative cash flows in the near years. While other revenue sources (green energy, driverless cars in ride sharing) will supplement revenues, it will remain at its core an electric car company.

The Assumptions

	Base year	Years 1-5	Years 6-10		After year 10	Link to story
Revenues (a)	\$ 24,578	25.00% → 1.75%			1.75%	Growth in EV market & Tesla's early mover advantage work in its favor.
Operating margin (b)	1.60%	1.60% → 12.00%			12.00%	Continued economies of scale & brand
Tax rate	25.00%	25.00% → 25.00%			25.00%	Global tax rate
Reinvestment (c)		Sales to capital ratio 3.00		RIR =	17.50%	Capacity build up allows for less reinvestment in the near years.
Return on capital	1.59%	Marginal ROIC =	34.86%		10.00%	Cost of entry will limit competition.
Cost of capital (d)		7.00% → 7.40%			7.40%	Moves to median company cost of capital

The Cash Flows

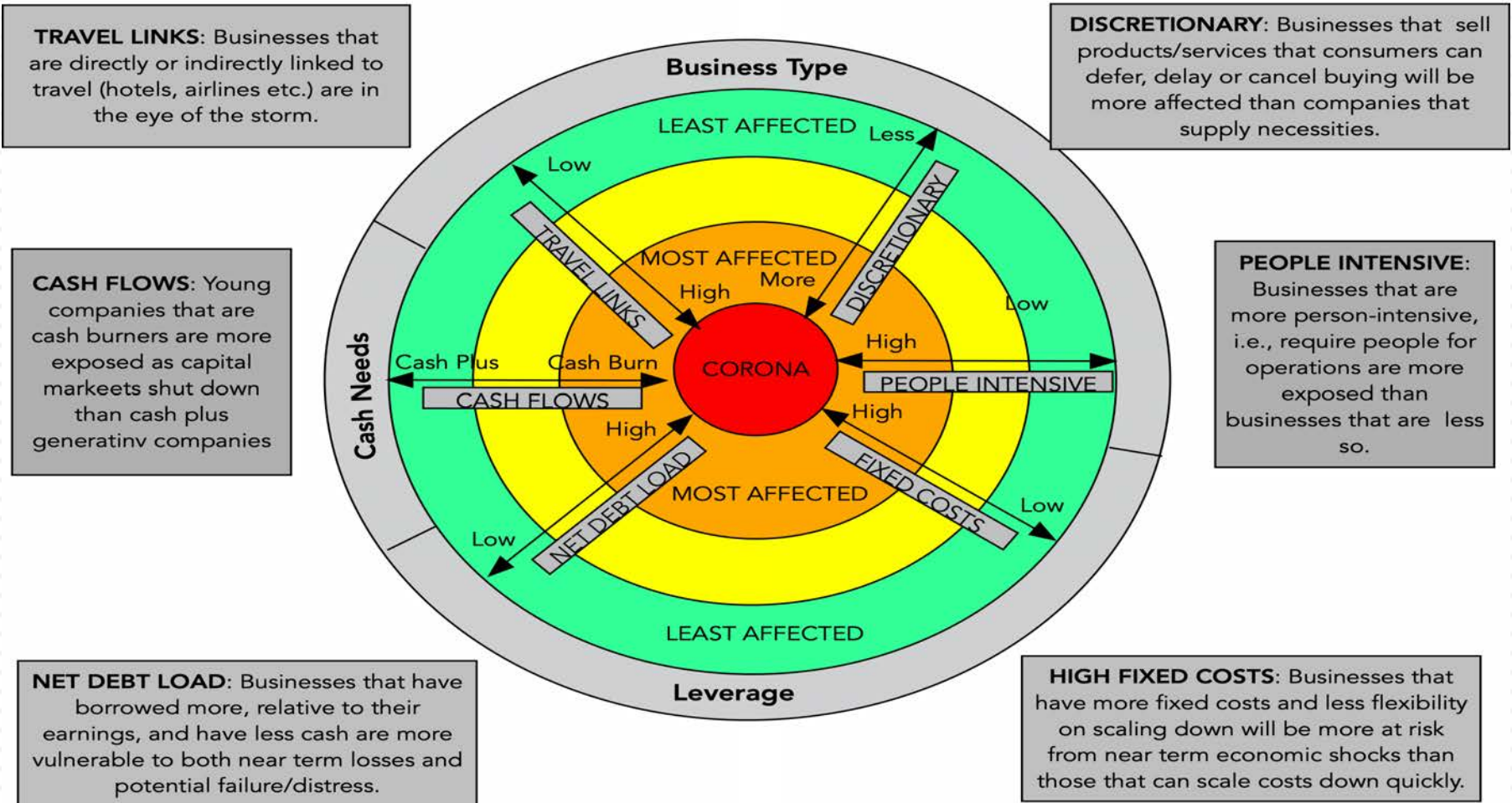
	Revenues	Operating Margin	EBIT	EBIT (1-t)	Reinvestment	FCFF
1	\$ 30,723	3.68%	\$ 1,132	\$ 849	\$ 2,048	\$ (1,199)
2	\$ 38,403	5.76%	\$ 2,213	\$ 1,660	\$ 2,560	\$ (900)
3	\$ 48,004	7.84%	\$ 3,764	\$ 2,823	\$ 3,200	\$ (377)
4	\$ 60,005	9.92%	\$ 5,953	\$ 4,465	\$ 4,000	\$ 464
5	\$ 75,006	12.00%	\$ 9,001	\$ 6,751	\$ 5,000	\$ 1,750
6	\$ 90,270	12.00%	\$ 10,832	\$ 8,124	\$ 7,632	\$ 492
7	\$ 104,442	12.00%	\$ 12,533	\$ 9,400	\$ 7,086	\$ 2,314
8	\$ 115,983	12.00%	\$ 13,918	\$ 10,438	\$ 5,770	\$ 4,668
9	\$ 123,406	12.00%	\$ 14,809	\$ 11,107	\$ 3,711	\$ 7,395
10	\$ 125,566	12.00%	\$ 15,068	\$ 11,301	\$ 1,080	\$ 10,221
Terminal year	\$ 127,763	12.00%	\$ 15,332	\$ 11,499	\$ 2,012	\$ 9,486

