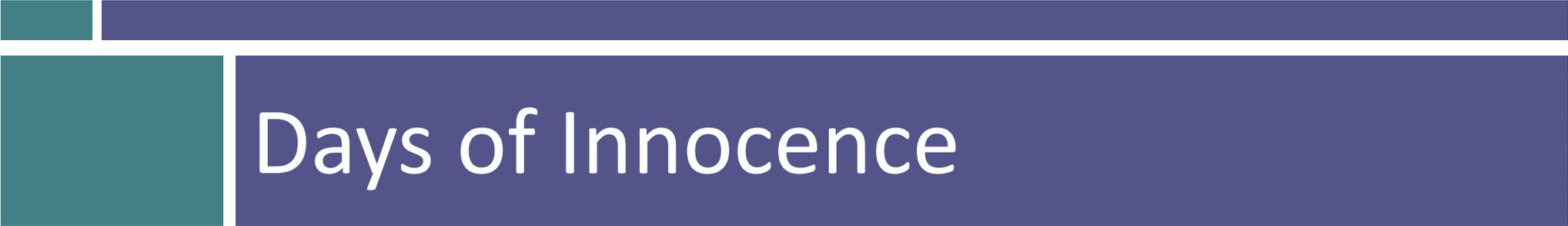




A VIRAL MARKET UPDATE: LEARNING DURING A CRISIS

Glimmers of light?



Days of Innocence

My start of the year update on markets

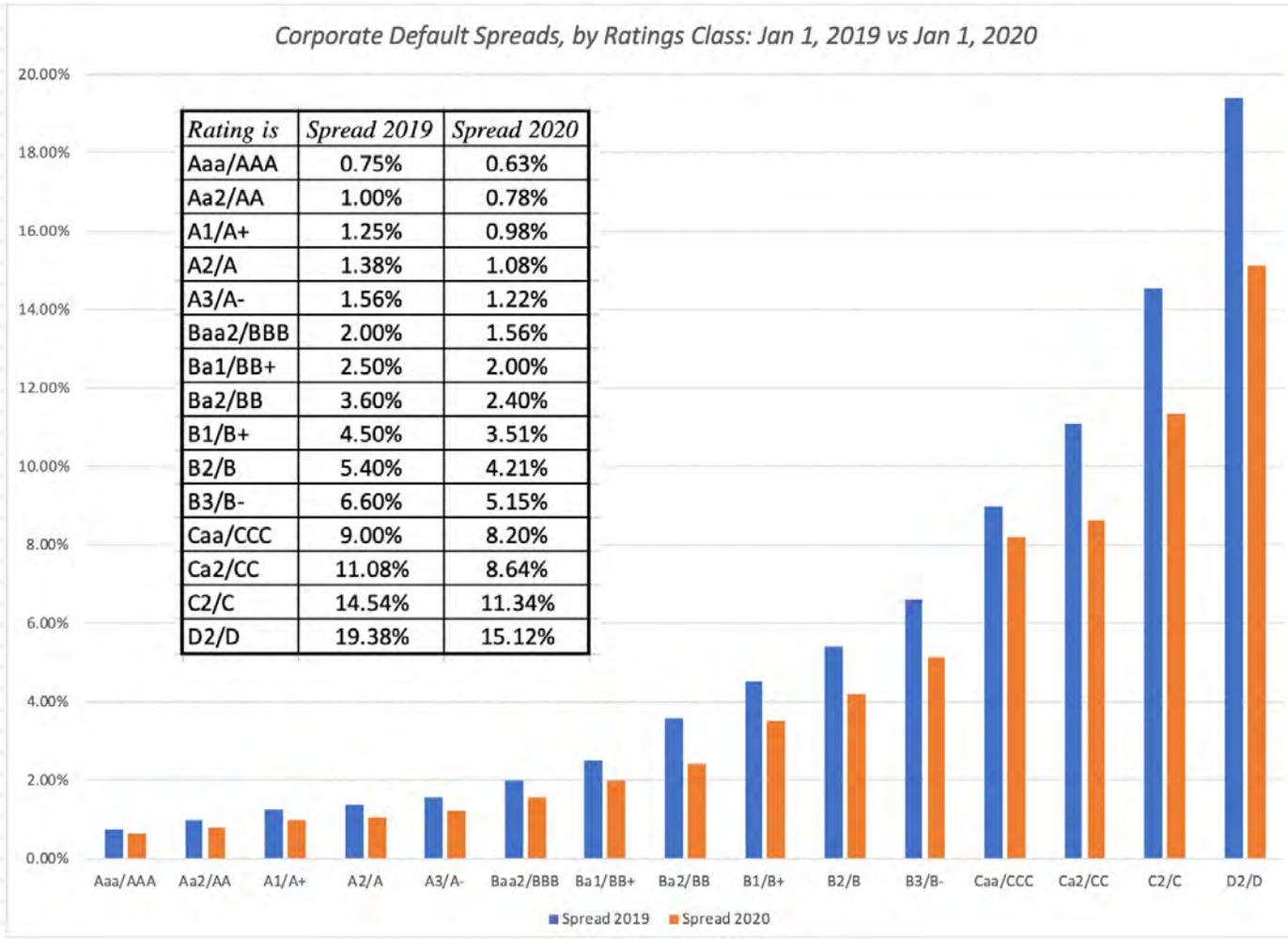
The Trade off on Risk

- When investing, risk is a given and if you choose to avoid it, at any cost, you will and in the last decade, you have borne a staggering cost in terms of returns unearned.
- At the other extreme, seeking out risk for the sake of taking risk is more suited to casinos than to financial markets, and as in casinos, the end game is almost always disastrous.
- The middle ground on risk is to accept that it is part and parcel of investing, to try to gauge how exposed you are to it and to make sure that your expected return is high enough to compensate you for taking that risk.

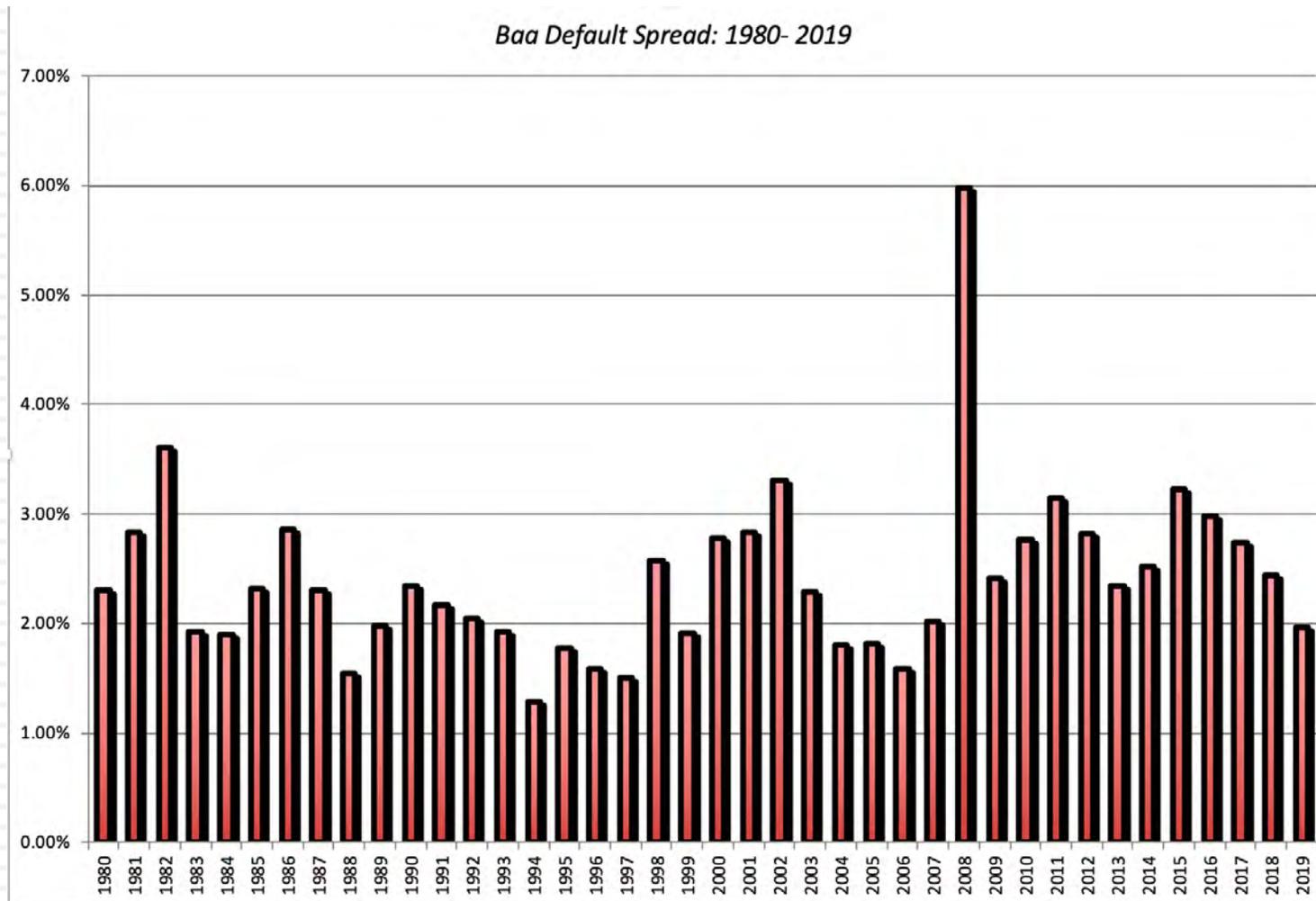
The Price of Risk

- When you invest in fixed income securities (bonds), your compensation takes the form of a default spread, i.e., what you charge over the riskfree rate to invest in that bond.
- When you invest in equities, the payoff to taking risk comes in the form of an equity risk premium, i.e., the premium you demand over and above the risk free rate for investing in equities as an asset class.
- The default spread is a function of what investors believe is the likelihood that borrowers will fail to make their contractually obligated payments, and it will rise and fall with the economy. The equity risk premium is a more complex number and I think of it as the receptacle for everything in the market.

The Default Spread in 2019



And over time....

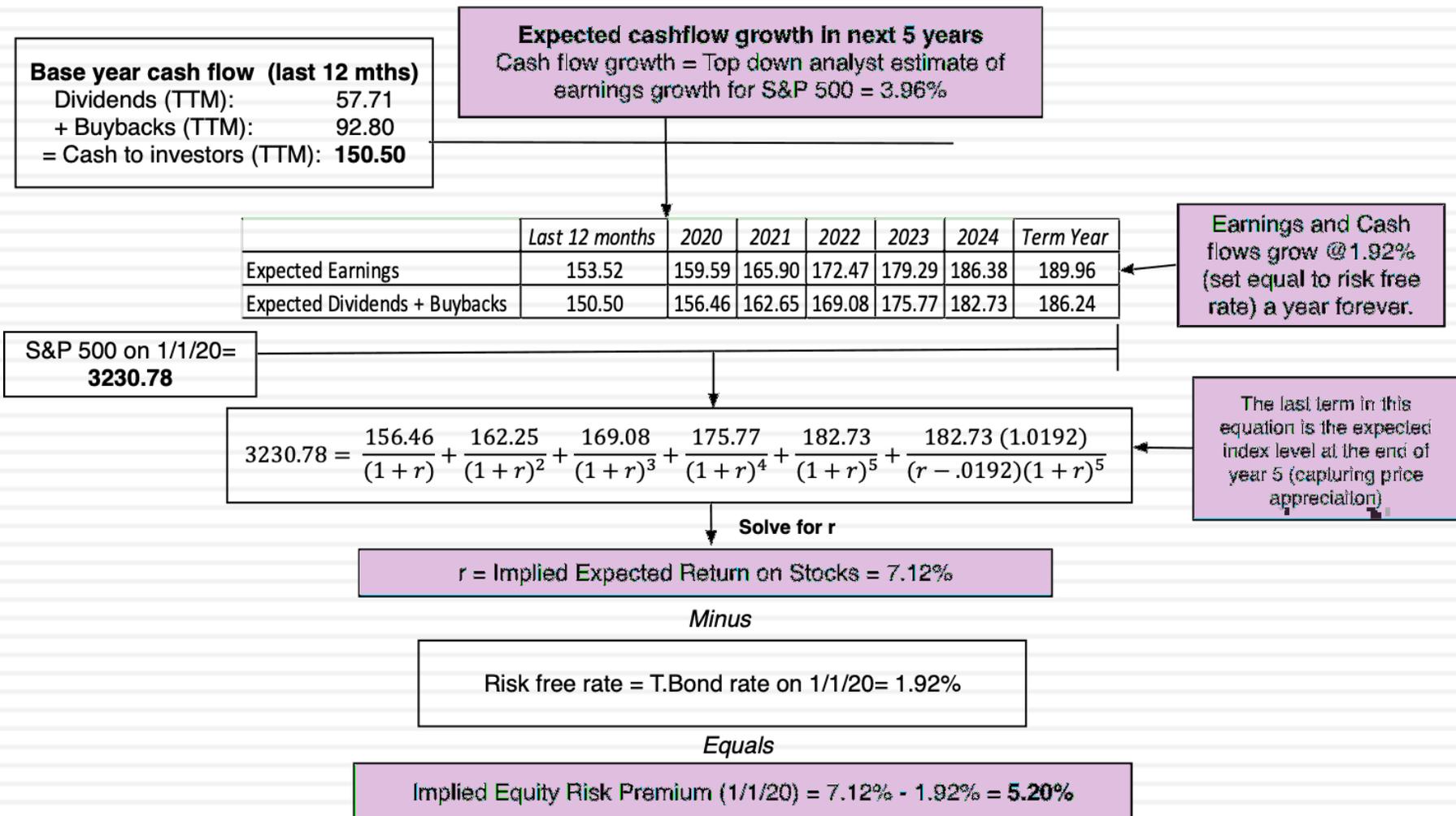


The US Equity Risk Premium

	<i>Arithmetic Average</i>		<i>Geometric Average</i>	
	Stocks - T. Bills	Stocks - T. Bonds	Stocks - T. Bills	Stocks - T. Bonds
1928-2019	8.18%	6.43%	6.35%	4.83%
<i>Std Error</i>	<i>2.08%</i>	<i>2.20%</i>		
1970-2019	7.26%	4.50%	5.93%	3.52%
<i>Std Error</i>	<i>2.38%</i>	<i>2.73%</i>		
2010-2019	13.51%	9.67%	12.93%	9.31%
<i>Std Error</i>	<i>3.85%</i>	<i>4.87%</i>		

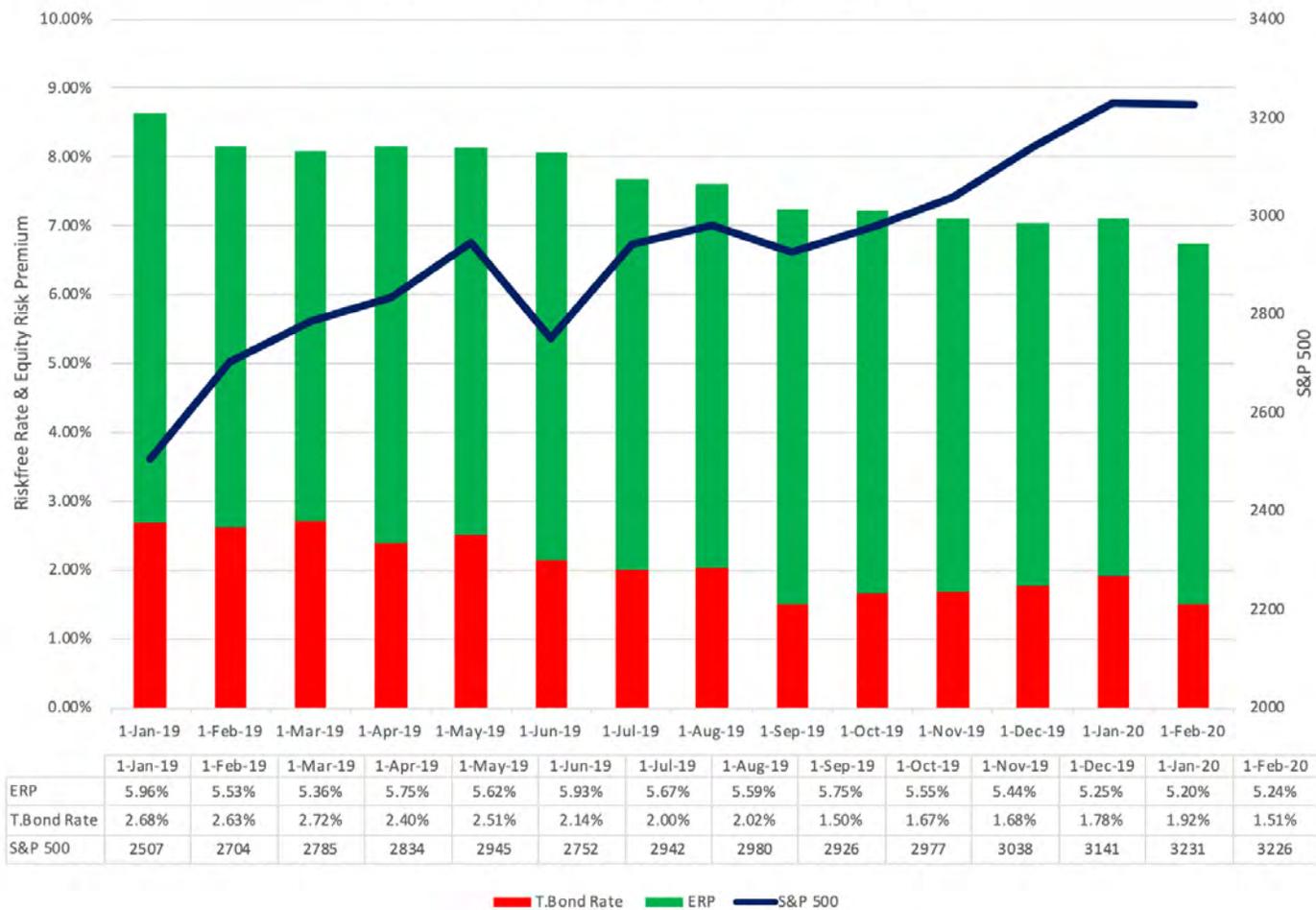
Using a backward-looking number with a large estimation error (see the standard errors in the table above) as an expectation for the future cuts against the very essence of an equity risk premium as a number that should be dynamic and constantly changing, as new information comes into markets.