The Value

Terminal value	\$ 167,901		
PV(Terminal value)	\$ 84,402		
PV (CF over next 10 years)	\$ 12,988		
Value of operating assets =	\$ 97,390		
Adjustment for distress	\$ 4,869	Probability of failure =	10.00%
- Debt & Mnority Interests	\$ 14,708		
+ Cash & Other Non-operating assets	\$ 6,514		
Value of equity	\$ 84,326		
- Value of equity options	\$ 8,822		
Number of shares	177.00		
Value per share	\$ 426.58	Stock was trading at =	\$581.00

The Virus Effect: A Picture

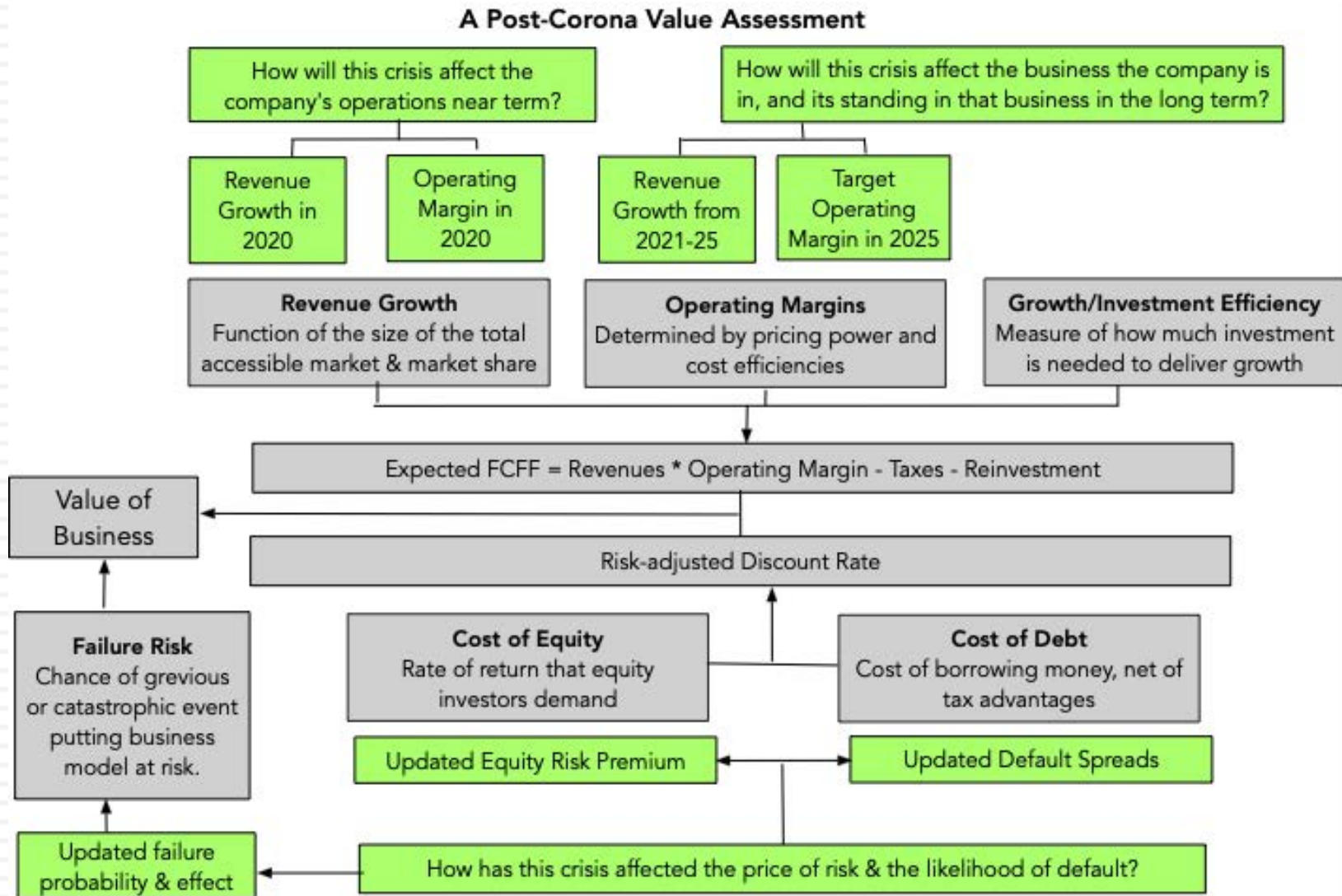
CIRCLES OF INFECTION: CORONA'S EFFECT ON BUSINESSES



And the dark side beckons...

- 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, you are probably feeling lost right now, and with good reason.
- It is also not a time to wring our hands, complain that there is too much uncertainty and argue that the fundamentals don't matter.
 - If you do so, you will be drawn to the dark side of investing, where fundamentals don't matter (paradigm shifts, anyone?), new pricing metrics get invented and you are at the mercy of mood and momentum.
- Ironically, it is precisely at times like these that you need to go back to basics.

A Post-Corona Version



The Story

Zoom is poised to take advantage of an explosion in the online meeting/seminar market, as the crisis changes behavior for the long term on both fronts. While there will be multiple players in the markets, some with deep pockets (Cisco's Webex, Microsoft's team and Google's whatever), Zoom will grab a dominant market shares, both because of its first mover advantages and networking benefits. As it grows, it will benefit from economies of scale and its margins will converge on those of software companies collectively. Its cost of capital reflects its business services model, but since it is young and not fully formed, there remains a chance of failure.

The Assumptions

	Base year	Years 1-5	Years 6-10		After year 10	Link to story
Revenues (a)	\$ 623	55.00%	→ 2.00%		2.00%	Growing online market + Mkt share
Operating margin (b)	9.70%	9.70%	→ 22.25%		22.25%	Software company margins
Tax rate	25.00%	25.00%	→ 25.00%		25.00%	Global/US marginal tax rate
Reinvestment (c)		Sales to capital ratio 2.25		RIR =	29.34%	Drop from current level + higher than industry
Return on capital	23.64%	Marginal ROIC =	51.27%		6.82%	Low capital intensity + High margin model
Cost of capital (d)		7.72%	→ 6.82%		6.82%	Close to average company's cost of capital