A Forward-looking Estimate on January 1, 2020

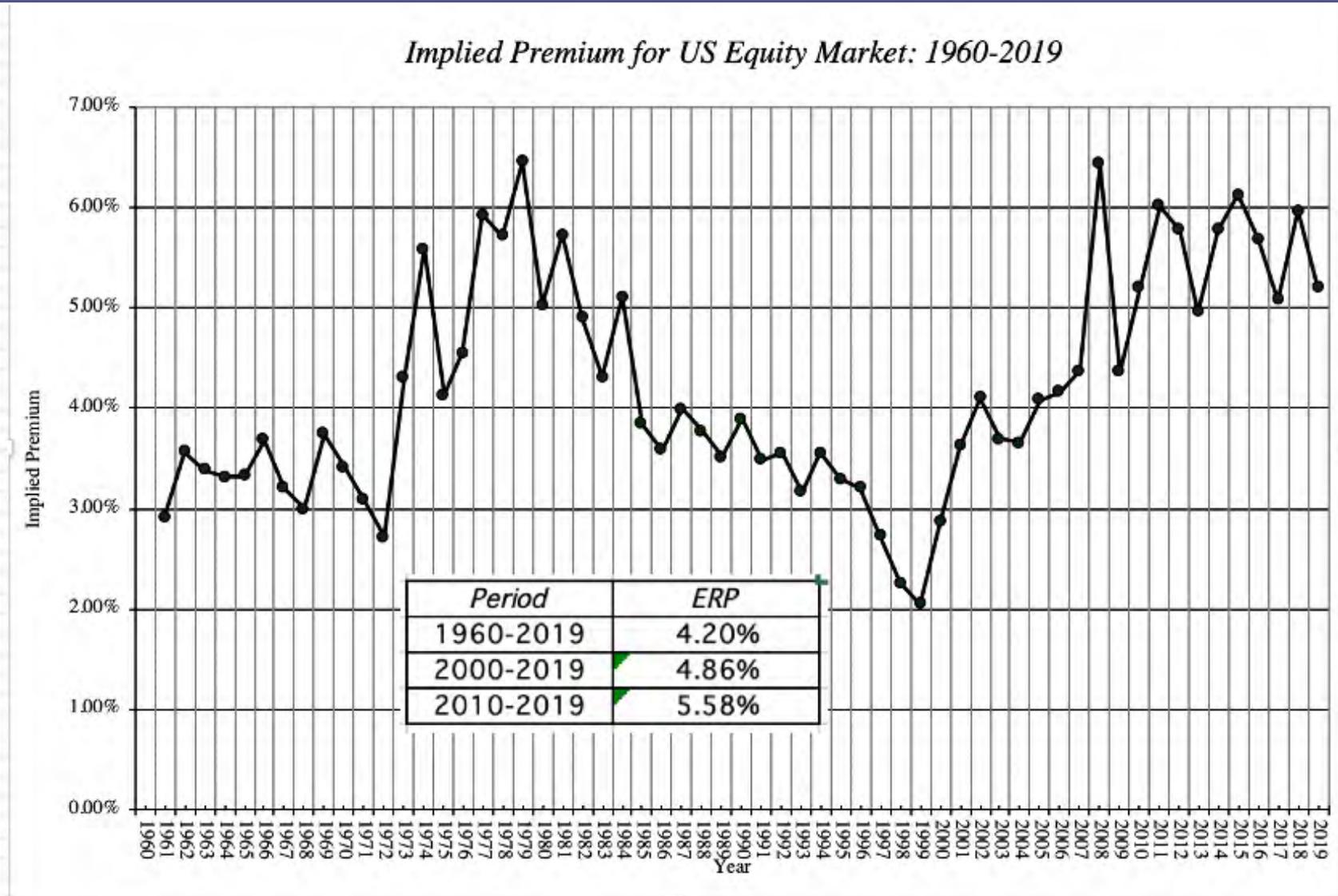


The ERP's Path in 2019

Equity Risk Premium: The Pathway through 2019



And over time...





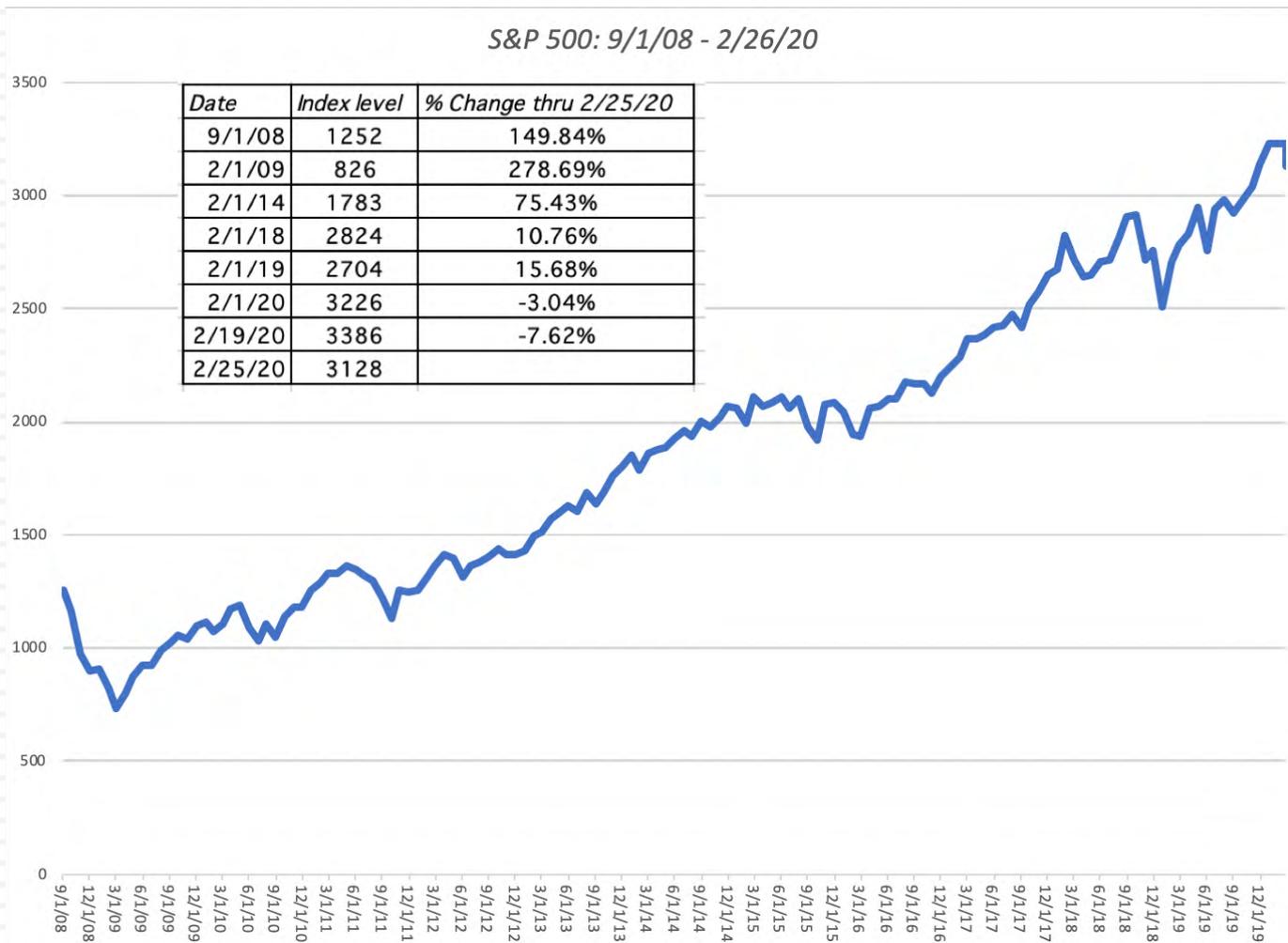
The Crisis Dawns

Waking up to a new world...

The Crisis Test

- It has become almost a rite of passage for investors, at least since 2008, that they will be tested by a market crisis precipitated sometimes by political developments (Brexit), sometimes by governments (trade wars), sometimes by war and terrorism (the US/Iran standoff) and sometimes by economics (Greek default).
- With each one, the question that you face about whether this is the “big one”, a market meltdown that you have to respond to by selling everything and fleeing for safety (or the closest thing you can find to it) or just another bump in the road, where markets claw back what they gave up, and then gain more.
- After yesterday’s global meltdown in equity markets, I think it is safe to say that we are back in crisis mode, with old questions returning about the global economic strength and market valuations. I have neither the stomach nor the expertise to play market guru, but I will go through my playbook for coping.

Perspective!





Damage Assessment: April 17, 2020

Macro Review: Equity Indices

	<i>Index</i>	<i>Country/Region</i>	<i>Level on 4/17</i>	<i>% Change</i>	
				<i>4-10-4/17</i>	<i>3/17-4/17</i>
<i>Americas</i>	S&P 500	US	2875	2.68%	4.09%
	NASDAQ 100	US	8832	0.85%	6.00%
	TSX	Canada	14360	2.02%	22.51%
	IPC Mexico	Mexico	34743	0.37%	-2.22%
	iBovespa	Brazil	78990	0.20%	18.08%
<i>Europe</i>	FTSE 100	UK	5787	-0.08%	13.90%
	DAX	Germany	10626	-0.66%	25.87%
	CAC 40	France	4499	-0.66%	20.27%
	S&P Europe 350	Europe	1341	-0.11%	19.55%
<i>Asia</i>	Nikkei 225	Japan	19897	2.05%	18.96%
	Shanghai 50	China	2809	2.15%	6.98%
	Hang Seng	Hong Kong	24380	-0.23%	9.37%
	Sensex	India	27591	2.93%	9.42%
<i>Australia & NZ</i>	ASX 200	Australia	5068	-0.01%	10.79%
	NZX 50	New Zealand	9935	7.21%	14.00%
<i>Africa</i>	FTSE/JSE TOP 40	South Africa	44599	-1.18%	29.75%
	NSE All Share	Nigeria	21099	1.75%	1.60%

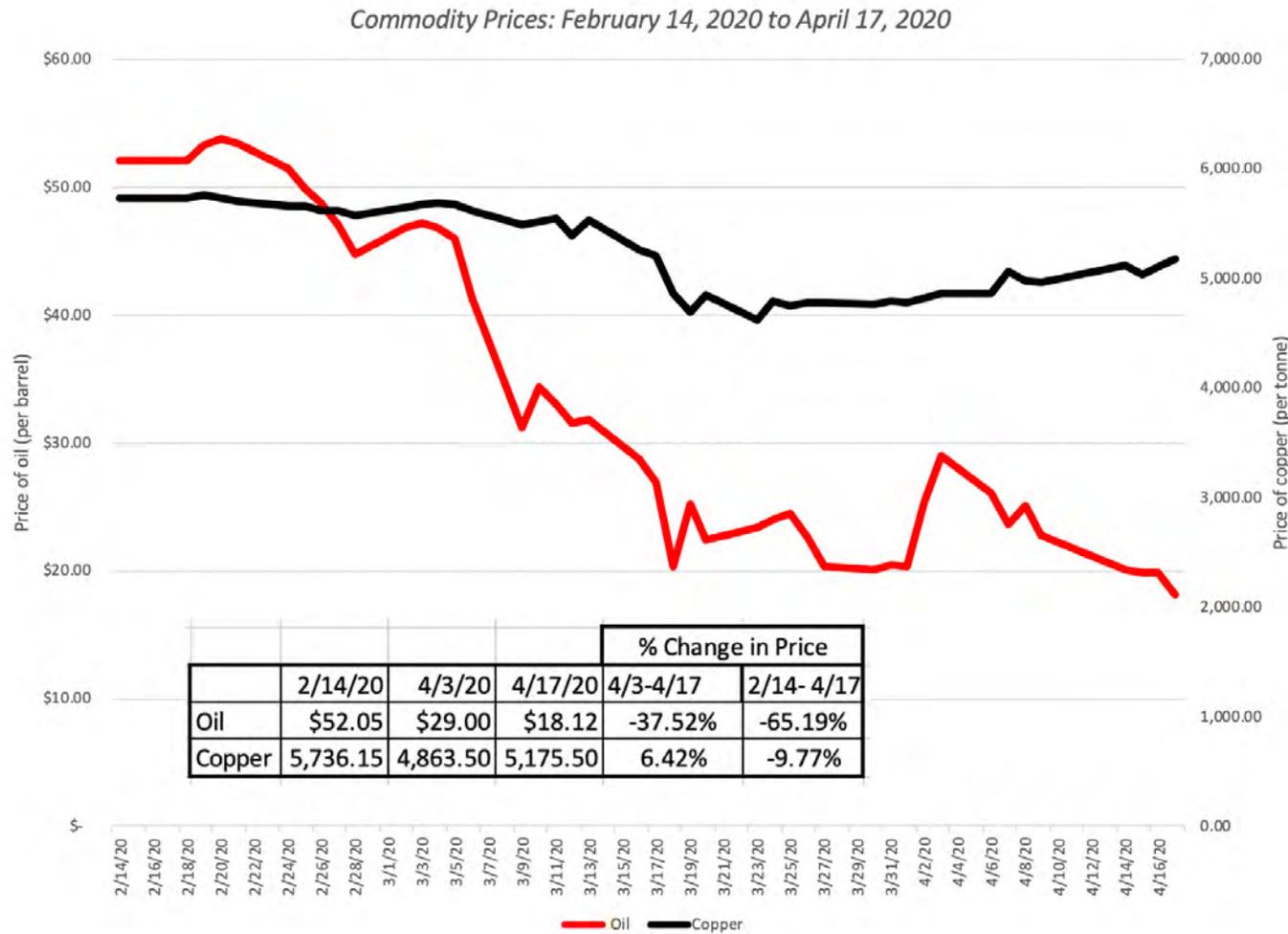
Macro Review: US Treasuries

	Yields on US Treasuries			
Maturity	2/14/20	4/3/20	4/10/20	4/17/20
3 month	1.58%	0.10%	0.25%	0.12%
2 year	1.42%	0.23%	0.23%	0.20%
5 year	1.42%	0.39%	0.41%	0.36%
10 year	1.59%	0.62%	0.73%	0.65%
20 year	1.89%	1.05%	1.15%	1.08%
30 year	2.04%	1.24%	1.35%	1.27%
	Yield curve slope			
2 yr - 3 month	-0.16%	0.13%	-0.02%	0.08%
10 yr - 2 yr	0.17%	0.39%	0.50%	0.45%
30 yr - 10 yr	0.45%	0.62%	0.62%	0.62%

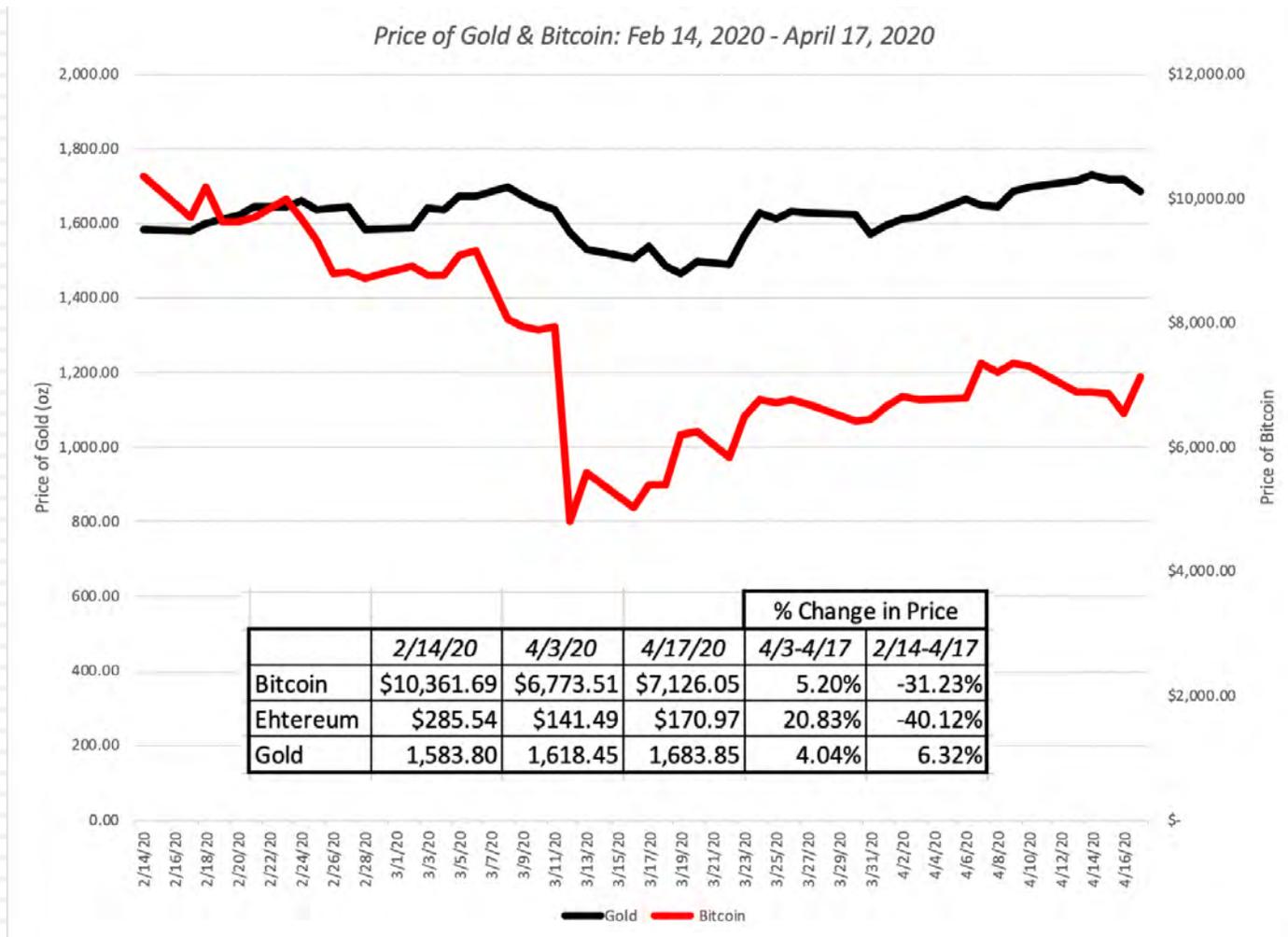
Macro Review: Corporate Bonds

S&P Bond Rating	Yields and Spreads on Corporates								Change from 2/14 - 4/17	
	Spread over 10-yr Treasury				Yield on Treasury				Spread	Yield
	2/14/20	4/3/20	4/10/20	4/17/20	2/14/20	4/3/20	4/10/20	4/17/20		
AAA	0.69%	1.50%	1.20%	1.16%	2.28%	2.12%	1.93%	1.81%	0.47%	-0.47%
AA	0.72%	1.77%	1.40%	1.29%	2.31%	2.39%	2.13%	1.94%	0.57%	-0.37%
A	0.80%	2.29%	1.87%	1.70%	2.39%	2.91%	2.60%	2.35%	0.90%	-0.04%
BBB	1.33%	3.97%	3.36%	3.03%	2.92%	4.59%	4.09%	3.68%	1.70%	0.76%
BB	1.93%	6.76%	5.34%	4.81%	3.52%	7.38%	6.07%	5.46%	2.88%	1.94%
B	3.40%	10.14%	8.49%	7.93%	4.99%	10.76%	9.22%	8.58%	4.53%	3.59%
CCC or lower	9.65%	18.80%	17.08%	16.32%	11.24%	19.42%	17.81%	16.97%	6.67%	5.73%

Macro Review: Oil & Copper



Macro Review: Gold & Bitcoin



Global Equities: By Region

Sub Region	Number of firms	Mkt Cap (2/14)	Mkt Cap (4/3)	Mkt Cap (4/17)	Mkt Cap: 4/3- 4/17		Mkt Cap: 2/14 - 4/17	
					\$ Change	% Change	\$ Change	% Change
Africa	652	\$ 579,706	\$ 352,644	\$ 381,099	\$ 28,455	8.07%	\$ (198,607)	-34.26%
Australia & NZ	1,356	\$ 1,617,545	\$ 1,038,217	\$ 1,193,976	\$ 155,759	15.00%	\$ (423,569)	-26.19%
Canada	1,576	\$ 2,234,720	\$ 1,508,434	\$ 1,690,178	\$ 181,744	12.05%	\$ (544,542)	-24.37%
China	6,161	\$ 14,027,134	\$ 12,659,745	\$ 13,253,719	\$ 593,974	4.69%	\$ (773,415)	-5.51%
Eastern Europe & Russia	414	\$ 816,760	\$ 564,470	\$ 580,852	\$ 16,382	2.90%	\$ (235,908)	-28.88%
EU & Environs	4,770	\$ 13,667,991	\$ 9,893,062	\$ 10,757,788	\$ 864,727	8.74%	\$ (2,910,202)	-21.29%
India	1,941	\$ 2,201,867	\$ 1,410,184	\$ 1,602,062	\$ 191,879	13.61%	\$ (599,805)	-27.24%
Japan	3,811	\$ 6,041,538	\$ 4,742,114	\$ 5,232,948	\$ 490,834	10.35%	\$ (808,590)	-13.38%
Latin America & Caribbean	934	\$ 2,373,918	\$ 1,376,023	\$ 1,527,171	\$ 151,148	10.98%	\$ (846,747)	-35.67%
Middle East	1,150	\$ 3,073,924	\$ 2,719,466	\$ 2,665,047	\$ (54,419)	-2.00%	\$ (408,877)	-13.30%
Small Asia	7,694	\$ 5,061,281	\$ 3,772,641	\$ 4,175,157	\$ 402,516	10.67%	\$ (886,124)	-17.51%
UK	1,094	\$ 3,072,497	\$ 2,052,755	\$ 2,298,374	\$ 245,618	11.97%	\$ (774,123)	-25.20%
United States	4,928	\$ 35,642,353	\$ 25,634,234	\$ 29,784,527	\$4,150,293	16.19%	\$ (5,857,826)	-16.44%
Global	36,481	\$ 90,411,233	\$ 67,723,989	\$ 75,142,899	\$7,418,910	10.95%	\$ (15,268,334)	-16.89%

Global Equities: By Sector

<i>Primary Sector</i>	<i>Number of firms</i>	<i>Mkt Cap (2/14)</i>	<i>Mkt Cap (4/3)</i>	<i>Mkt Cap (4/17)</i>	<i>Mkt Cap: 4/3- 4/17</i>		<i>Mkt Cap: 2/14 - 4/17</i>	
					<i>\$ Change</i>	<i>% Change</i>	<i>\$ Change</i>	<i>% Change</i>
Communication Services	1,682	\$ 7,341,638	\$ 5,771,726	\$ 6,396,994	\$ 625,268	10.83%	\$ (944,644)	-12.87%
Consumer Discretionary	4,945	\$ 10,158,898	\$ 7,308,734	\$ 8,555,018	\$1,246,284	17.05%	\$ (1,603,880)	-15.79%
Consumer Staples	2,298	\$ 7,118,491	\$ 6,080,159	\$ 6,548,231	\$ 468,073	7.70%	\$ (570,260)	-8.01%
Energy	1,316	\$ 5,938,328	\$ 4,339,633	\$ 4,383,093	\$ 43,460	1.00%	\$ (1,555,234)	-26.19%
Financials	3,844	\$ 14,919,508	\$ 10,094,701	\$ 10,933,915	\$ 839,214	8.31%	\$ (3,985,593)	-26.71%
Global	36,481	\$ 90,411,233	\$ 67,723,989	\$ 75,142,899	\$7,418,910	10.95%	\$(15,268,334)	-16.89%
Health Care	3,411	\$ 8,968,840	\$ 7,582,188	\$ 8,581,301	\$ 999,113	13.18%	\$ (387,539)	-4.32%
Industrials	6,564	\$ 10,121,550	\$ 7,170,567	\$ 7,951,424	\$ 780,857	10.89%	\$ (2,170,126)	-21.44%
Information Technology	4,875	\$ 13,601,118	\$ 10,328,554	\$ 11,798,990	\$1,470,437	14.24%	\$ (1,802,128)	-13.25%
Materials	4,414	\$ 4,991,381	\$ 3,736,573	\$ 4,139,741	\$ 403,168	10.79%	\$ (851,640)	-17.06%
Real Estate	2,311	\$ 4,050,062	\$ 2,859,551	\$ 3,164,030	\$ 304,479	10.65%	\$ (886,032)	-21.88%
Utilities	817	\$ 3,200,581	\$ 2,450,935	\$ 2,689,435	\$ 238,500	9.73%	\$ (511,146)	-15.97%
All firms	36,481	\$ 90,411,233	\$ 67,723,989	\$ 75,142,899	\$7,418,910	10.95%	\$(15,268,334)	-16.89%

Global Equities: Industry Winners & Losers

	Worst Performing Industries (2/14 - 4/17)						
				Mkt Cap: 4/3- 4/17		Mkt Cap: 2/14 - 4/17	
Industry	Mkt Cap (2/14)	Mkt Cap (4/3)	Mkt Cap (4/17)	\$ Change	% Change	\$ Change	% Change
Oil/Gas (Production and Exploration)	\$ 692,554	\$ 386,341	\$ 404,834	\$ 18,493	4.79%	\$ (287,719)	-41.54%
Homebuilding	\$ 247,004	\$ 126,947	\$ 154,145	\$ 27,198	21.43%	\$ (92,859)	-37.59%
Air Transport	\$ 559,439	\$ 306,560	\$ 350,468	\$ 43,908	14.32%	\$ (208,971)	-37.35%
Broadcasting	\$ 164,761	\$ 93,291	\$ 107,844	\$ 14,553	15.60%	\$ (56,917)	-34.55%
Oilfield Svcs/Equip.	\$ 741,428	\$ 445,056	\$ 488,541	\$ 43,485	9.77%	\$ (252,887)	-34.11%
Food Wholesalers	\$ 93,056	\$ 52,910	\$ 61,559	\$ 8,649	16.35%	\$ (31,497)	-33.85%
Oil/Gas Distribution	\$ 653,462	\$ 386,630	\$ 437,227	\$ 50,597	13.09%	\$ (216,235)	-33.09%
Hotel/Gaming	\$ 717,777	\$ 394,003	\$ 490,025	\$ 96,022	24.37%	\$ (227,752)	-31.73%
Aerospace/Defense	\$ 1,217,331	\$ 683,209	\$ 832,292	\$ 149,082	21.82%	\$ (385,039)	-31.63%
Reinsurance	\$ 180,550	\$ 109,101	\$ 123,655	\$ 14,554	13.34%	\$ (56,895)	-31.51%
	Best Performing Industries (2/14 - 4/17)						
				Mkt Cap: 4/3- 4/17		Mkt Cap: 2/14 - 4/17	
Industry	Mkt Cap (2/14)	Mkt Cap (4/3)	Mkt Cap (4/17)	\$ Change	% Change	\$ Change	% Change
Retail (Online)	\$ 2,455,790	\$ 2,081,460	\$ 2,483,956	\$ 402,496	19.34%	\$ 28,166	1.15%
Drugs (Biotechnology)	\$ 1,409,166	\$ 1,242,047	\$ 1,422,584	\$ 180,537	14.54%	\$ 13,417	0.95%
Precious Metals	\$ 418,906	\$ 350,674	\$ 417,290	\$ 66,616	19.00%	\$ (1,616)	-0.39%
Software (Internet)	\$ 226,911	\$ 173,926	\$ 224,558	\$ 50,632	29.11%	\$ (2,353)	-1.04%
Healthcare Information and Technology	\$ 772,828	\$ 656,136	\$ 759,471	\$ 103,335	15.75%	\$ (13,357)	-1.73%
Drugs (Pharmaceutical)	\$ 3,623,939	\$ 3,190,552	\$ 3,497,146	\$ 306,594	9.61%	\$ (126,793)	-3.50%
Food Processing	\$ 1,792,176	\$ 1,617,124	\$ 1,718,626	\$ 101,502	6.28%	\$ (73,550)	-4.10%
Retail (General)	\$ 1,054,814	\$ 903,932	\$ 1,004,714	\$ 100,781	11.15%	\$ (50,100)	-4.75%
Healthcare Products	\$ 1,829,639	\$ 1,500,672	\$ 1,723,383	\$ 222,710	14.84%	\$ (106,257)	-5.81%
Household Products	\$ 1,453,345	\$ 1,260,149	\$ 1,358,804	\$ 98,655	7.83%	\$ (94,541)	-6.51%

Looking for explanations?

- As this crisis has unfolded, you have had to deal with the bubblers, who have been telling us that stocks have been over valued since 2012, and feel vindicated.
- In the process, they have latched on to the argument that this is well-deserved punishment for those who invested in high flying companies and on momentum.

PE and Market Damage

					<i>Mkt Cap: 4/3- 4/17</i>		<i>Mkt Cap: 2/14 - 4/17</i>	
<i>Trailing PE on 2/14</i>	<i>Number of firms</i>	<i>Mkt Cap (2/14)</i>	<i>Mkt Cap (4/3)</i>	<i>Mkt Cap (4/17)</i>	<i>\$ Change</i>	<i>% Change</i>	<i>\$ Change</i>	<i>% Change</i>
Bottom decile	2,499	\$ 3,407,059	\$ 2,662,418	\$ 2,795,778	\$ 133,359	5.01%	\$ (611,281)	-17.94%
2nd decile	2,499	\$ 5,087,983	\$ 3,574,940	\$ 3,846,223	\$ 271,284	7.59%	\$ (1,241,759)	-24.41%
3rd decile	2,499	\$ 6,103,975	\$ 4,161,648	\$ 4,480,946	\$ 319,299	7.67%	\$ (1,623,028)	-26.59%
4th decile	2,500	\$ 6,711,344	\$ 4,771,426	\$ 5,193,494	\$ 422,068	8.85%	\$ (1,517,850)	-22.62%
5th decile	2,499	\$ 7,961,915	\$ 5,741,821	\$ 6,299,124	\$ 557,304	9.71%	\$ (1,662,791)	-20.88%
6th decile	2,499	\$ 11,286,966	\$ 8,682,102	\$ 9,349,422	\$ 667,320	7.69%	\$ (1,937,544)	-17.17%
7th decile	2,500	\$ 13,257,132	\$ 10,179,487	\$ 11,450,186	\$ 1,270,699	12.48%	\$ (1,806,946)	-13.63%
8th decile	2,499	\$ 14,769,821	\$ 11,346,257	\$ 12,767,851	\$ 1,421,594	12.53%	\$ (2,001,970)	-13.55%
9th decile	2,499	\$ 9,496,962	\$ 7,533,632	\$ 8,467,407	\$ 933,776	12.39%	\$ (1,029,555)	-10.84%
Top decile	2,500	\$ 6,219,888	\$ 4,985,645	\$ 5,747,442	\$ 761,797	15.28%	\$ (472,446)	-7.60%
Negative Earnings	11,488	\$ 6,108,189	\$ 4,084,613	\$ 4,745,025	\$ 660,412	16.17%	\$ (1,363,163)	-22.32%
All firms	36,481	\$ 90,411,233	\$ 67,723,989	\$ 75,142,899	\$ 7,418,910	10.95%	\$ (15,268,334)	-16.89%

Momentum and Damage

% Price Change (2/14/19-2/14/20)	Number of firms	Mkt Cap (2/14)	Mkt Cap (4/3)	Mkt Cap (4/17)	Mkt Cap: 4/3-4/17		Mkt Cap: 2/14 - 4/17	
					\$ Change	% Change	\$ Change	% Change
Bottom decile	3,422	\$ 905,123	\$ 583,348	\$ 668,360	\$ 85,011	14.57%	\$ (236,763)	-26.16%
2nd decile	3,422	\$ 2,454,210	\$ 1,736,244	\$ 1,875,711	\$ 139,467	8.03%	\$ (578,499)	-23.57%
3rd decile	3,422	\$ 5,395,297	\$ 3,872,391	\$ 4,161,348	\$ 288,957	7.46%	\$ (1,233,948)	-22.87%
4th decile	3,423	\$ 5,625,289	\$ 4,062,448	\$ 4,360,648	\$ 298,200	7.34%	\$ (1,264,641)	-22.48%
5th decile	3,422	\$ 7,642,411	\$ 5,653,773	\$ 6,137,408	\$ 483,635	8.55%	\$ (1,505,003)	-19.69%
6th decile	3,422	\$ 8,278,809	\$ 6,200,125	\$ 6,773,927	\$ 573,802	9.25%	\$ (1,504,882)	-18.18%
7th decile	3,423	\$ 13,054,234	\$ 9,688,601	\$ 10,741,574	\$1,052,973	10.87%	\$ (2,312,660)	-17.72%
8th decile	3,422	\$ 21,189,585	\$ 15,777,106	\$ 17,836,342	\$2,059,236	13.05%	\$ (3,353,243)	-15.82%
9th decile	3,422	\$ 13,520,053	\$ 10,242,320	\$ 11,556,248	\$1,313,928	12.83%	\$ (1,963,805)	-14.53%
Top decile	3,423	\$ 8,811,611	\$ 6,849,442	\$ 7,911,414	\$1,061,972	15.50%	\$ (900,197)	-10.22%
All firms	36,481	\$ 90,411,233	\$ 67,723,989	\$ 75,142,899	\$7,418,910	10.95%	\$(15,268,334)	-16.89%

Debt Burden and Damage

Net Debt to EBITDA	Number of firms	Mkt Cap (2/14)	Mkt Cap (4/3)	Mkt Cap (4/17)	Mkt Cap: 4/3- 4/17		Mkt Cap: 2/14 - 4/17	
					\$ Change	% Change	\$ Change	% Change
Bottom decile	2,549	\$ 2,438,332	\$ 2,001,936	\$ 2,180,230	\$ 178,294	8.91%	\$ (258,102)	-10.59%
2nd decile	2,550	\$ 5,077,547	\$ 4,147,232	\$ 4,602,779	\$ 455,548	10.98%	\$ (474,768)	-9.35%
3rd decile	2,550	\$ 8,075,126	\$ 6,468,172	\$ 7,272,203	\$ 804,031	12.43%	\$ (802,922)	-9.94%
4th decile	2,549	\$ 8,668,340	\$ 7,068,705	\$ 7,520,089	\$ 451,383	6.39%	\$ (1,148,252)	-13.25%
5th decile	2,550	\$ 13,089,926	\$ 10,206,289	\$ 11,465,333	\$ 1,259,044	12.34%	\$ (1,624,593)	-12.41%
6th decile	2,550	\$ 12,069,805	\$ 9,099,941	\$ 10,091,424	\$ 991,483	10.90%	\$ (1,978,382)	-16.39%
7th decile	2,549	\$ 10,285,530	\$ 7,492,767	\$ 8,351,601	\$ 858,833	11.46%	\$ (1,933,929)	-18.80%
8th decile	2,550	\$ 8,192,083	\$ 5,881,602	\$ 6,639,747	\$ 758,145	12.89%	\$ (1,552,336)	-18.95%
9th decile	2,550	\$ 6,872,631	\$ 4,676,233	\$ 5,291,833	\$ 615,600	13.16%	\$ (1,580,798)	-23.00%
Top decile	2,550	\$ 2,620,044	\$ 1,721,135	\$ 1,907,582	\$ 186,447	10.83%	\$ (712,462)	-27.19%
EBITDA negative	10,984	\$ 13,021,868	\$ 8,959,977	\$ 9,820,078	\$ 860,101	9.60%	\$ (3,201,790)	-24.59%

Bailouts & Buybacks: The Questions

- In this week's update, I focus on a variable that people have pointed to, often with nothing more than anecdotal evidence, as a potential culprit in the crisis, and that is stock buybacks.
- Their argument is that companies that have bought back stock, often with borrowed money, are the ones that have led us to the precipice, and that the viral shock to the economy is just a tipping point for these companies.
- The solution that they offer is a familiar one. Companies should be barred or restricted severely from buying back their own stock.