The Cash Flows

	Revenues	Operating Margin	EBIT	EBIT (1-t)	Reinvestment	FCFF
1	\$ 965	12.21%	\$ 118	\$ 88	\$ 152	\$ (64)
2	\$ 1,496	14.72%	\$ 220	\$ 165	\$ 236	\$ (71)
3	\$ 2,319	17.23%	\$ 400	\$ 300	\$ 366	\$ (66)
4	\$ 3,594	19.74%	\$ 710	\$ 532	\$ 567	\$ (35)
5	\$ 5,571	22.25%	\$ 1,240	\$ 930	\$ 879	\$ 51
6	\$ 8,045	22.25%	\$ 1,790	\$ 1,342	\$ 1,099	\$ 243
7	\$ 10,764	22.25%	\$ 2,395	\$ 1,796	\$ 1,208	\$ 588
8	\$ 13,261	22.25%	\$ 2,951	\$ 2,213	\$ 1,110	\$ 1,103
9	\$ 14,932	22.25%	\$ 3,322	\$ 2,492	\$ 743	\$ 1,749
10	\$ 15,230	22.25%	\$ 3,389	\$ 2,542	\$ 133	\$ 2,409
Terminal year	\$ 15,535	22.25%	\$ 3,457	\$ 2,593	\$ 761	\$ 1,832

The Value

Terminal value	\$ 38,036		
PV(Terminal value)	\$ 18,541		
PV (CF over next 10 years)	\$ 3,043		
Value of operating assets =	\$ 21,583		
Adjustment for distress	\$ 1,727	Probability of failure =	10.00%
- Debt & Mnority Interests	\$ 119		
+ Cash & Other Non-operating assets	\$ 855		
Value of equity	\$ 20,593		
- Value of equity options	\$ 1,121		
Number of shares	276.40		
Value per share	\$ 70.45	Stock was trading at =	\$146.48

Slip, slipping away!

In the face of the Covid-19 pandemic, the protracted impact on the airline industry, and the struggles in the past of the 737 Max, BA faces a tough path forward over the next 5 years. With the assumption that air travel will not return to its pre-Covid-19 levels for the next 4-6 quarters, BA will have negative growth. Furthermore, given BA's debt-heavy balance sheet, there will also be limited re-investment given that paying down the debt is the priority. Thus, risk remains high

The Assumptions

	Base year	Years 1-5	Years 6-10		After year 10	Link to story
Revenues (a)	\$ 76,559	-15.00%	→ 2.00%		2.00%	Continued slowing of growth
Operating margin (b)	-2.82%	-2.82%	→ 11.00%		11.00%	With pressure on margins
Tax rate	25.00%	25.00%	→ 25.00%		25.00%	& Convergence to global tax rate
Reinvestment (c)		Sales to capital ratio	0.00	RIR =	16.67%	Business stays capital intensive
Return on capital	-9.31%	Marginal ROIC =	121.07%		12.00%	But competitive advantages fade
Cost of capital (d)		7.40%	→ 7.00%		7.00%	As cost of capital stays low

The Cash Flows

	Revenues	Operating Margin	EBIT	EBIT (1-t)	Reinvestment	FCFF
1	\$ 65,075	-5.00%	\$ (3,254)	\$ (3,254)	\$ -	\$ (3,254)
2	\$ 60,195	4.09%	\$ 2,462	\$ 2,462	\$ (1,952)	\$ 4,414
3	\$ 72,233	7.54%	\$ 5,450	\$ 4,434	\$ 2,866	\$ 1,568
4	\$ 86,680	11.00%	\$ 9,535	\$ 7,151	\$ 3,440	\$ 3,711
5	\$ 95,348	11.00%	\$ 10,488	\$ 7,866	\$ 2,064	\$ 5,802
6	\$ 103,357	11.00%	\$ 11,369	\$ 8,527	\$ 1,907	\$ 6,620
7	\$ 110,386	11.00%	\$ 12,142	\$ 9,107	\$ 1,673	\$ 7,433
8	\$ 116,126	11.00%	\$ 12,774	\$ 9,580	\$ 1,367	\$ 8,214
9	\$ 120,306	11.00%	\$ 13,234	\$ 9,925	\$ 995	\$ 8,930
10	\$ 122,712	11.00%	\$ 13,498	\$ 10,124	\$ 573	\$ 9,551
Terminal year	\$ 125,167	11.00%	\$ 13,768	\$ 10,326	\$ 1,721	\$ 8,605

The Value

Terminal value	\$ 172,104		
PV(Terminal value)	\$ 85,215		
PV (CF over next 10 years)	\$ 31,867		
Value of operating assets =	\$ 117,082		
Adjustment for distress	\$ 8,781	Probability of failure =	15.00%
- Debt & Mnority Interests	\$ 28,371		
+ Cash & Other Non-operating assets	\$ 10,886		
Value of equity	\$ 90,816		
- Value of equity options	\$ 153		
Number of shares	564.20		
Value per share	\$ 160.69	Stock was trading at =	\$132.40