A Test: Buybacks vs No Buybacks

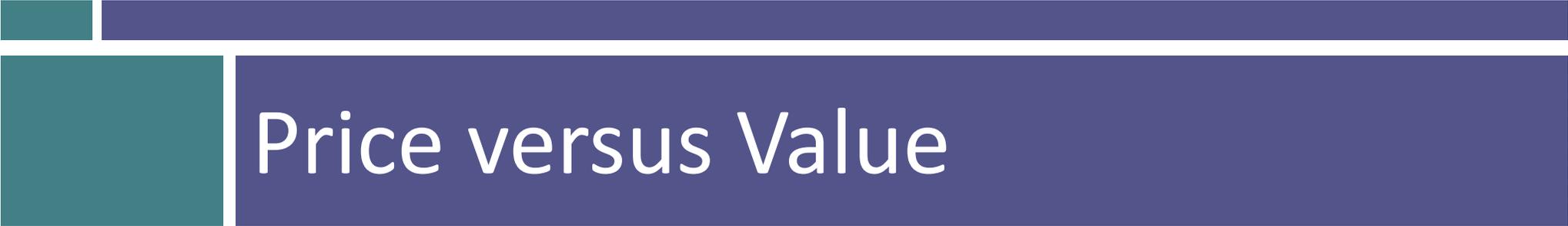
Sub Region	[Buybacks/Market Cap = 0.00%]	count	Market Cap (2/14/20)	Market Cap (3/20/20)	Market Cap (3/27/20)	3/20-3/27		2/14 - 3/27	
						\$ Change	% Change	\$ Change	% Change
Africa	Buybacks	131	\$ 184,573	\$ 104,839	\$ 104,697	\$ (142)	-0.14%	\$ (79,876)	-43.28%
	No Buybacks	518	\$ 393,802	\$ 258,553	\$ 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

Sub Region	Dividends/No Dividends	Number of firms	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	Dividends	423	\$ 493,780	\$ 309,056	\$ 314,105	\$ 5,049	1.63%	\$ (179,674)	-36.39%
	No Dividends	226	\$ 84,596	\$ 54,336	\$ 53,959	\$ (377)	-0.69%	\$ (30,637)	-36.22%
Australia & NZ	Dividends	484	\$ 1,466,946	\$ 858,434	\$ 910,963	\$ 52,529	6.12%	\$ (555,983)	-37.90%
	No Dividends	739	\$ 149,392	\$ 93,729	\$ 103,959	\$ 10,230	10.91%	\$ (45,434)	-30.41%
Canada	Dividends	353	\$ 1,895,037	\$ 1,165,017	\$ 1,273,298	\$ 108,281	9.29%	\$ (621,739)	-32.81%
	No Dividends	1,030	\$ 382,200	\$ 223,889	\$ 254,707	\$ 30,817	13.76%	\$ (127,494)	-33.36%
China	Dividends	2,722	\$ 8,334,400	\$ 7,453,374	\$ 7,611,312	\$ 157,937	2.12%	\$ (723,088)	-8.68%
	No Dividends	3,433	\$ 5,697,760	\$ 4,978,097	\$ 5,059,353	\$ 81,256	1.63%	\$ (638,407)	-11.20%
EU & Environs	Dividends	2,171	\$ 12,114,913	\$ 8,254,640	\$ 9,023,901	\$ 769,261	9.32%	\$ (3,091,012)	-25.51%
	No Dividends	2,477	\$ 1,563,490	\$ 1,052,260	\$ 1,149,186	\$ 96,926	9.21%	\$ (414,304)	-26.50%
Eastern Europe &	Dividends	224	\$ 769,403	\$ 463,851	\$ 486,066	\$ 22,215	4.79%	\$ (283,337)	-36.83%
	No Dividends	192	\$ 51,716	\$ 33,823	\$ 35,028	\$ 1,206	3.56%	\$ (16,688)	-32.27%
India	Dividends	77	\$ 312,782	\$ 234,560	\$ 233,311	\$ (1,249)	-0.53%	\$ (79,471)	-25.41%
	No Dividends	1,684	\$ 1,893,956	\$ 1,286,686	\$ 1,241,359	\$ (45,327)	-3.52%	\$ (652,597)	-34.46%
Japan	Dividends	1,041	\$ 3,300,131	\$ 2,457,886	\$ 2,868,630	\$ 410,744	16.71%	\$ (431,501)	-13.08%
	No Dividends	2,773	\$ 2,753,374	\$ 2,023,056	\$ 2,374,737	\$ 351,681	17.38%	\$ (378,637)	-13.75%
Latin America &	Dividends	601	\$ 2,071,329	\$ 1,208,609	\$ 1,299,495	\$ 90,886	7.52%	\$ (771,834)	-37.26%
	No Dividends	315	\$ 313,731	\$ 173,582	\$ 190,592	\$ 17,010	9.80%	\$ (123,139)	-39.25%
Middle East	Dividends	646	\$ 2,835,427	\$ 2,387,214	\$ 2,415,628	\$ 28,414	1.19%	\$ (419,799)	-14.81%
	No Dividends	584	\$ 263,386	\$ 192,011	\$ 193,837	\$ 1,826	0.95%	\$ (69,549)	-26.41%
Small Asia	Dividends	4,811	\$ 4,549,653	\$ 3,195,934	\$ 3,400,169	\$ 204,235	6.39%	\$ (1,149,484)	-25.27%
	No Dividends	3,155	\$ 550,897	\$ 381,293	\$ 410,233	\$ 28,940	7.59%	\$ (140,664)	-25.53%
UK	Dividends	630	\$ 2,864,840	\$ 1,799,235	\$ 2,013,193	\$ 213,958	11.89%	\$ (851,646)	-29.73%
	No Dividends	424	\$ 206,442	\$ 128,128	\$ 139,862	\$ 11,734	9.16%	\$ (66,580)	-32.25%
United States	Dividends	1,866	\$ 26,070,398	\$ 17,167,148	\$ 19,062,133	\$ 1,894,985	11.04%	\$ (7,008,264)	-26.88%
	No Dividends	3,017	\$ 9,675,270	\$ 6,786,567	\$ 7,403,828	\$ 617,261	9.10%	\$ (2,271,442)	-23.48%
Global	Dividends	16,049	\$ 67,079,036	\$ 46,954,959	\$ 50,912,204	\$ 3,957,245	8.43%	\$ (16,166,832)	-24.10%
	No Dividends	20,049	\$ 23,586,212	\$ 17,407,458	\$ 18,610,640	\$ 1,203,182	6.91%	\$ (4,975,572)	-21.10%

The Debt/ Buyback Interaction: US stocks

Net Debt/EBITDA	Buybacks/No Buybacks	Number of firms	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
Lowest	Buybacks	324	\$ 5,468,354	\$ 3,736,451	\$ 4,061,653	\$ 325,202	8.70%	\$ (1,406,701)	-25.72%
	No Buybacks	490	\$ 539,365	\$ 410,504	\$ 452,808	\$ 42,305	10.31%	\$ (86,556)	-16.05%
2nd Quintile	Buybacks	321	\$ 2,682,300	\$ 1,837,388	\$ 2,044,752	\$ 207,364	11.29%	\$ (637,548)	-23.77%
	No Buybacks	201	\$ 444,118	\$ 314,678	\$ 344,179	\$ 29,501	9.37%	\$ (99,938)	-22.50%
3rd Quintile	Buybacks	431	\$ 6,920,349	\$ 4,748,821	\$ 5,181,974	\$ 433,152	9.12%	\$ (1,738,375)	-25.12%
	No Buybacks	281	\$ 1,602,639	\$ 1,290,341	\$ 1,366,086	\$ 75,745	5.87%	\$ (236,554)	-14.76%
4th Quintile	Buybacks	615	\$ 6,957,648	\$ 4,528,436	\$ 5,076,972	\$ 548,536	12.11%	\$ (1,880,676)	-27.03%
	No Buybacks	266	\$ 972,579	\$ 602,767	\$ 677,986	\$ 75,219	12.48%	\$ (294,593)	-30.29%
Highest	Buybacks	742	\$ 7,158,779	\$ 4,518,549	\$ 5,070,329	\$ 551,780	12.21%	\$ (2,088,449)	-29.17%
	No Buybacks	562	\$ 2,844,512	\$ 1,852,854	\$ 2,073,457	\$ 220,603	11.91%	\$ (771,055)	-27.11%
Negative EBITDA	Buybacks	40	\$ 32,399	\$ 19,166	\$ 22,396	\$ 3,230	16.86%	\$ (10,002)	-30.87%
	No Buybacks	610	\$ 122,627	\$ 93,759	\$ 93,369	\$ (391)	-0.42%	\$ (29,258)	-23.86%
All US	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%



Price versus Value

A Pricing Market?

Price vs Value

Tools for intrinsic analysis

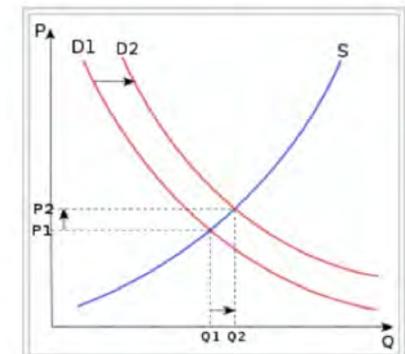
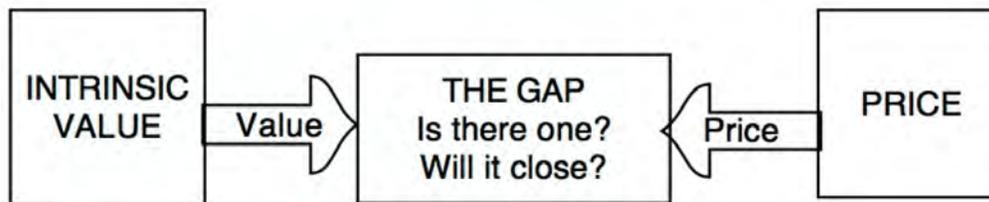
- Discounted Cashflow Valuation (DCF)
- Intrinsic multiples
- Book value based approaches
- Excess Return Models

Tools for "the gap"

- Behavioral finance
- Price catalysts

Tools for pricing

- Multiples and comparables
- Charting and technical indicators
- Pseudo DCF



Drivers of intrinsic value

- Cashflows from existing assets
- Growth in cash flows
- Quality of Growth

Drivers of "the gap"

- Information
- Liquidity
- Corporate governance

Drivers of price

- Market moods & momentum
- Surface stories about fundamentals

1. Upper and Lower Bounds

- 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, at least in the near term, by fundamentals, 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. The upper bound is set by those who are more optimistic about a stock and the lower bound by those who are most pessimistic about that same stock, in terms of future expectations or liquidation value.
 - It is possible, for some stocks, especially early in the life cycle and with substantial uncertainty about the future, for the lower bound on value to be zero,
 - Stocks collectively cannot have that lower bound. For equities collectively to be worth nothing, you would require an apocalyptic scenario, one in which there is little point thinking about investments anyway.

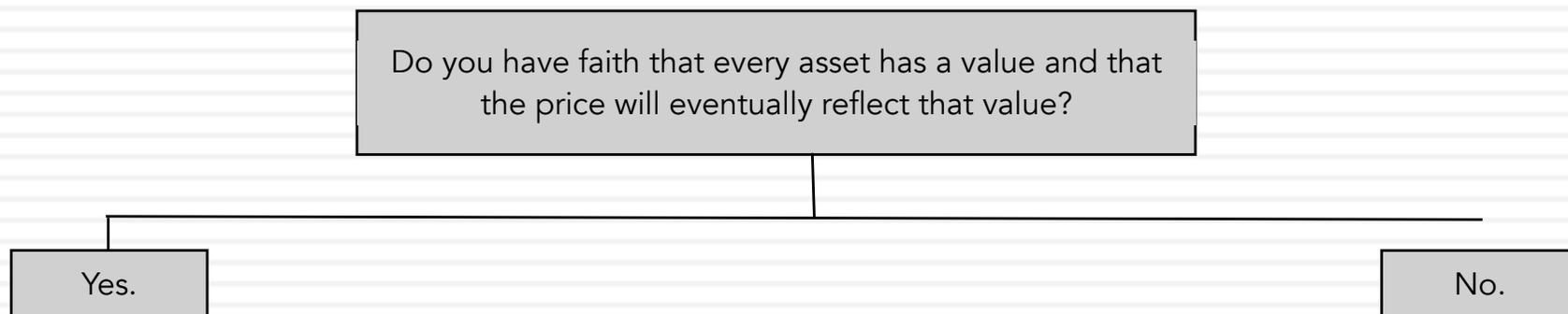
2. Price is reactive, value is proactive

- Incremental Information versus Fundamental Information: Pricing forces can take information that, at least at first sight, seems insignificant to long term value and cause price changes that are disproportional. Thus, when the mood is upbeat, small pieces of good news can result in big jumps in stock prices, but if that mood turns sour, small pieces of bad news can cause large drops in stock prices.
- Reactive versus Proactive: Traders react to the incremental information to adjust the price and put little thought into whether the starting price itself has a basis to it. Value is driven by expectations of cash flows, growth and risk, and information has to be used to reassess those expectations, a more difficult task, but one that forces you to separate the wheat from the chaff.

3. Price may never converge on value...

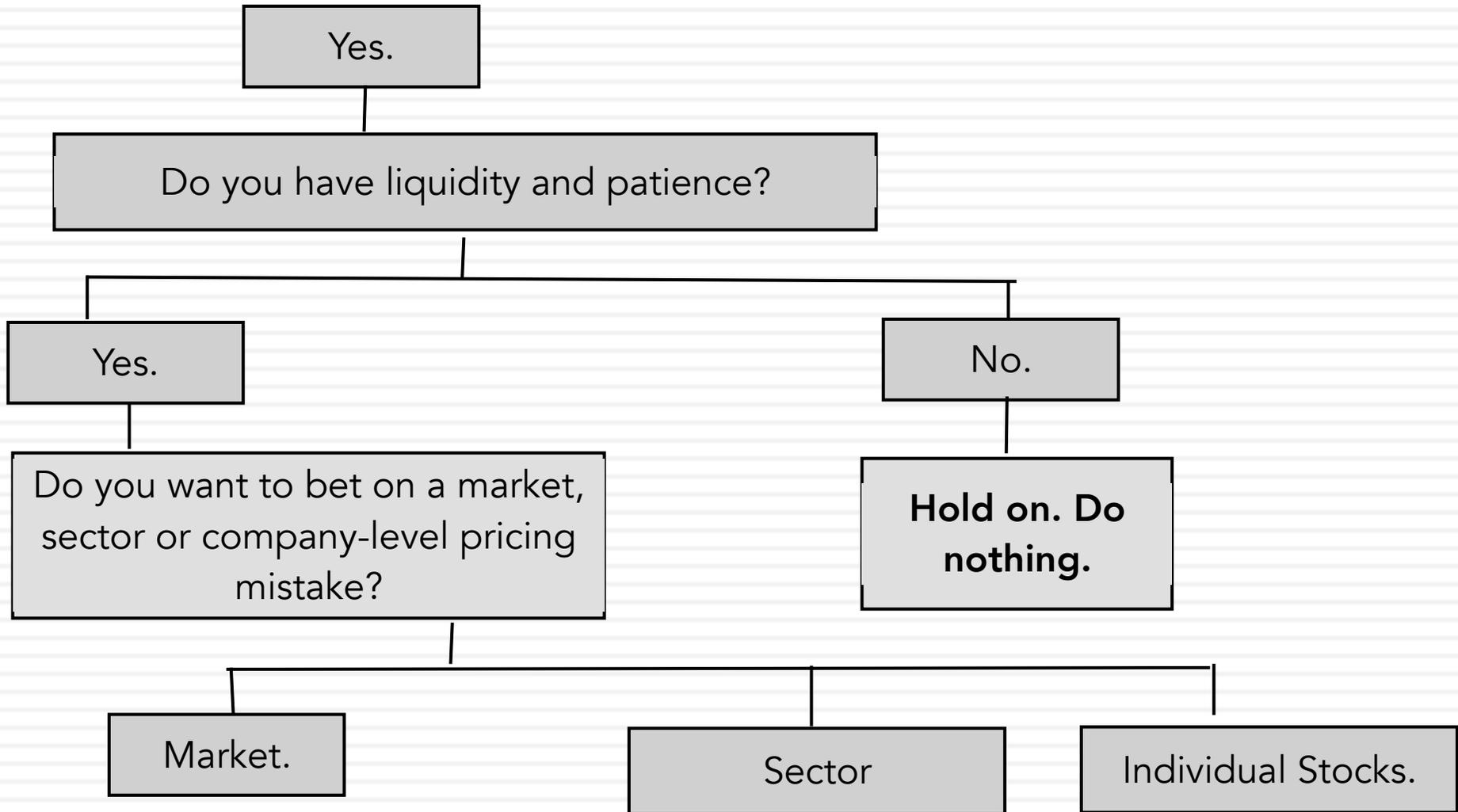
- Old time value investors live by the adage that the price can go up and down, with little relationship to value, but that it will eventually converge to value.
- Absent a catalyst causing the convergence, price will not only diverge from value in the short term, but it could do so in the long term. Keynes was close to the truth when he said that the "market can stay irrational longer than you and I can stay solvent".
- So what is it that keeps investors toiling at the fundamentals, hoping to get rewarded? The answer is faith, faith that they can estimate value and faith that the price will adjust to value. It is faith because I can offer you no proof for either proposition, and it is faith, because its strength will be tested by markets like this one.

An Investing Game Plan: Step 1

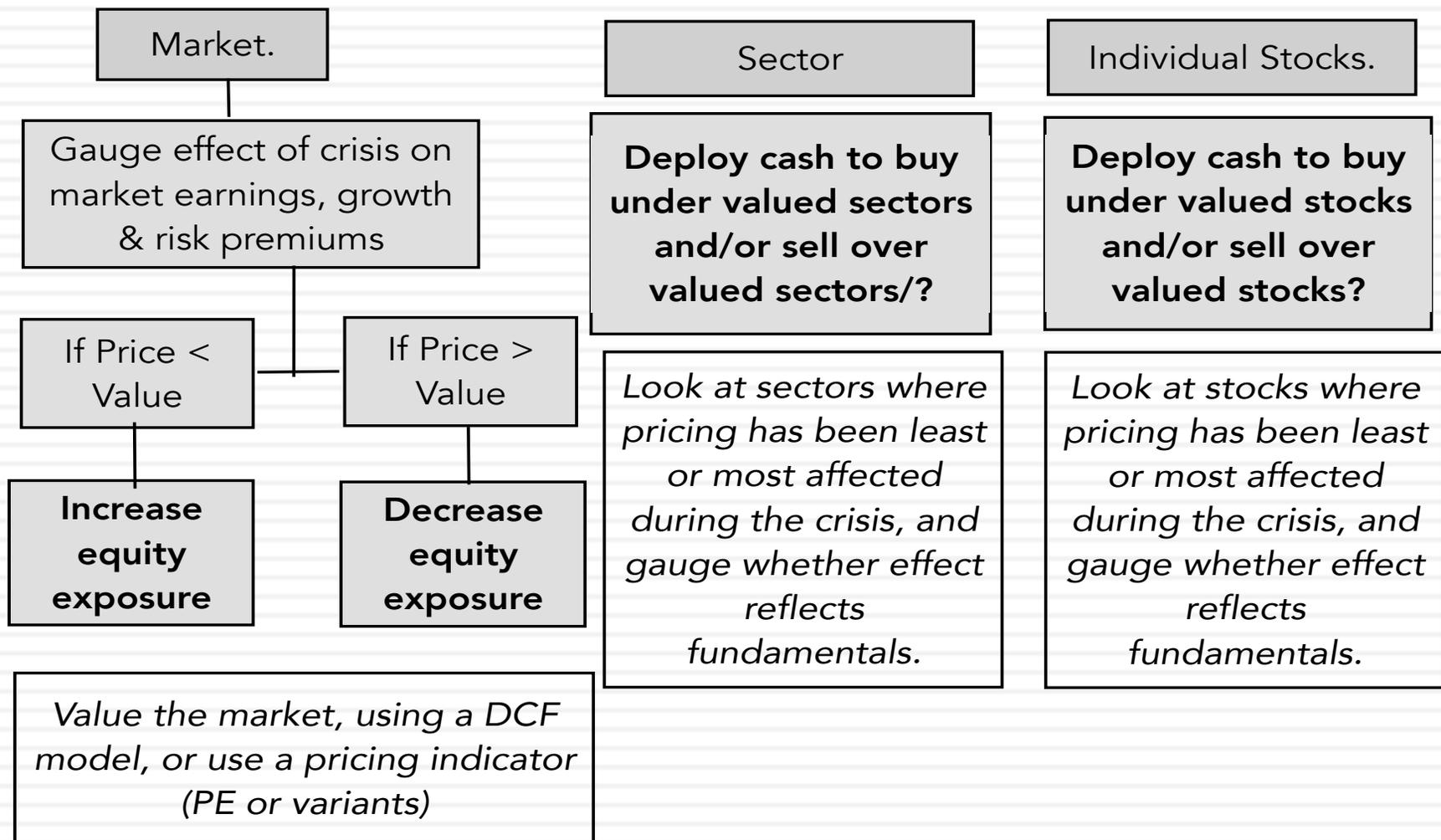


- In the abstract, most market participants describe themselves as long term, patient and believers in value.
- Warren Buffett once said that it is only when the tide goes out that you can tell who's been swimming naked, and it is only when the market goes into crisis mode that you can tell the investors from the traders.

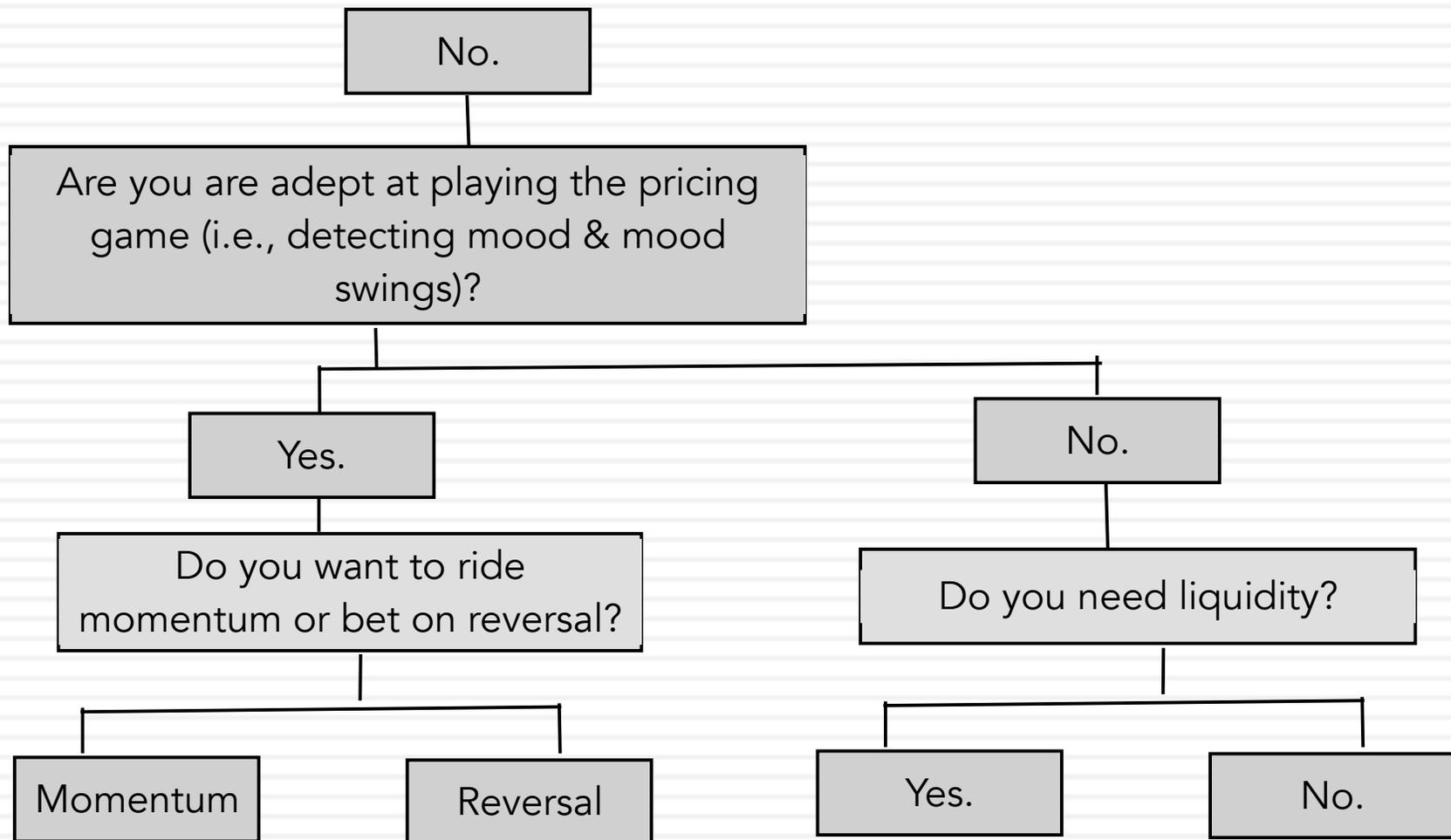
Step 2a: If you have faith



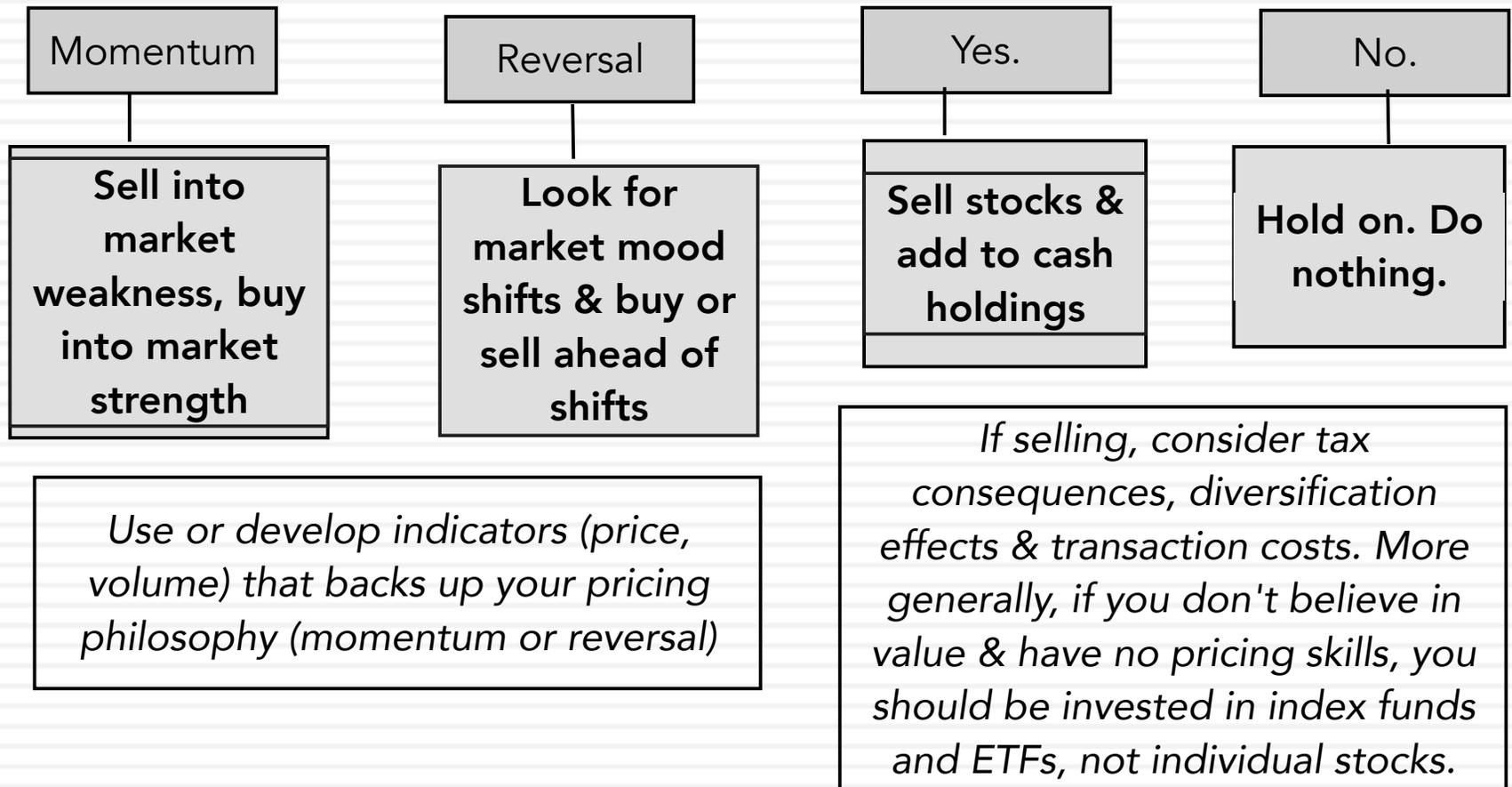
Step 2b: Value Action Plan



Step 3a: if you don't have faith



Step 3b: Pricing Action Plan

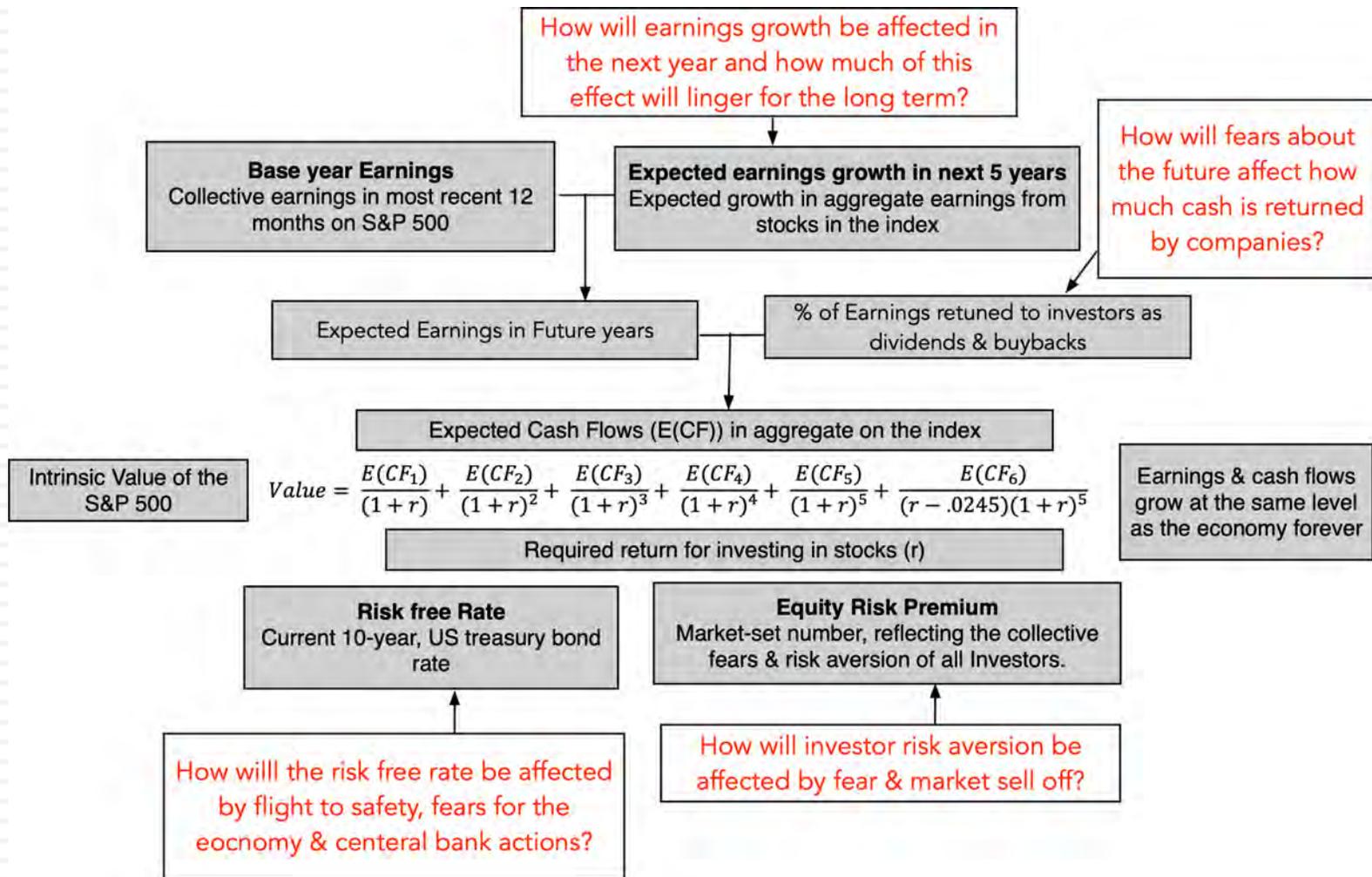




Back to Basics

Value Drivers

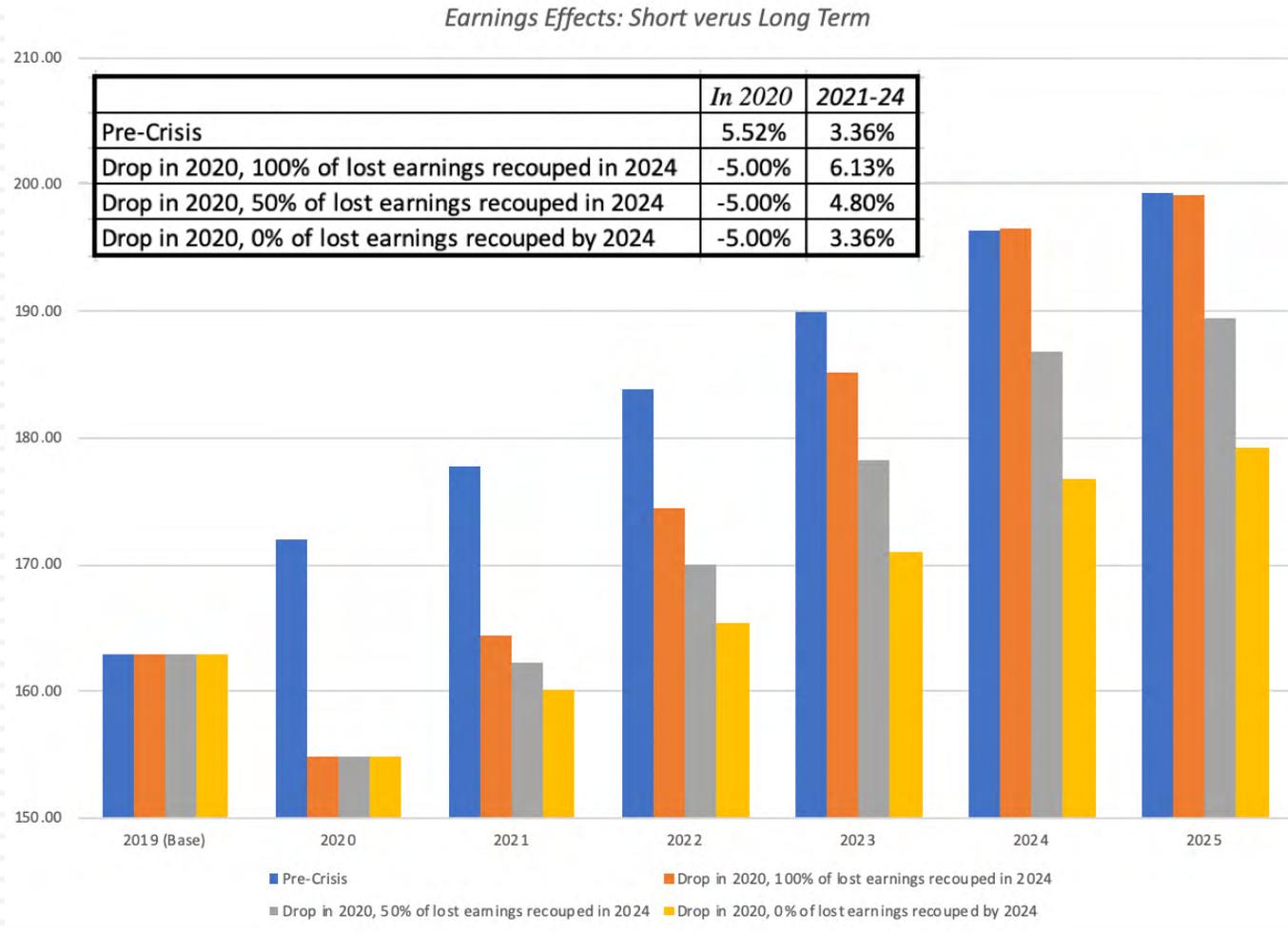
A Framework for assessing value effects



1. Earnings Growth

- Earnings Growth: Even at this early stage in this crisis, it is clear that the virus is having an effect on corporate operations. With some companies like hotels and airlines, the effect that the virus has had on global travel has clearly had an effect on revenues and operations. With others, it is concerns about supply chains. The follow up question then becomes one of specifics:
 - Drop in 2020 Earnings: This is the number that will reflect how you see Corona Virus affect the collective earnings on stocks in 2020. This will include not only earnings declines caused by lower revenues growth at companies like United Airlines, but also the earnings decline caused by higher costs faced by companies due to virus related problems (supply chain breakdowns). The wider the swathe of companies
 - Drop in long term Earnings: In previous crises, where consumers and workers stayed home, either for health reasons or because of fear, the business that was lost as a result of the peril was made up for, when it passed. It is important that we ask this question, because this effect will dominate, when it comes to trying to explain value.

Earnings Growth Effects



2. Cash Return

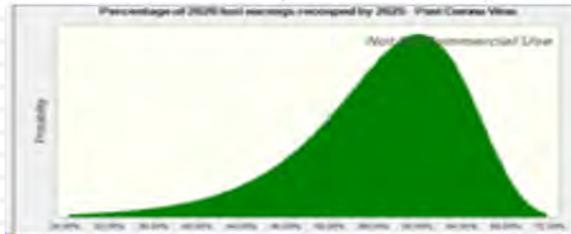
- In 2019, the companies in the S&P 500 returned 92.33% of their earnings to investors in dividends and buybacks, a reflection not only of how much their cash flows were that year but also how confident they were in their capacity to generate cash flows in the future.
 - That high number reflects not only the cash that many US companies had on hand, but a confidence that they could maintain earnings and continue to pay out cash flows.
- To the extent that this confidence is shaken by the virus, you may see a pull back in this number to perhaps something closer to the 85.24% that is the average for the last decade.

3. Equity Risk Premiums

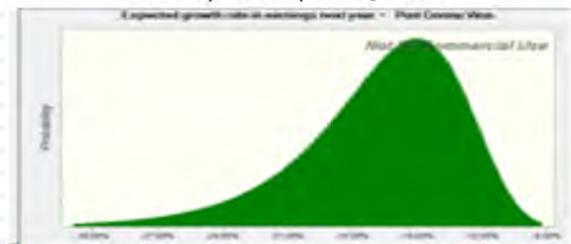
- The required return on stocks will be impacted, with one of the effects being explicit and visible in markets, in the form of the US treasury bond rate and the other being implicit, taking the form of an equity risk premium.
- If investors become more risk averse, they will demand a higher ERP, though as the fear factor fades, this number will fall back as well, but perhaps not to what it was prior to the crisis.
- The fact that the equity risk premium is already at the higher end of the historical norms, at about 5.50% on February 25, 2020, does indicate limits, but there could be a short-term jump in the number, at least until there is less uncertainty.

What now? Valuing the Index on March 13, 2020

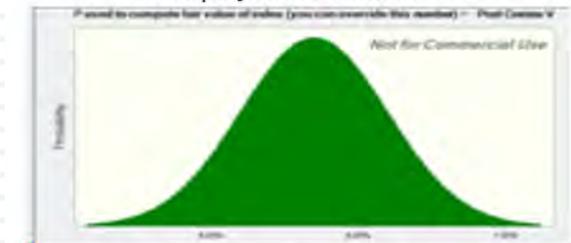
Expected drop in 2020 Earnings



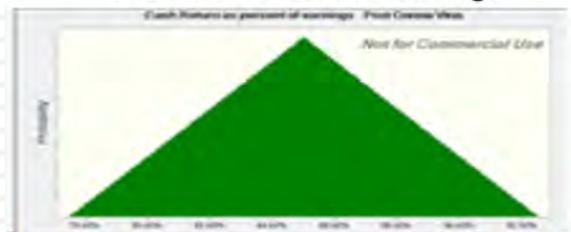
% of drop recouped by 2025



Equity Risk Premium

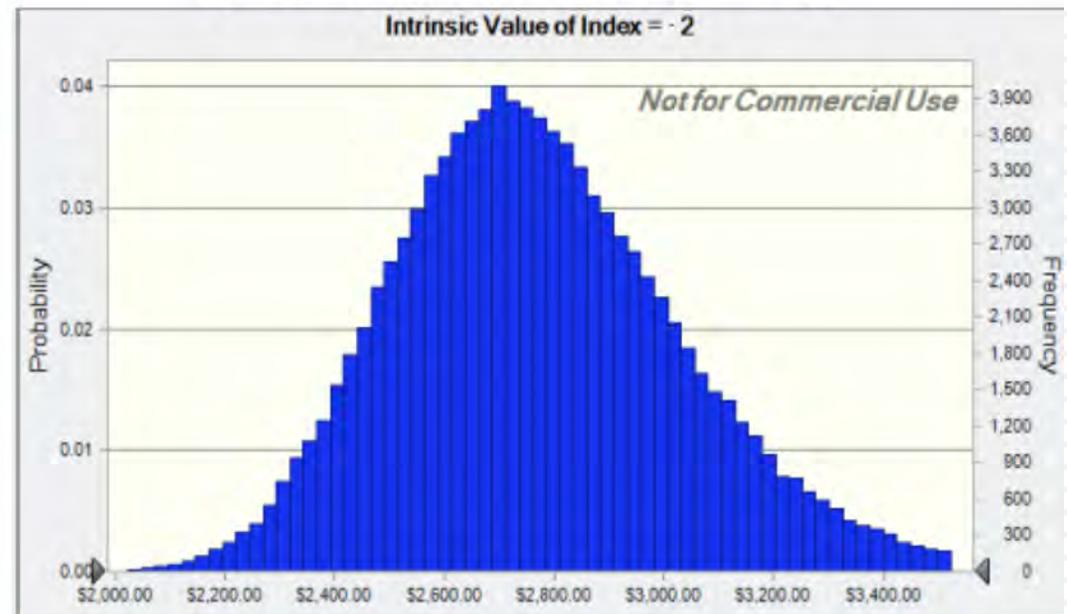


Cash Returned as % of Earnings



Valuing the S&P 500 Index: March 13, 2020

Percentile	S&P 500 Index
0%	\$1,903.33
10%	\$2,450.16
20%	\$2,547.91
30%	\$2,621.98
40%	\$2,688.01
50%	\$2,750.84
60%	\$2,817.83
70%	\$2,893.02
80%	\$2,986.04
90%	\$3,123.78
100%	\$4,452.38

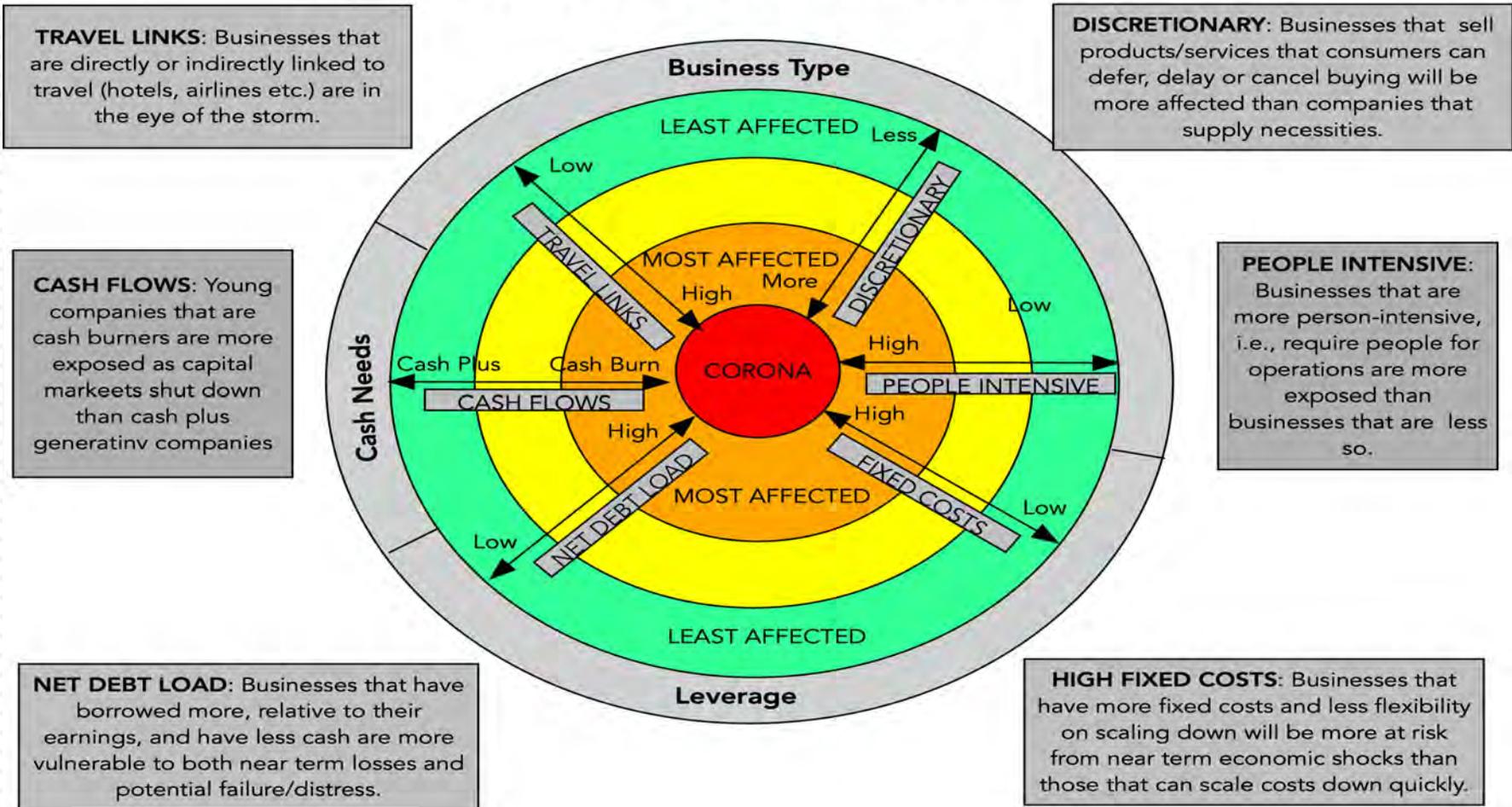


With individual stocks, there is uncertainty...

- Historical data may be recent, but it is already dated: The most recent financial statements are only a few weeks ago but the revenues and earnings numbers reported in those recent financial statements seem almost useless, a reflection of a different economic setting. The same can be said about equity risk premiums and default spreads.
- This year will deliver bad news: There is almost no doubt that 2020 will be a bad year for all companies, with the key questions being how much of a drop in revenues companies will see this year and how this will translate into earnings shocks.
- Survival has become a central question: The magnitude of the shock to corporate bottom lines and the speed with which it has happened will put companies at risk, leaving debt-burdened and young companies exposed to default and distress.
- The post-virus economy will be different from the pre-crisis version: Every major crisis creates changes in business environment, regulations and business models that reshapes the economy and resets competitive games, setting the stage for new winners and losers.

The Virus Effect: A Picture

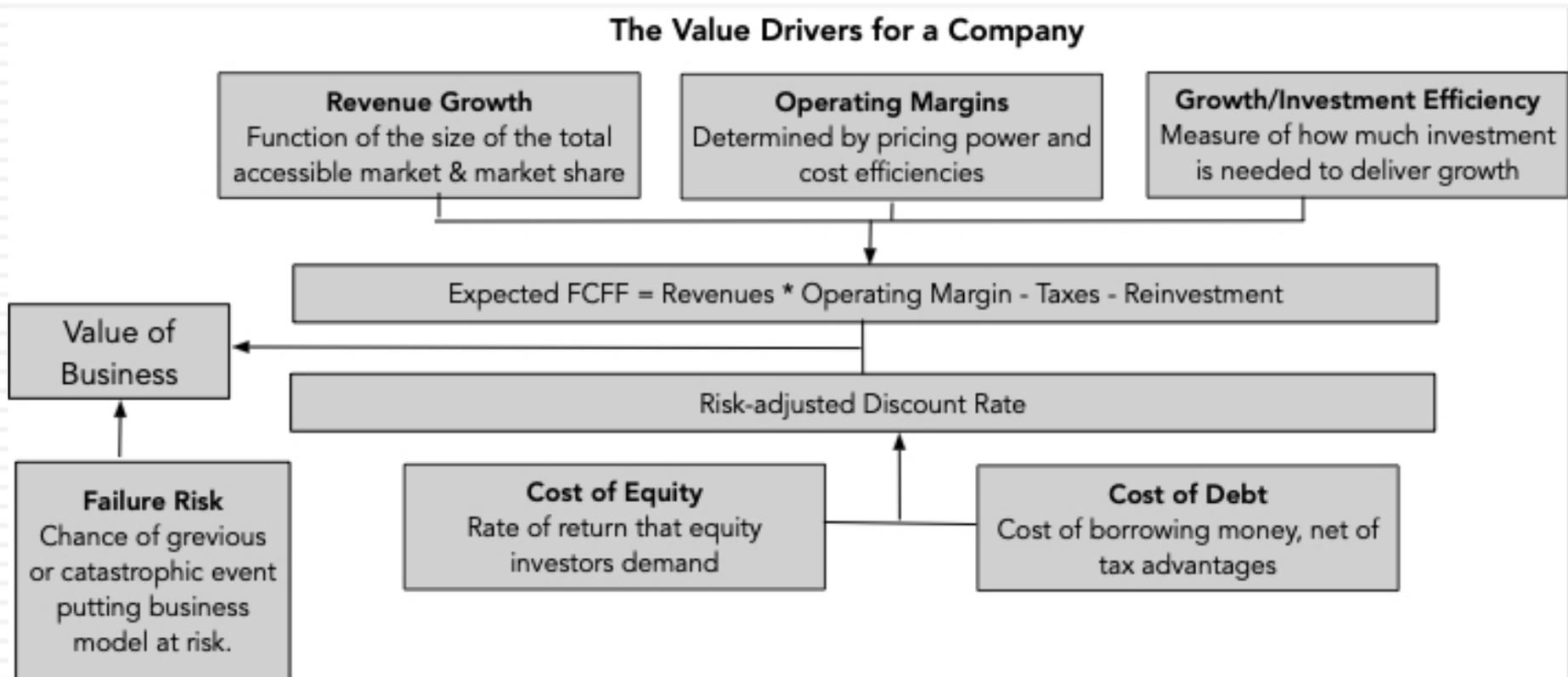
CIRCLES OF INFECTION: CORONA'S EFFECT ON BUSINESSES



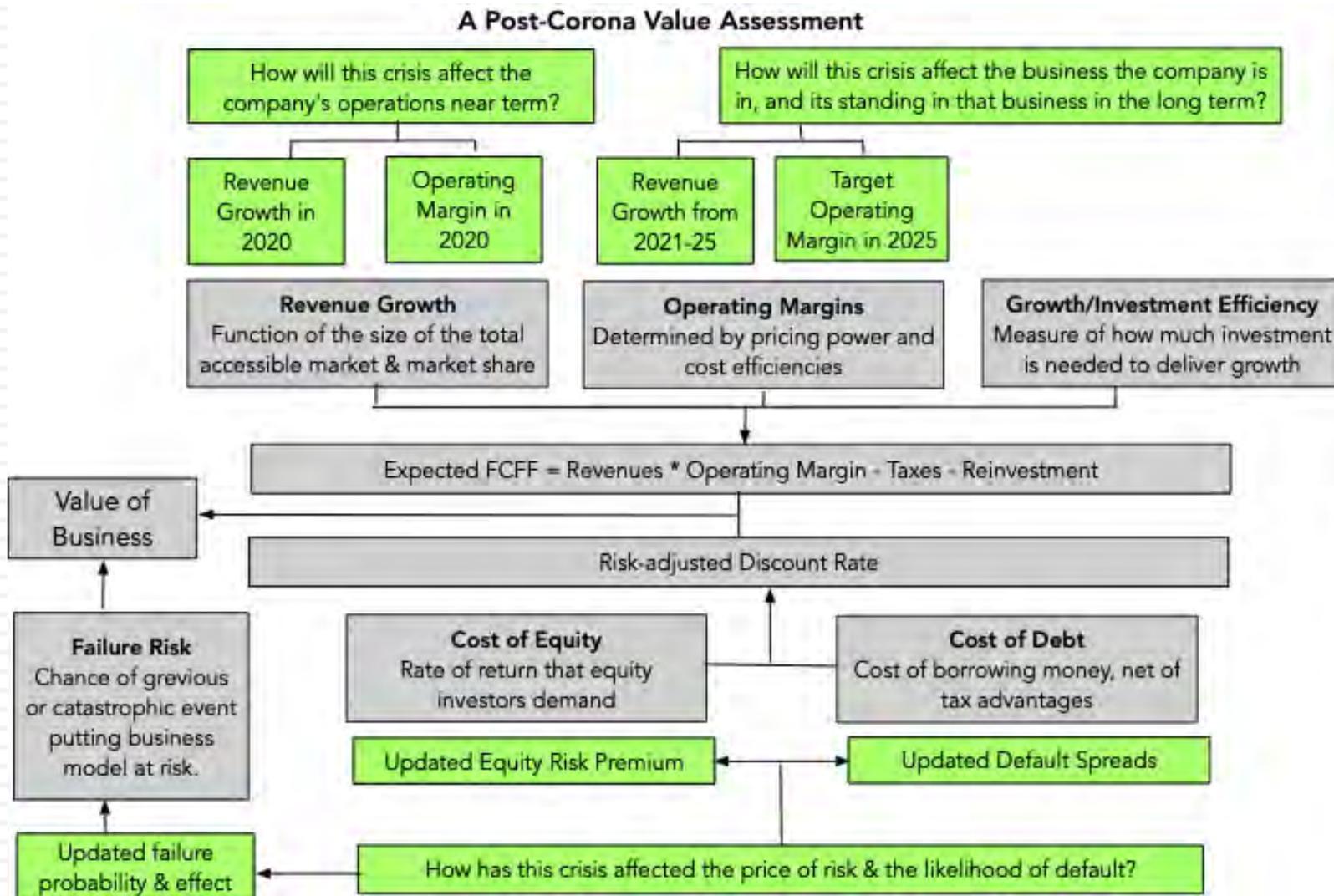
And the dark side beckons...

- 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.

The Basics of Value



A Post-Corona Version





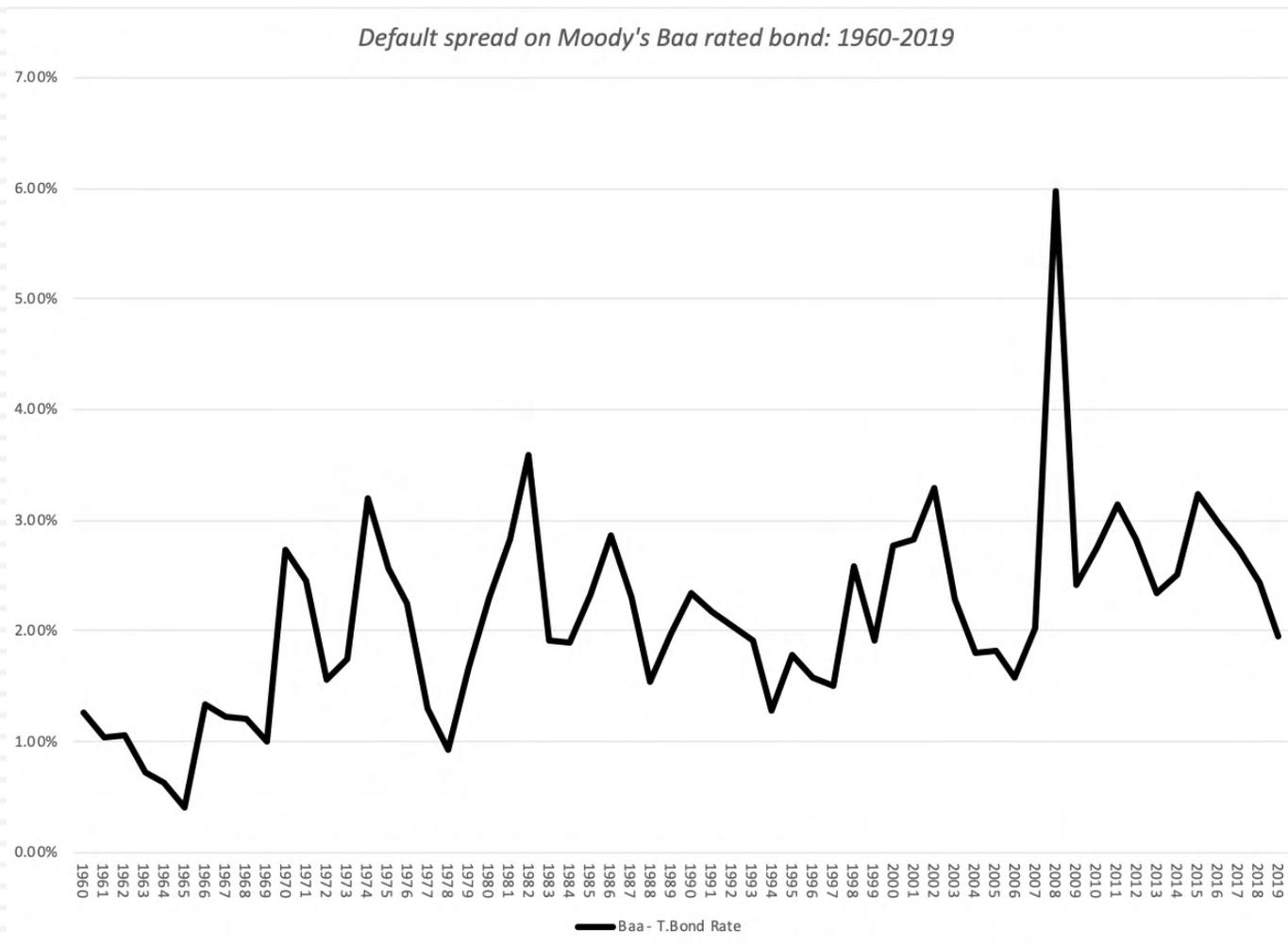
The Crisis Effect on the Price of Risk

Equity Risk Premiums & Default Spreads

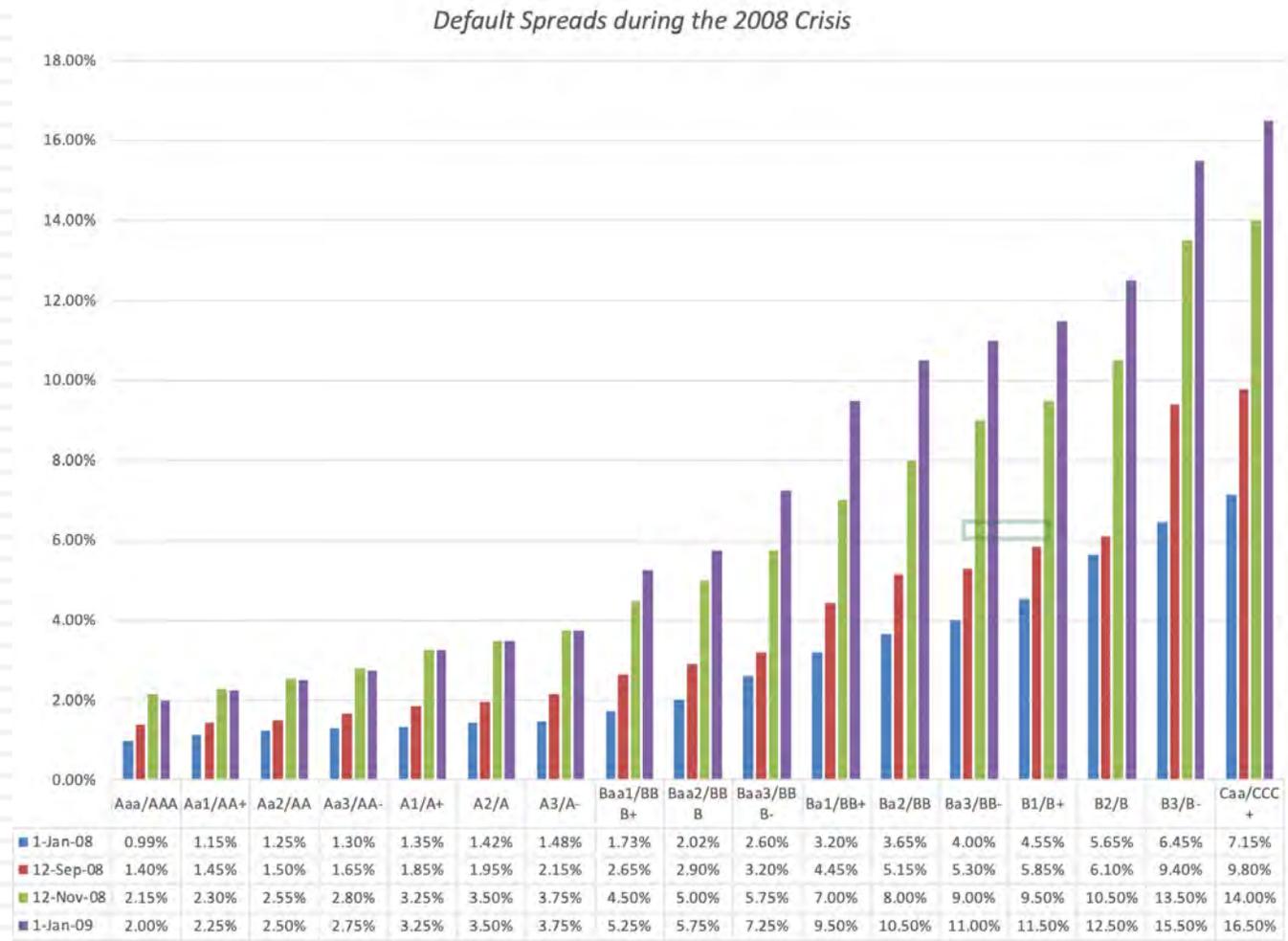
The price of risk: Determinants

- The price of risk changes on a day-to-day basis, and is determined by a combination of variables that encompass almost everything going on in the world from
 - ▣ uncertainty about future economic growth (more uncertainty -> higher price for risk) to
 - ▣ political stability (more instability -> higher price for risk) to
 - ▣ worries about catastrophes/disasters (more worries -> higher price for risk) to
 - ▣ investor risk aversion (greater risk aversion -> higher price for risk) to
 - ▣ information availability/reliability (less reliable and accessible information -> higher risk premiums).
- The more general point though that emerges from identifying the determinants is that changes in these determinants will play out as changing prices for risk, and since investing and valuation has to be based upon current and update prices for risk, you need measurement approaches that capture these day-to-day changes.

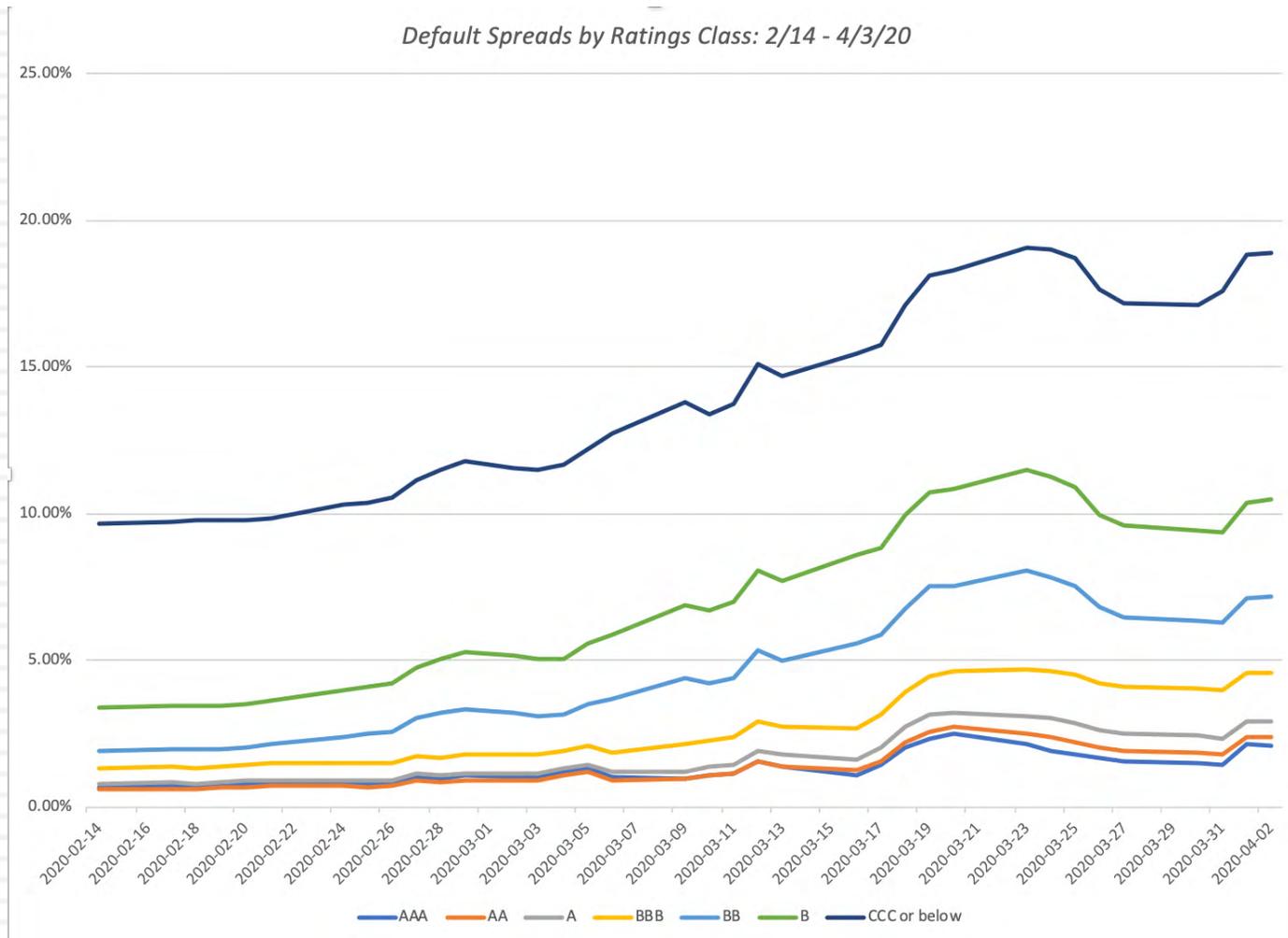
A Bond Market Price of Risk



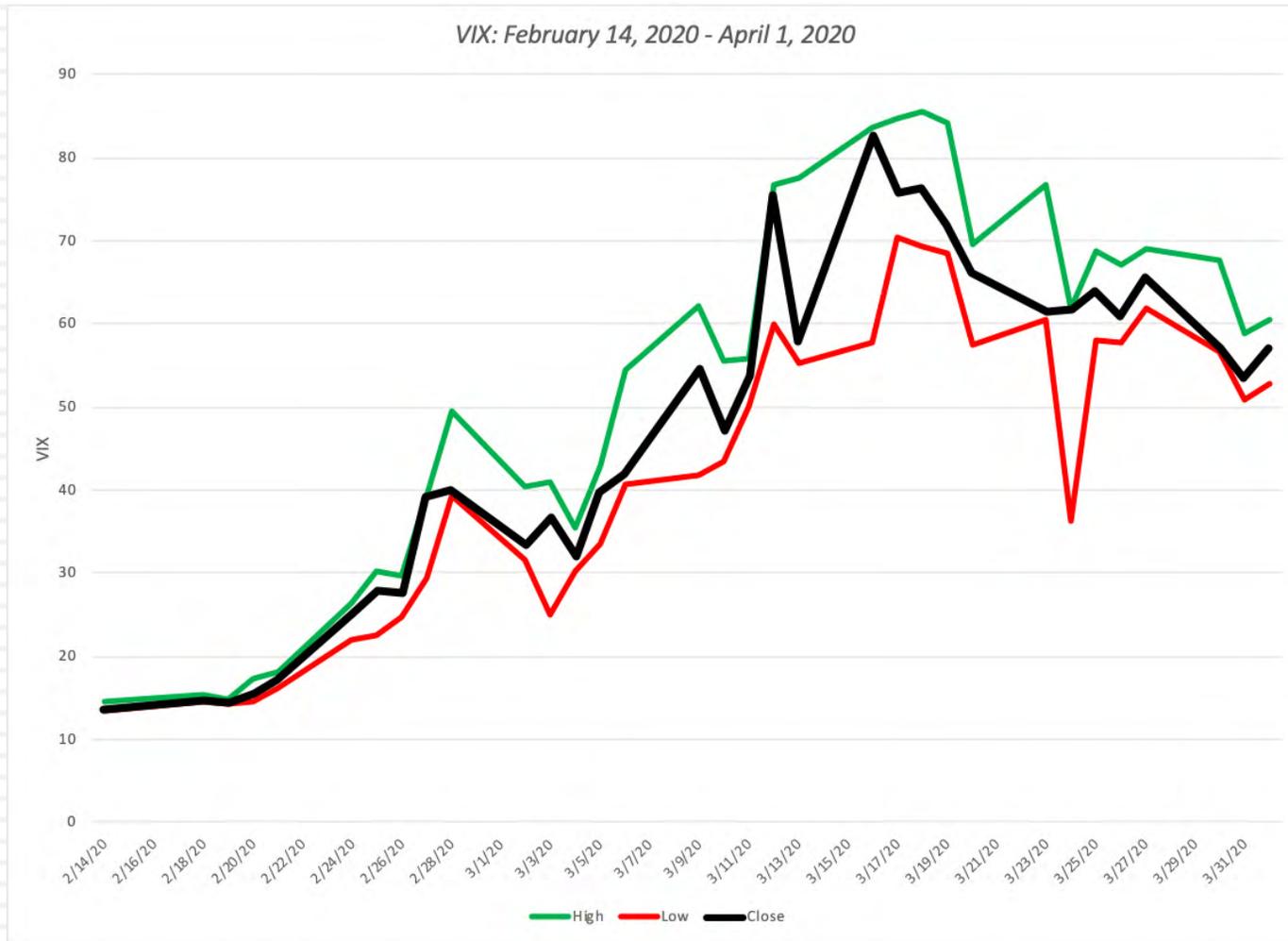
Bond Default Spreads during the 2008 crisis



Bond Market Default Spreads: The COVID crisis



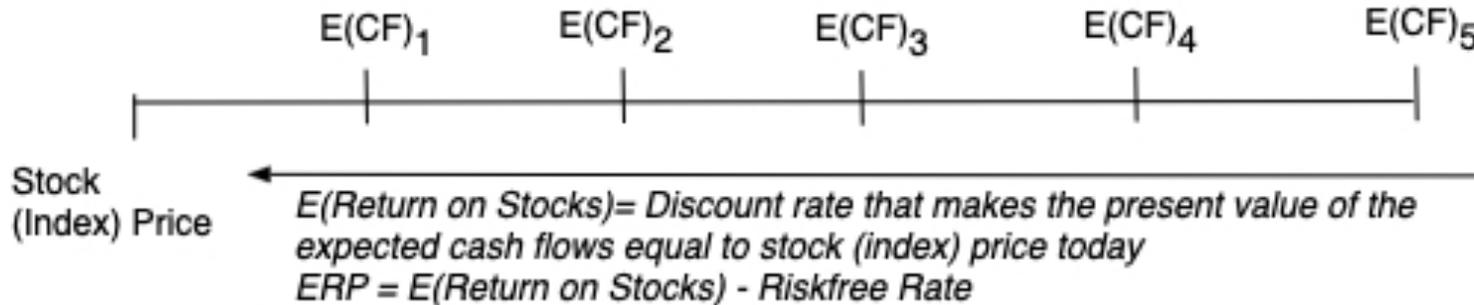
Equity Risk: VIX



An Equity Market Price of Risk

Base year cash flow: **Dividends + Stock Buybacks in trailing 12 months**
 Expected growth: **Top-down** (aggregate S&P) earnings estimates from **analysts**

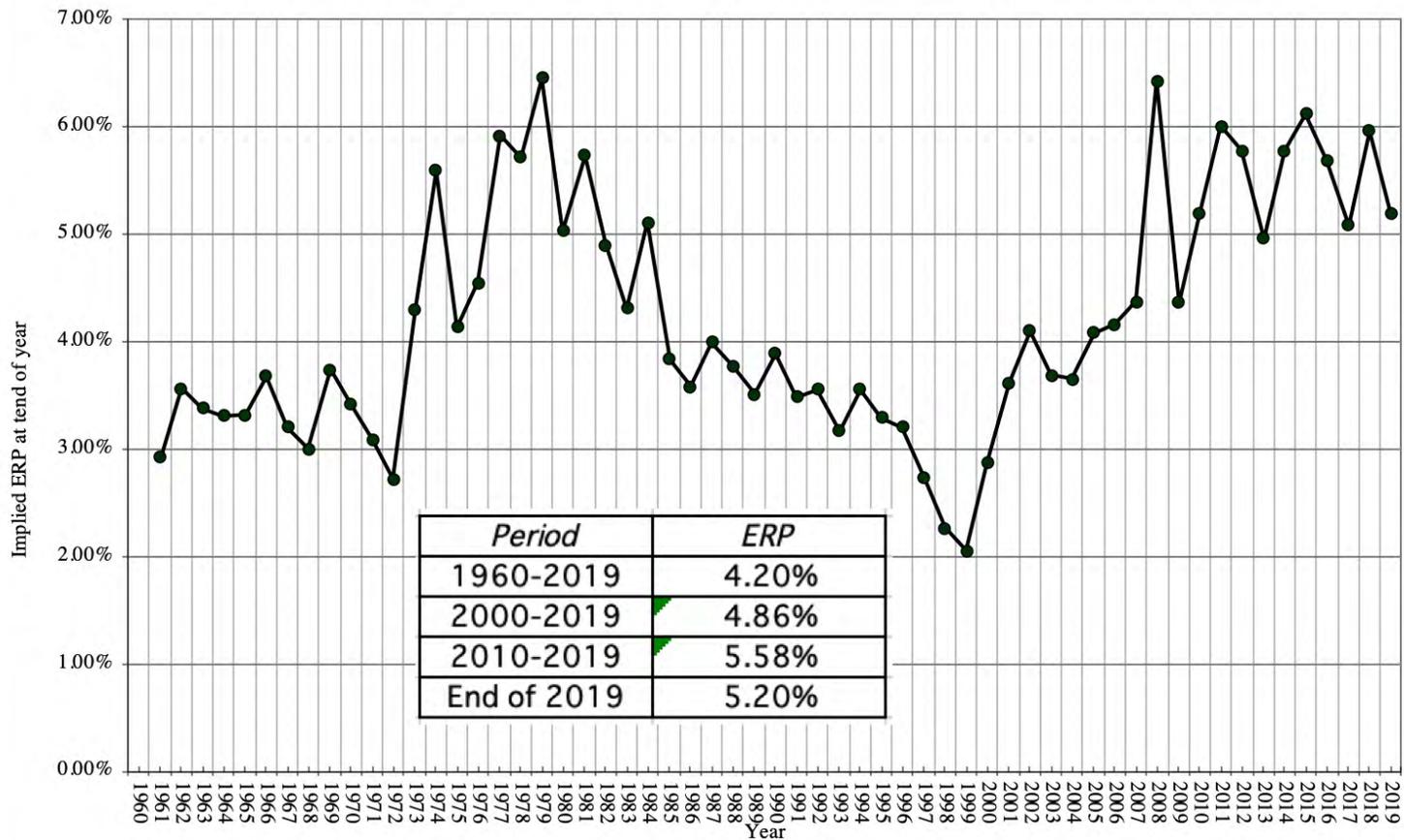
CF in year 5
**grows at risk
 free rate in
 perpetuity**



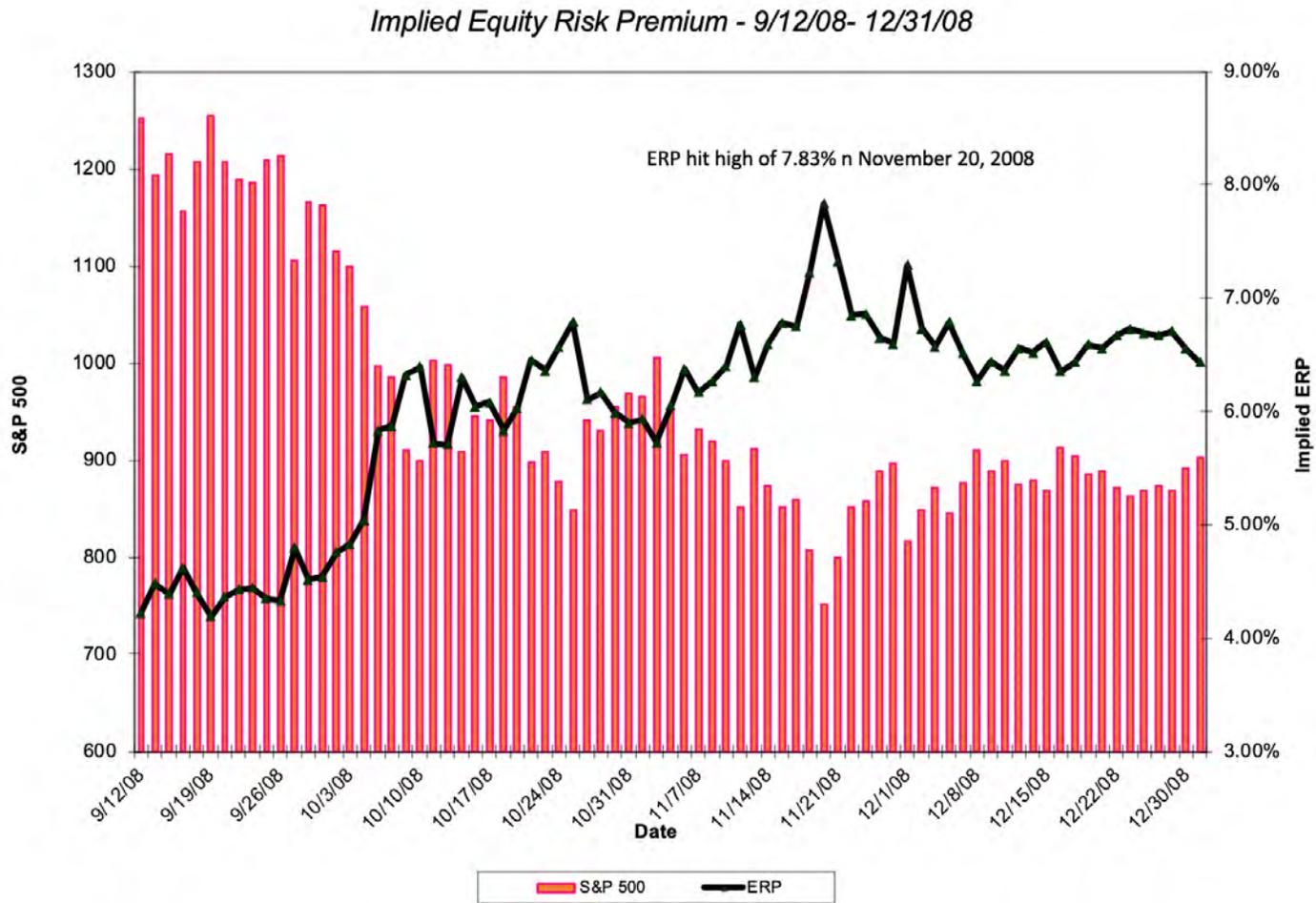
Riskfree rate: 10-year US T.Bond Rate
Stock Index: S&P 500

With historical perspective

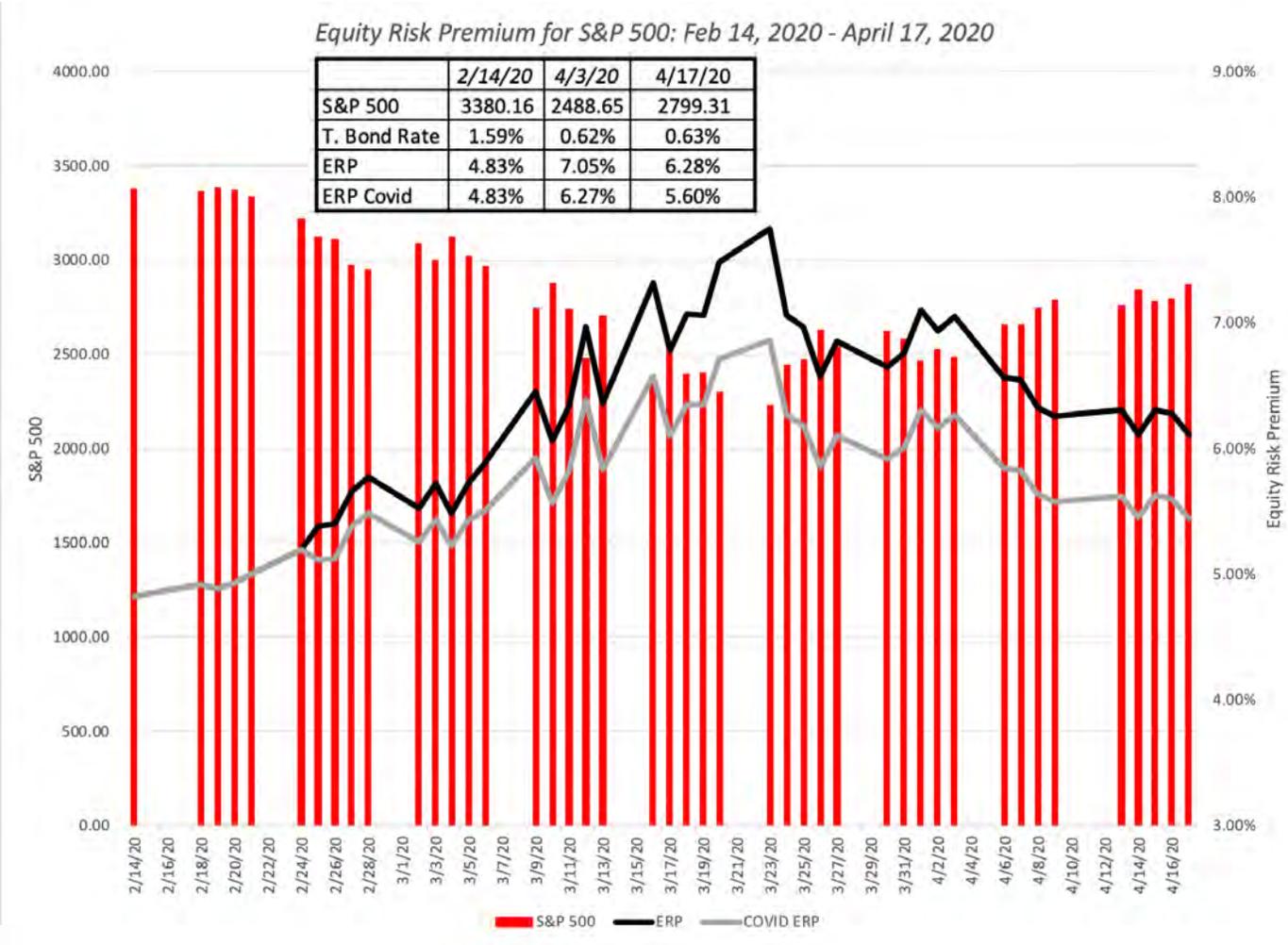
Implied Equity Risk Premium for US Equity Market at end of year: 1960-2019



The 2008 Crisis

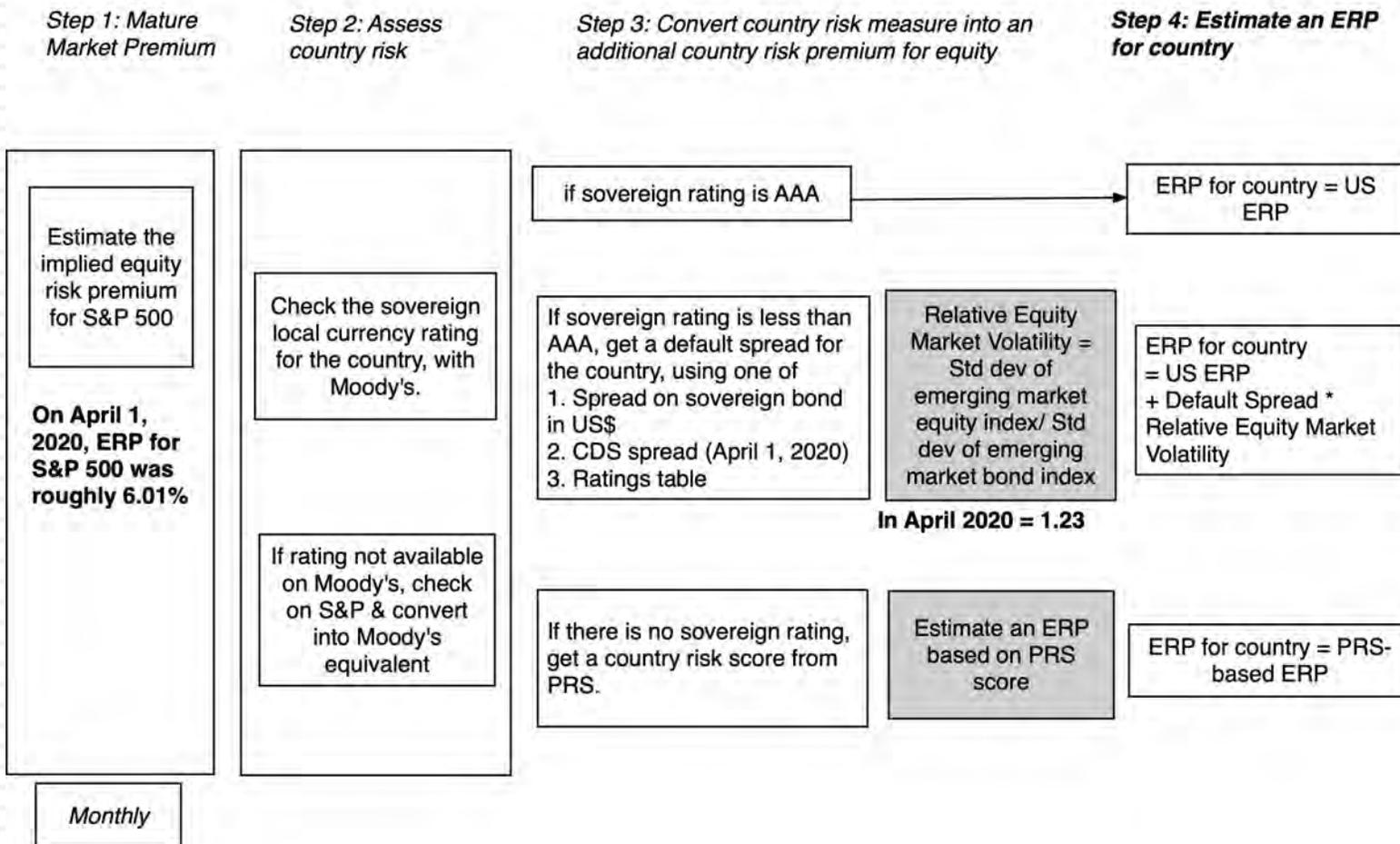


The COVID crisis



Country Risk Premiums: Resetting the base numbers

ERP Estimation Procedure - April 1, 2020





Looking past the crisis

An investment game plan

Looking past the crisis

- As you get deeper and deeper into the specifics of the crisis and the data, you will find yourself not only getting bogged down but in despair.
- I have had moments in the last few weeks, when I have had to force myself to step back from the abyss and think about a post-virus world and to reclaim the initiative as an investor.
- If you are a pessimist, you may view this as being in denial about what you see as an economic catastrophe that is about to unfold, but I am a natural optimist, and I believe that this too shall pass!

Start with your views on the economy!

- There is no disagreement that the virus will cause the economy to go into a deep recession, since commerce is effectively shut down for at least a few weeks to come.
- During that period, economic indicators such as unemployment claims & measures of economic activity will hit levels perhaps never seen before, given how big and broadly based the shock to the economy has been.
- There are two questions, though, where there can be disagreement.
 - How quickly will the global economy come back from the shut down, and when it does how completely will it recover?
 - How much permanent change will be created by this crisis in terms of both consumer (and investor) behavior and economic structure?

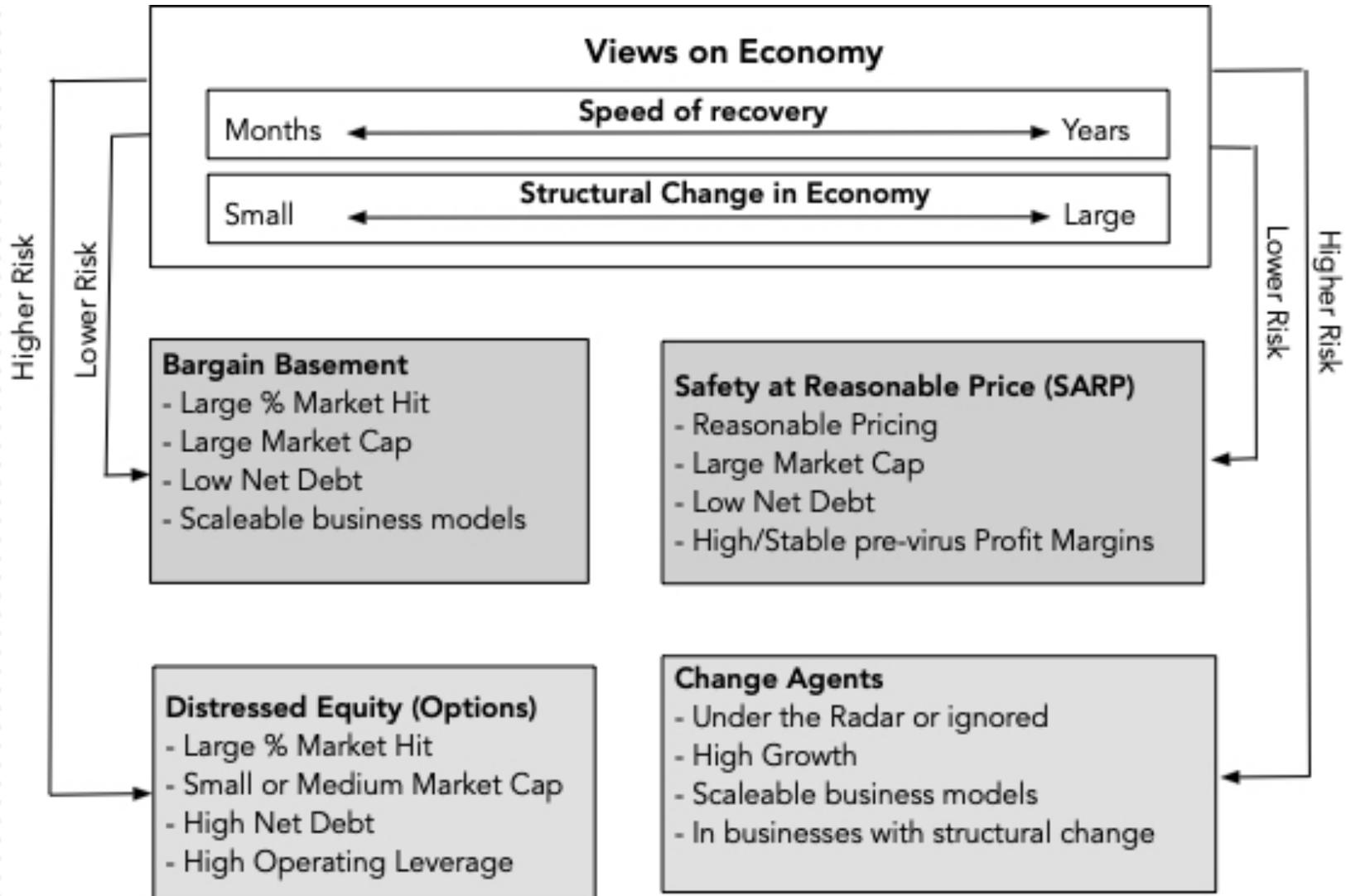
Investment strategies for those more optimistic about economic comeback..

- Bargain Basement: In this strategy, you focus on stocks that have been pounded in the last few weeks, losing 40%, 50% or more of market value, but which have the ingredients that you believe will allow them to survive (large market cap, low net debt), perhaps stronger, in the post-virus economy.
- Distressed Equity: There is a more risky strategy you can adopt, where you also look for stocks that have seen a significant loss in value over the last five weeks, but focus on the most endangered of these, with high net debt and fixed costs.
 - You are effectively buying options, with some already out of the money, and as with any strategy built around doing that, you will see a significant number of your investments go to zero.
 - Government bailouts, which are a mixed blessing, since they allow companies to survive, while wiping out or severely constraining equity claims in these companies.

And for those who are less optimistic about the turnaround

- Safety at a Reasonable Price (SARP): Here, you focus on companies that are best positioned to not just survive a long downturn but have the ammunition to make it work to their advantage. Large market cap firms with low debt ratios and high cash balances, that had high growth and profit margins in the pre-virus economy, would be good candidates.
- Change Agents: This is as much a bet on changes in consumer behavior and economic structure as it is on individual companies. Thus, if you believe that this crisis will make people more comfortable with delivery services for a wider range of goods and online interaction (in business and education), you could seek out lower profile companies that are innovators in these spaces.

A Composite Picture



The Bottom Line



- Have a core philosophy:
- Stick to the basics:
- Look forward, not to the past:
- Don't look for easy answers or listen to the experts: