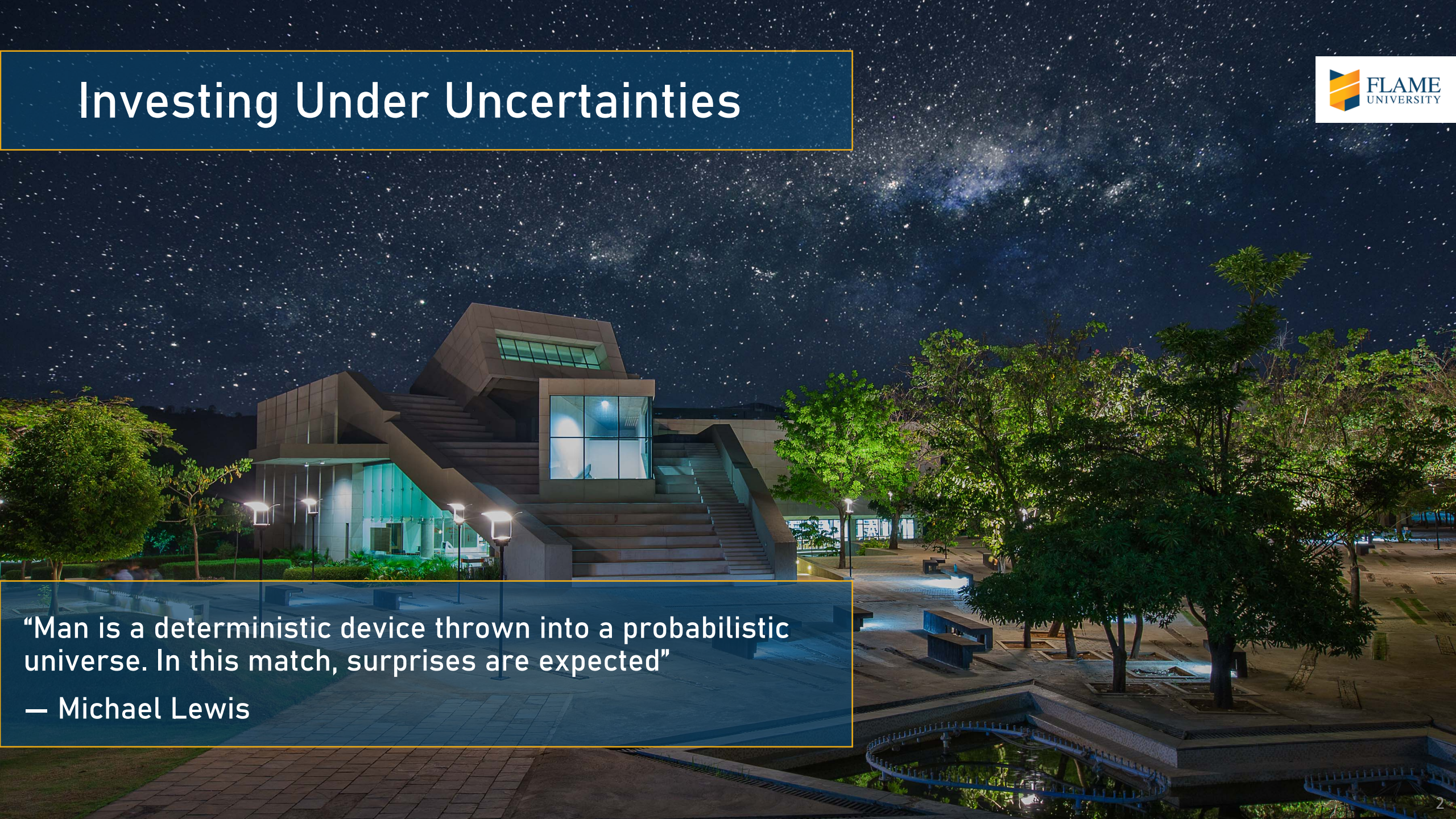
CFA Society India

Practitioners' Insights : Investing Under Uncertainties

By Kuntal Shah

13th May 2020

Investing Under Uncertainties



"Man is a deterministic device thrown into a probabilistic universe. In this match, surprises are expected"

— Michael Lewis

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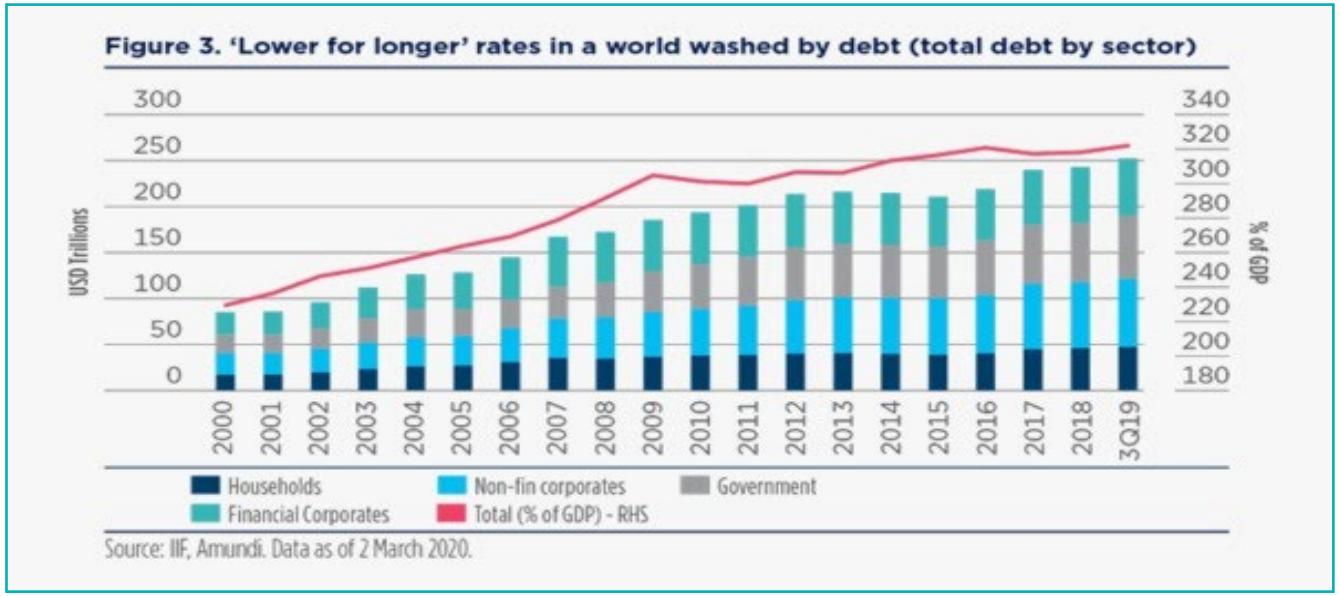
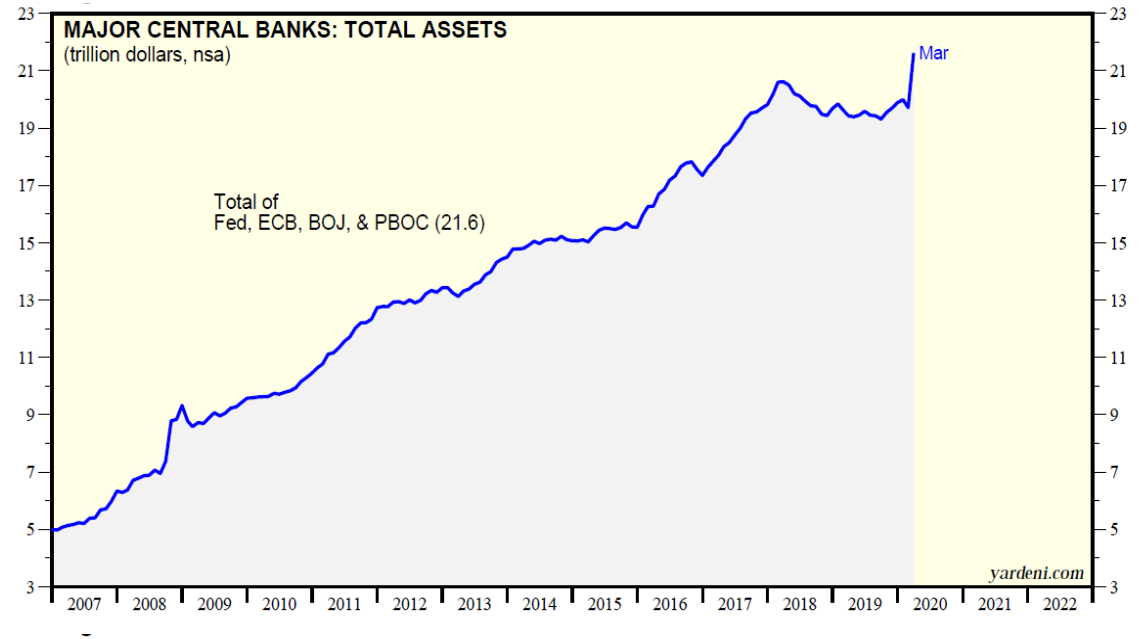
Data Analyst,
Oaklane Capital
Management LLP

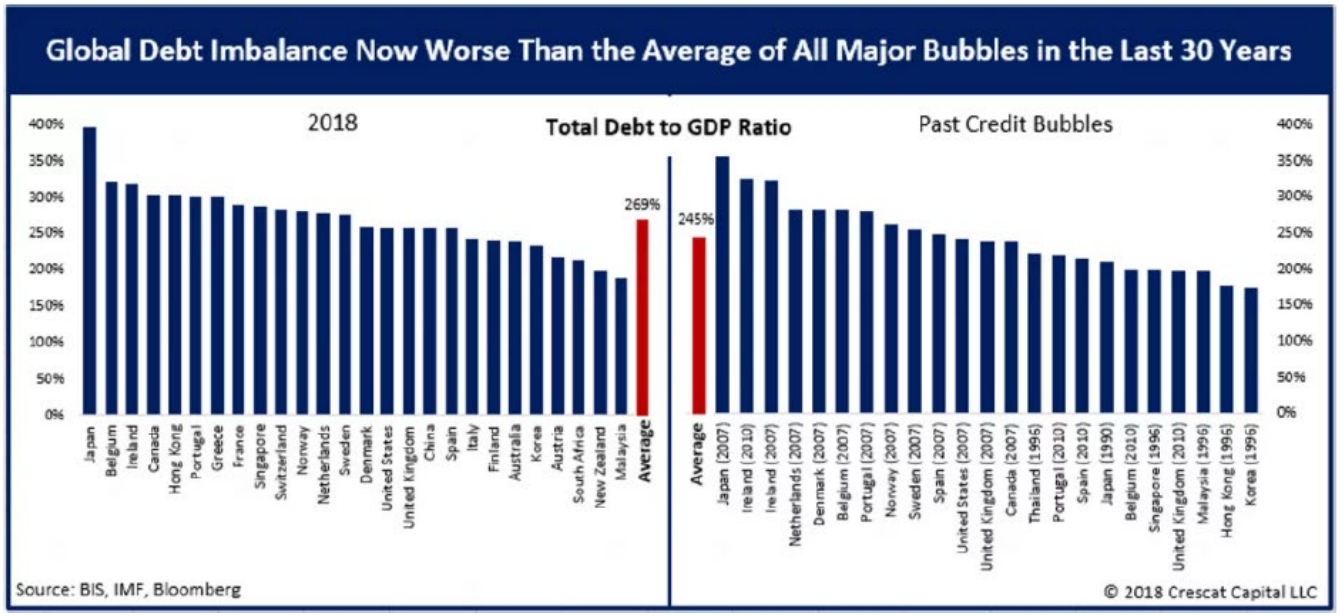
Pre-COVID-19 Conditions

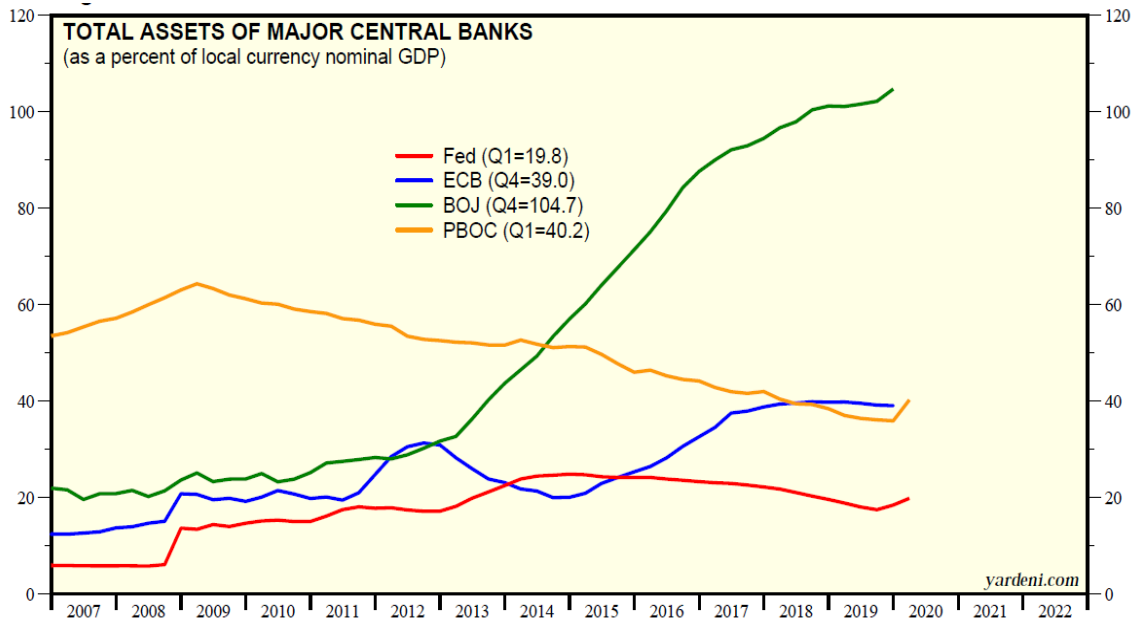
"It is difficult to make predictions, especially about the future"
- Niels Bohr

Elevated Debt Levels and Rock Bottom Interest Rates



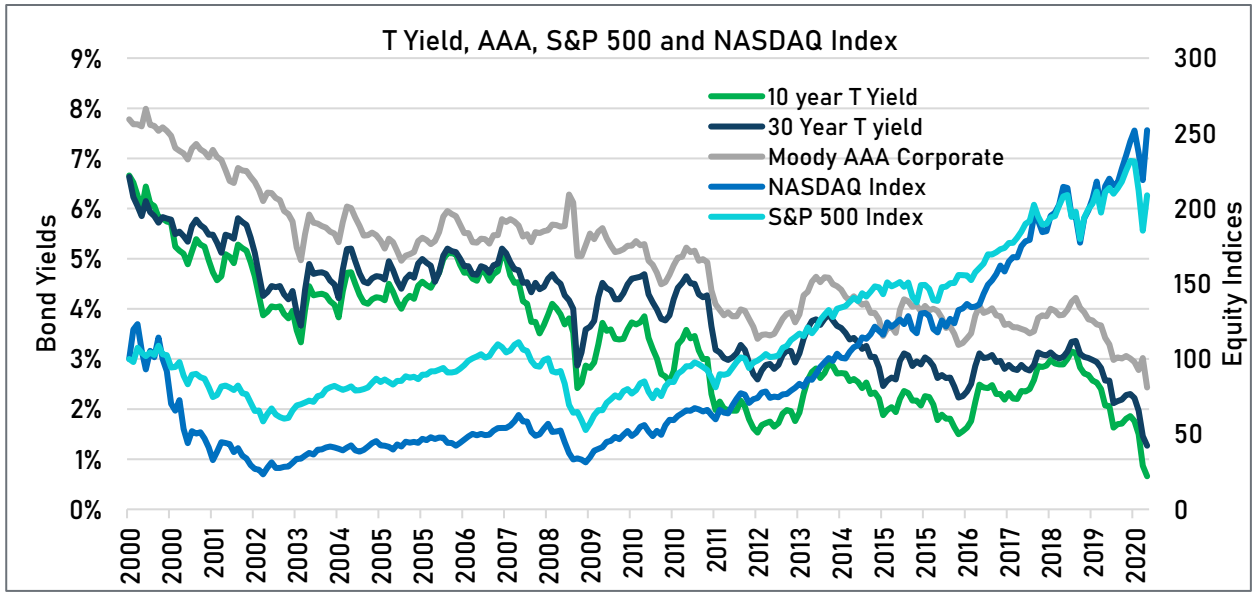


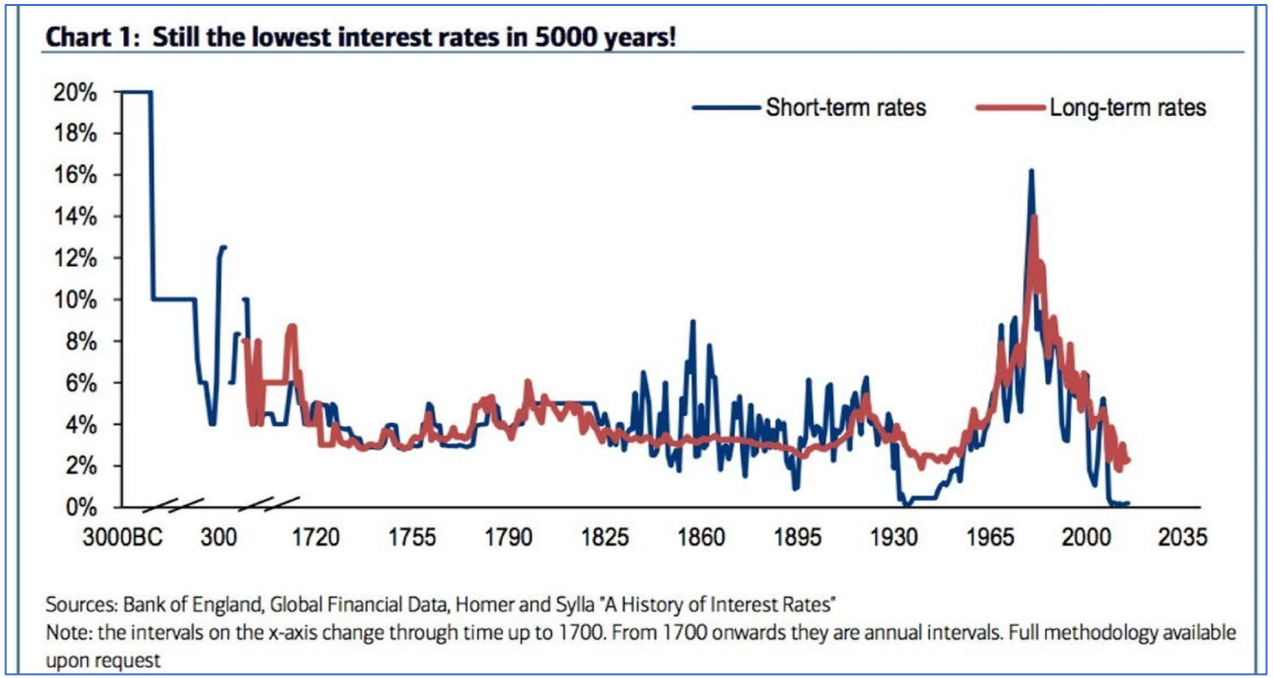




Source: Bloomberg, PIMCO, Hover Analytics

Negative Bond Yields and Currency Interplays : Supply or Price, but not Both?



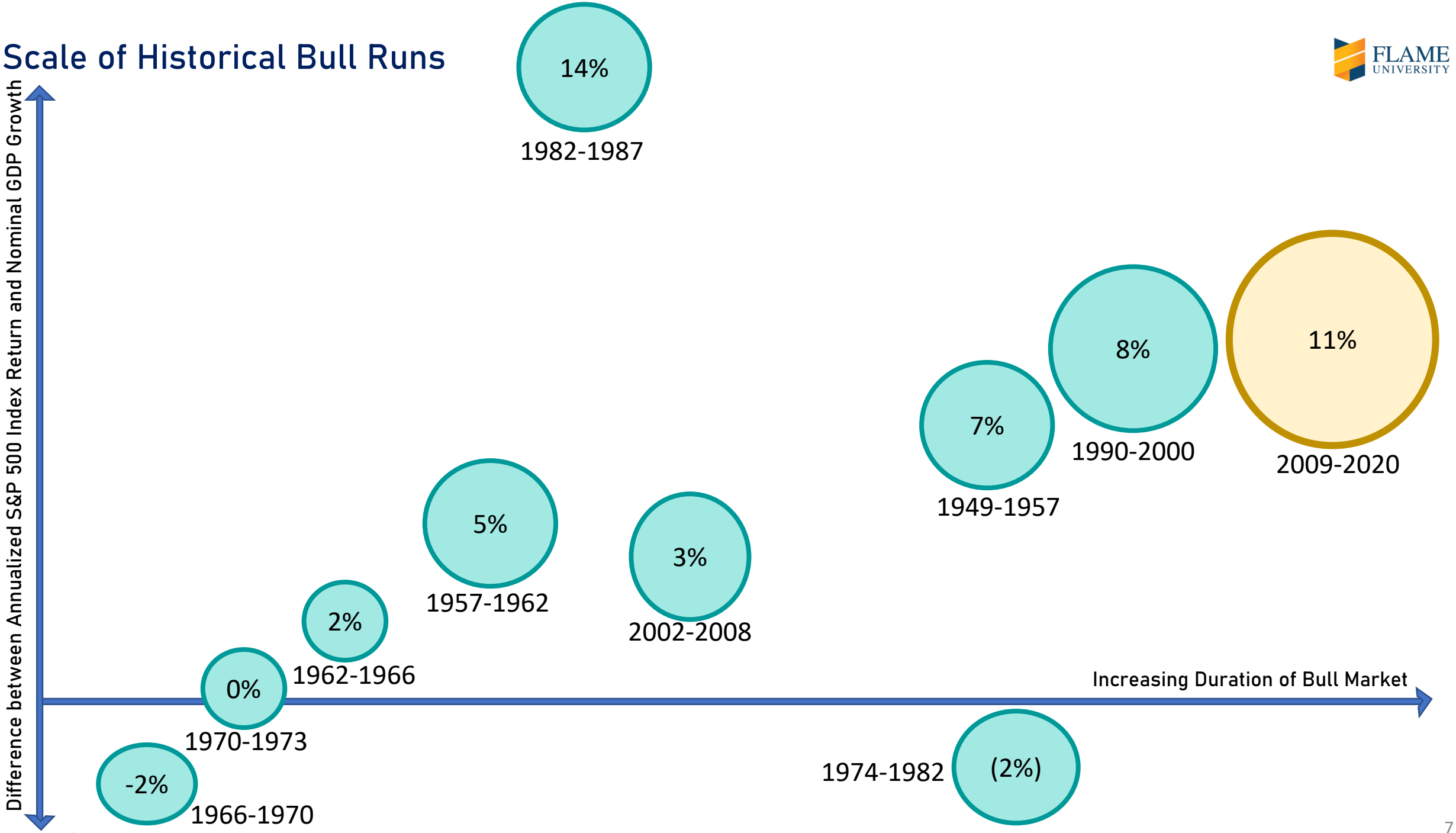


The Negative Bond Yield Matrix

Country	6 Mo	1 Yr	2 Yr	3 Yr	4 Yr	5 Yr	6 Yr	7 yr	8 Yr	9 Yr	10 Yr	15 Yr	30 yr
Switzerland	-0.75	-0.64	-0.89	-0.91	-0.89	-0.87	-0.79	-0.76	-0.69	-0.63	-0.52	-0.29	-0.01
Germany	-0.58	-0.68	-0.74	-0.76	-0.74	-0.68	-0.64	-0.58	-0.46	-0.4	-0.31	-0.1	0.27
Netherlands	-0.59		-0.72	-0.7	-0.64	-0.61	-0.5	-0.42	-0.32	-0.25	-0.15	-0.01	0.3
Japan	-0.13	-0.17	-0.2	-0.22	-0.23	-0.22	-0.22	-0.22	-0.21	-0.16	-0.12	0.07	0.36
Denmark	-0.66		-0.7	-0.7		-0.68			-0.45		-0.28		
Austria		-0.54	-0.65	-0.63	-0.57	-0.47	-0.39	-0.28	-0.22	-0.14	-0.03	0.31	0.7
Finland			-0.66	-0.63	-0.61	-0.54	-0.45		-0.19		-0.01		0.56
Sweden	-0.4		-0.62			-0.55		-0.26			-0.01	0.18	
France	-0.59	-0.6	-0.68	-0.66	-0.62	-0.53	-0.41	-0.31	-0.21	-0.1	0.02	0.38	1.15
Belgium	-0.57	-0.58	-0.6	-0.66	-0.6	-0.54	-0.42	-0.25	-0.14	-0.06	0.09	0.4	
Slovakia		-0.33				-0.24	-0.5		0	0.18	0.26		
Ireland	-0.41	-0.55	-0.45		-0.46	-0.39	-0.24	-0.14	0.45		0.22	0.58	1.16
Slovenia		-0.48	-0.3			-0.31		-0.14			0.25		
Spain	-0.41	-0.39	-0.4	-0.34	-0.27	-0.21	-0.06	0.08	0.2	0.29	0.43	0.8	1.47
Portugal	-0.38	-0.34	-0.37	-0.25	-0.17	-0.14	0.05	0.16	0.28	0.44	0.55	0.95	1.5
Malta	-0.23	-0.2		-0.1		0.02					0.74		
Bulgaria		-0.13		-0.01		0.05		0.37			0.58		
Italy	-0.16	-0.02	0.22	0.71	1.03	1.31	1.53	1.61	1.77	1.82	2.12	2.45	3.17
USA	2.19	2.03	1.81	1.75		1.78		1.89			2.03		2.52

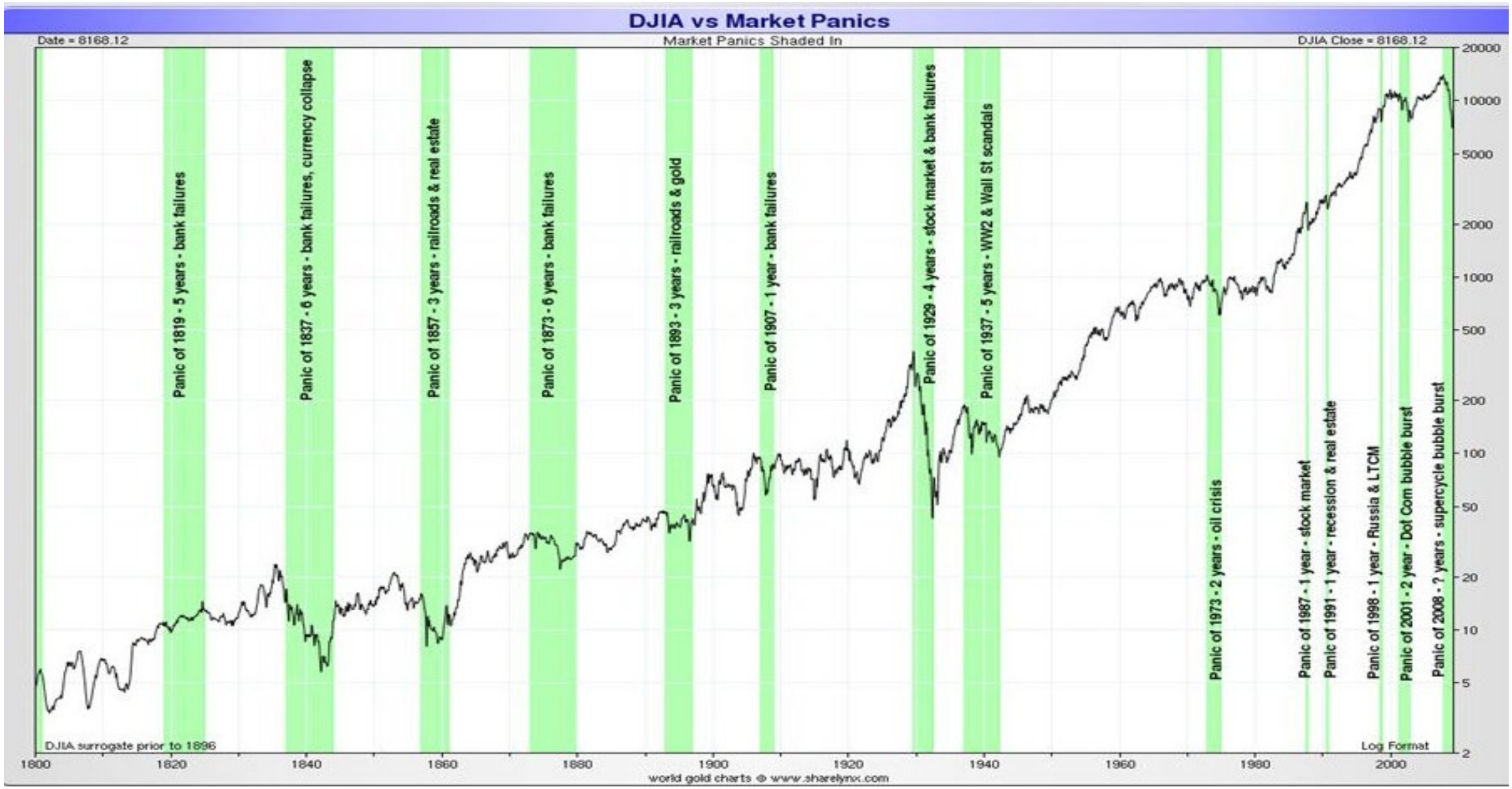
Source: FRED, Federal Reserve Bank of St. Louis, Refinitiv, Bloomberg, Business Insider

Scale of Historical Bull Runs



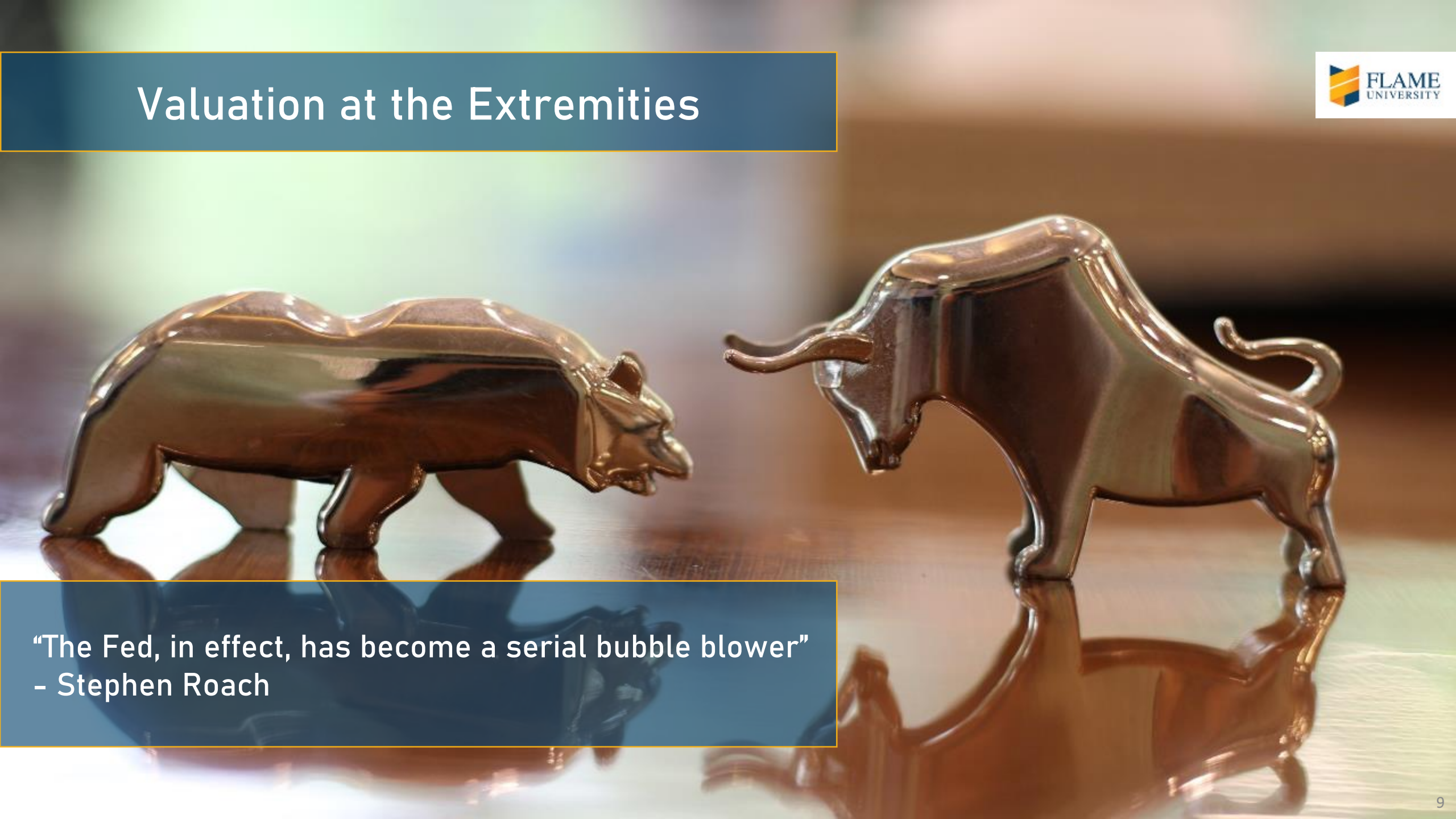
Source: Bloomberg

Duration of Boom and Bust : Decreasing Duration and Increasing Frequency



Source : sharelynx.com

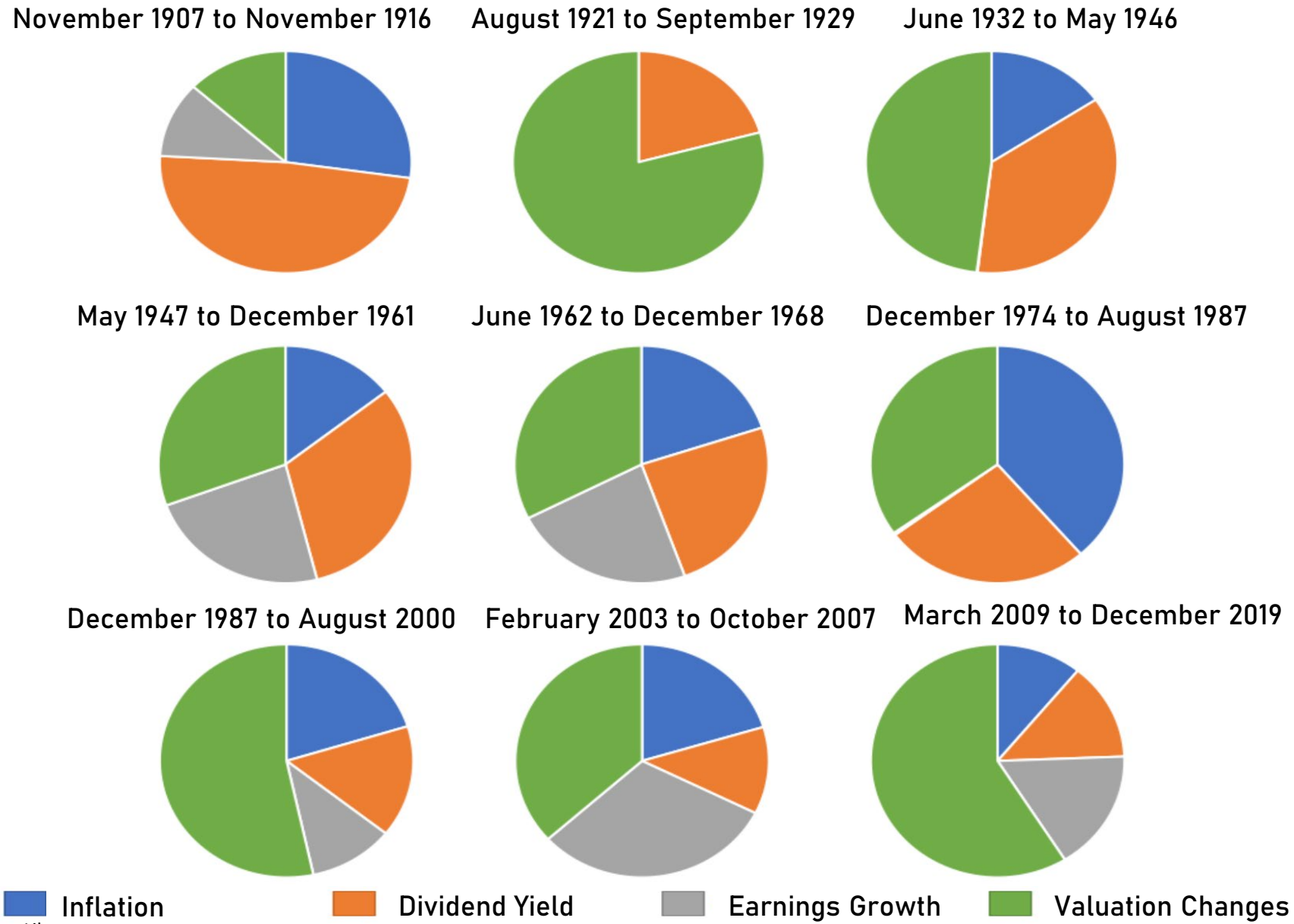
Valuation at the Extremities



"The Fed, in effect, has become a serial bubble blower"
– Stephen Roach

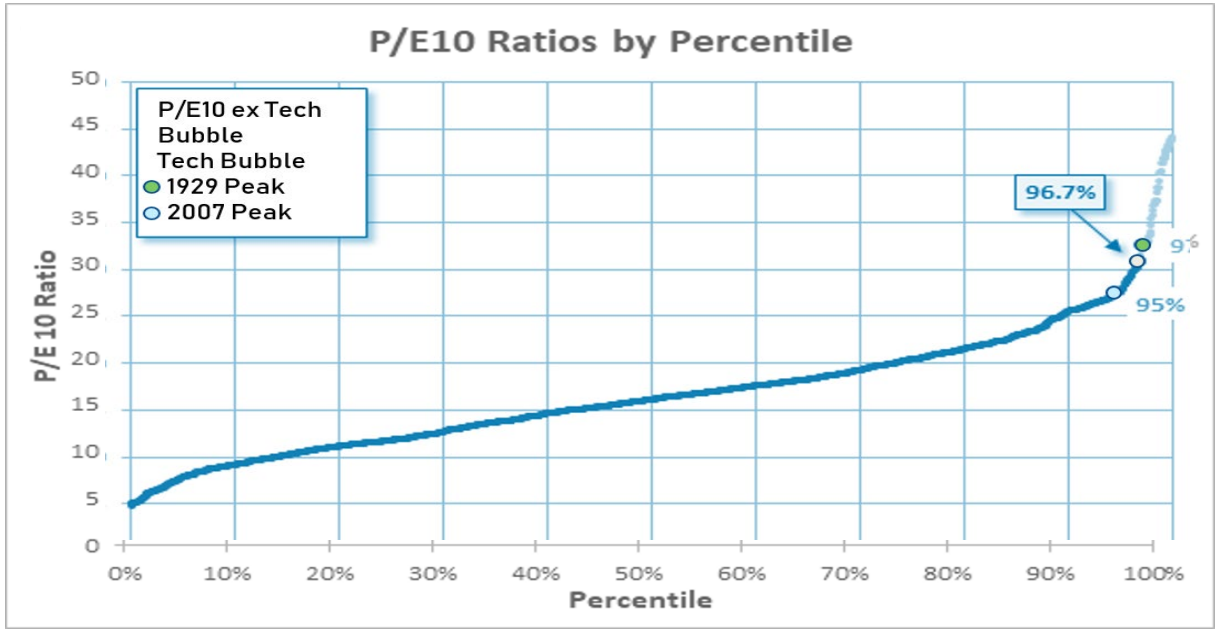
Sources of Stock Price Appreciation

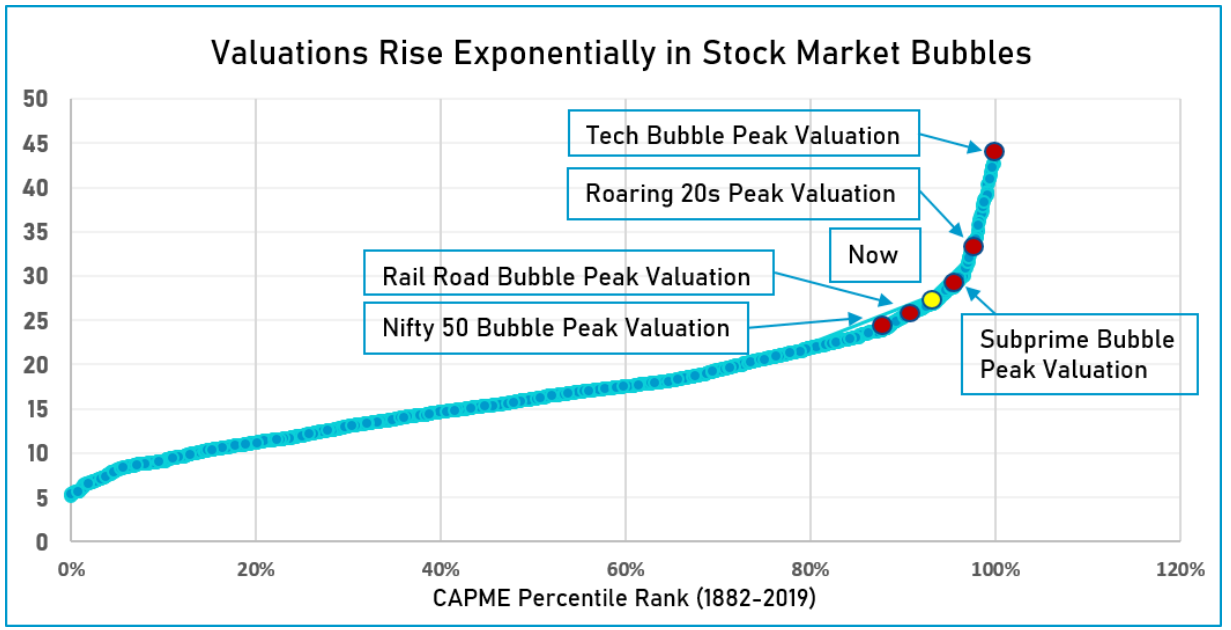
"Give me a lever long enough and a fulcrum on which to place it, and I shall move the world" - Archimedes

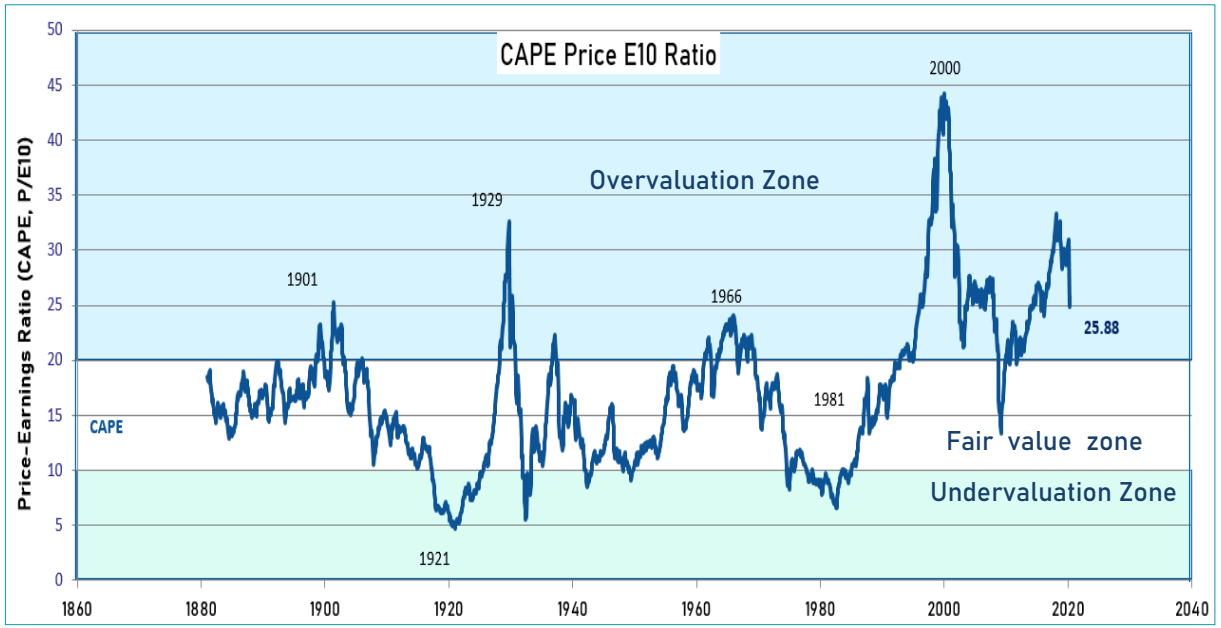


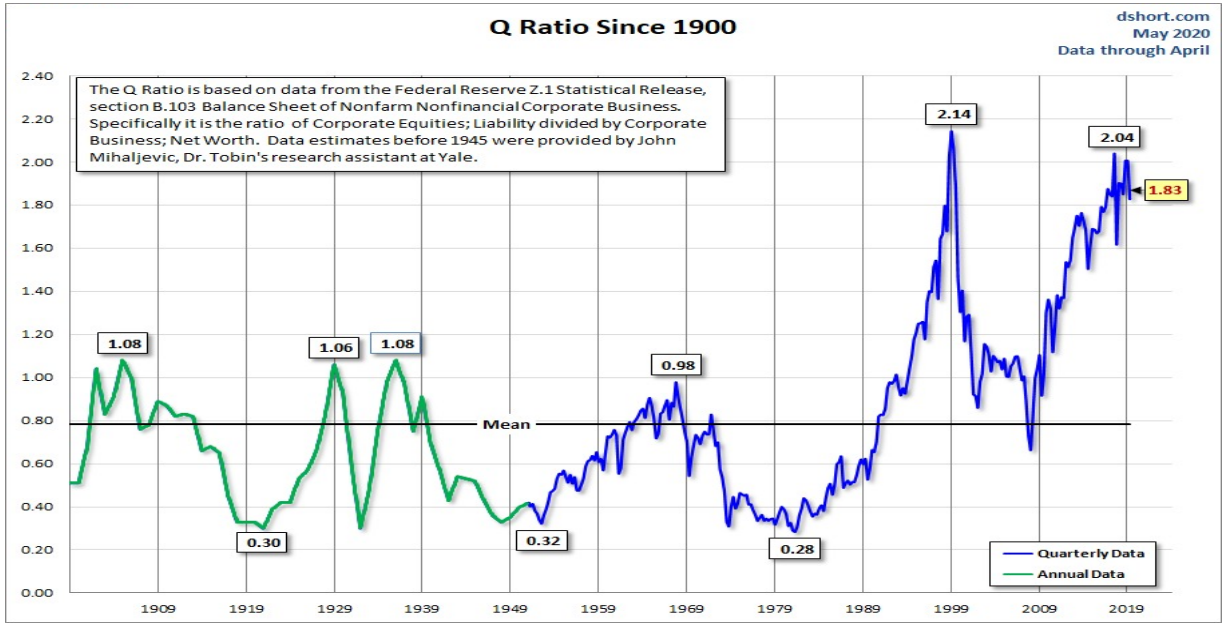
Source : Robert Shiller's Data Library

Easy Money and Congenial Interest Rates are Necessary Conditions for Bubbles



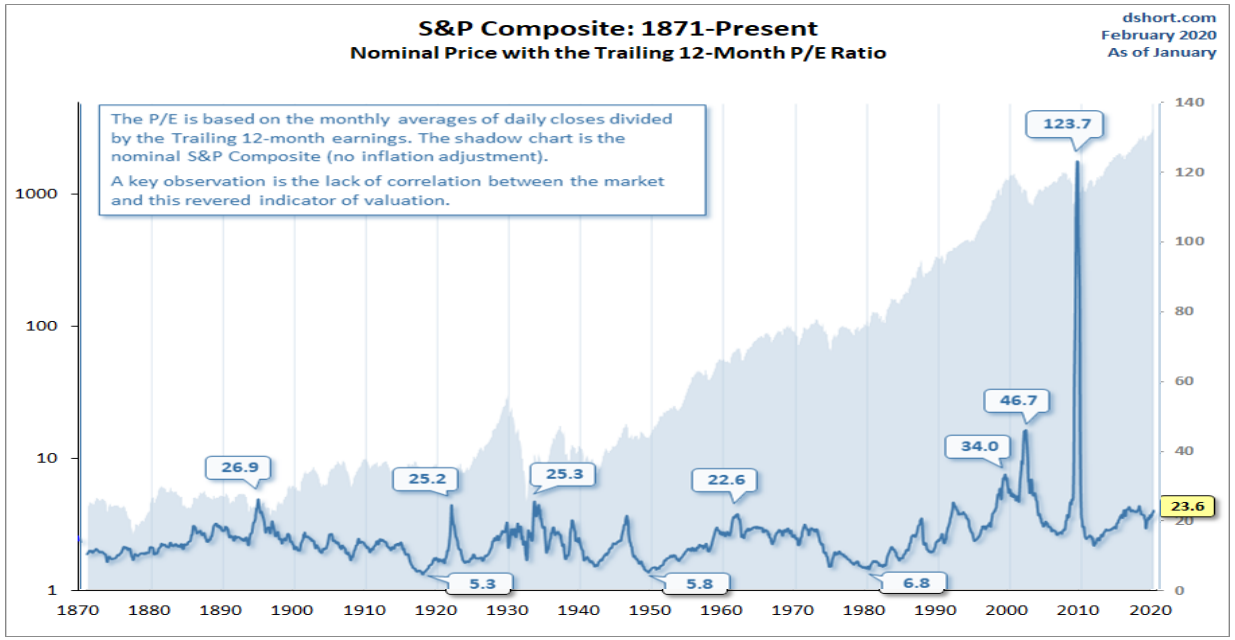


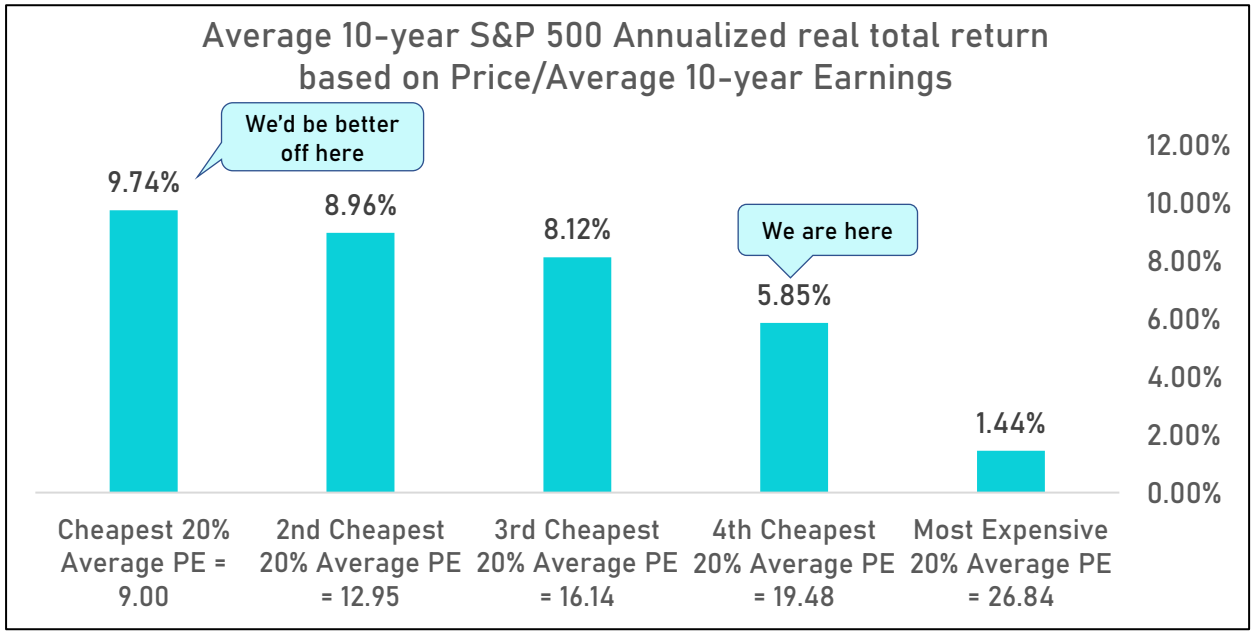




Source : Advisor Perspectives , Meritocracy , Robert Shiller and S&P, Forbes

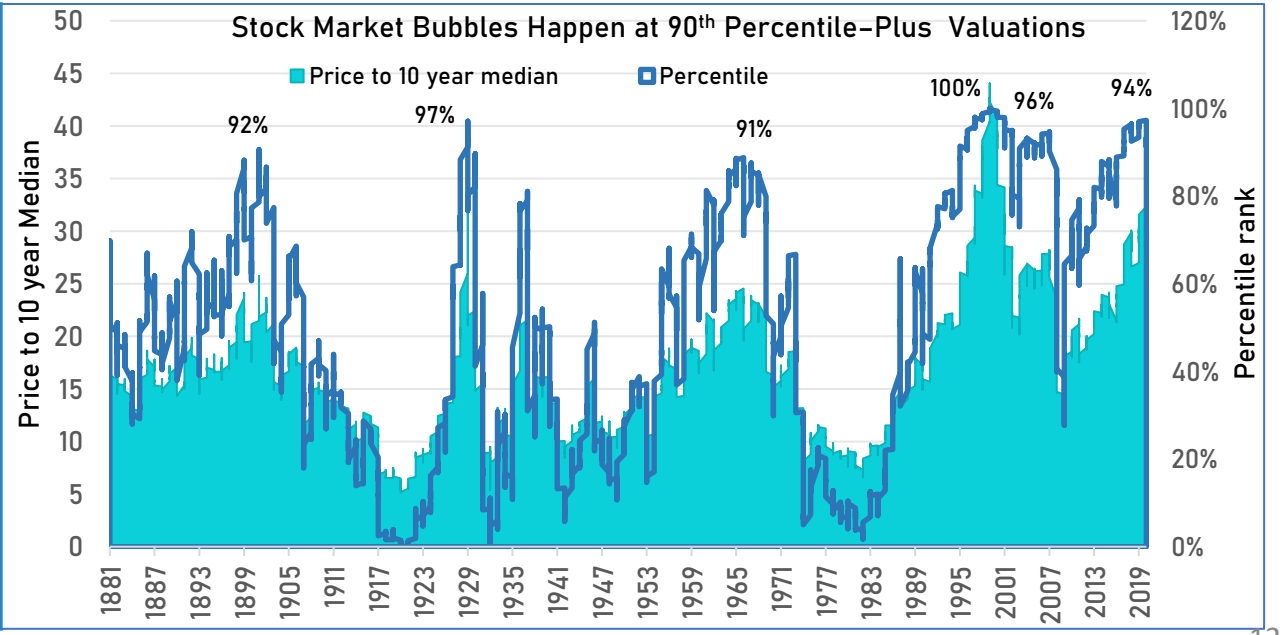
Low Future Interest Rates Embedded in Current High Valuations





S&P 500 valuation summary

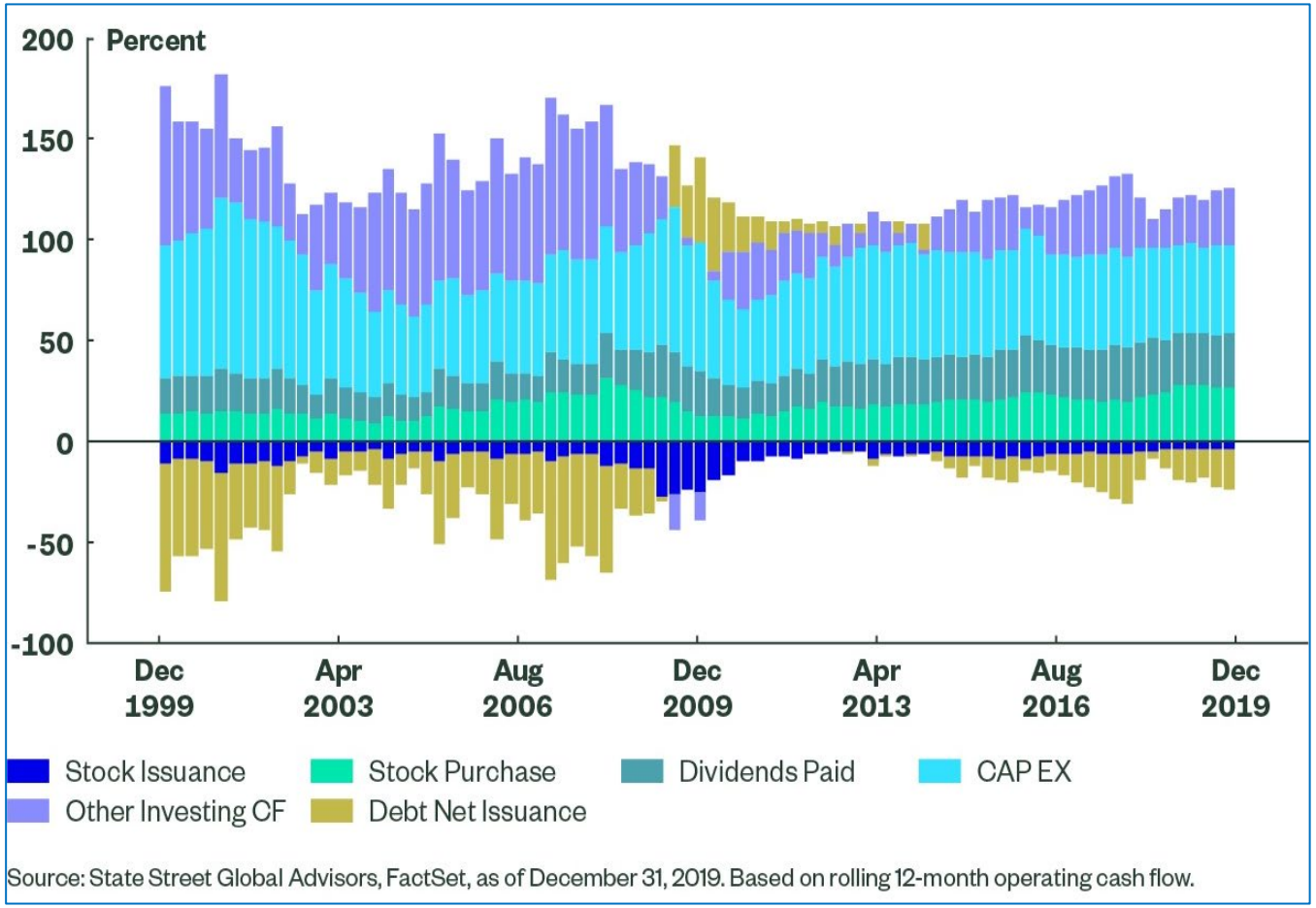
	Aggregate index		Median stock	
Metric	Current	Historical %ile	Current	Historical %ile
P/E to growth (PEG)	1.5 x	97 %	1.9 x	100 %
EV / Sales	2.1 x	94	2.7 x	100
EV / EBITDA	11.3 x	88	11.4 x	99
Price / Book	2.9 x	76	3.3 x	98
Forward P/E	17.4 x	88	17.7 x	95
Free cash flow yield (FCF)	4.4 %	43	4.8 %	30
Cyclically adjusted P/E (CAPE)	23.7 x	85	NA	NA
Median		88 %		98 %



Source : Advisor Perspectives , Robert Shiller and S&P, Forbes

Significant Role of Buybacks in the Current Valuation

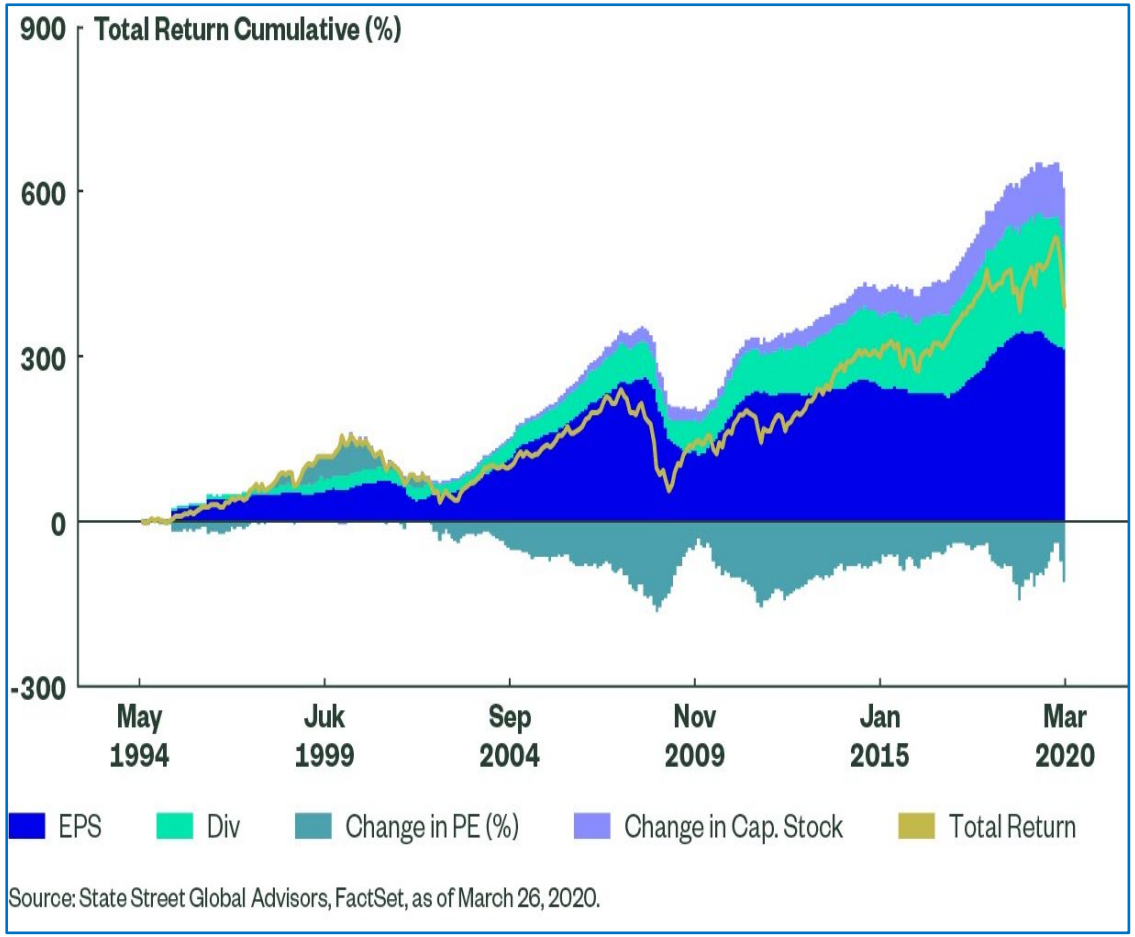
Buybacks have consumed about one-quarter of developed market companies' operating cash flows



Source: State Street Global Advisors, FactSet, as of December 31, 2019. Based on rolling 12-month operating cash flow.

Buybacks have provided significant support to global equity markets

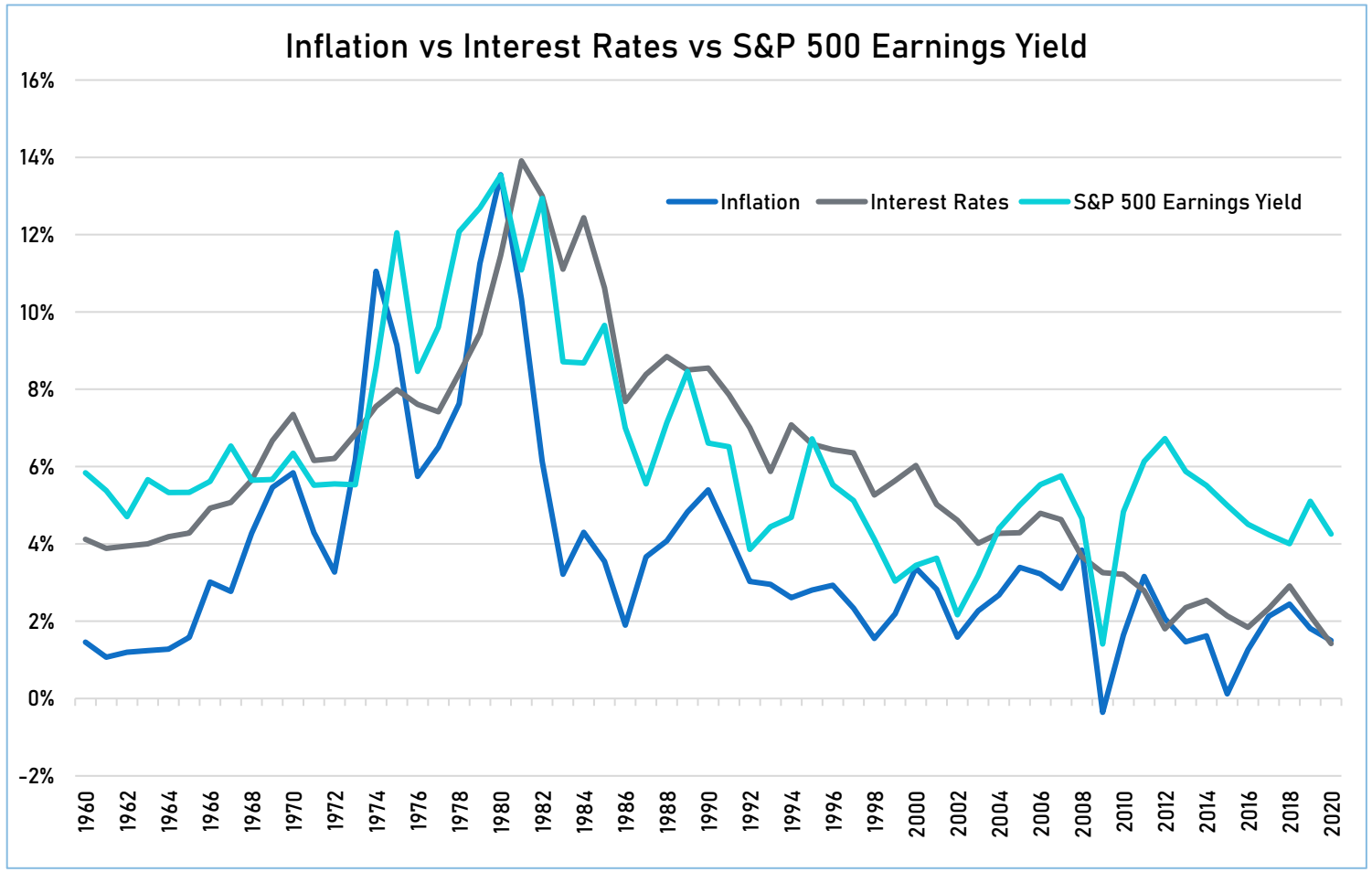
Attribution of total cumulative returns for the MSCI World Index

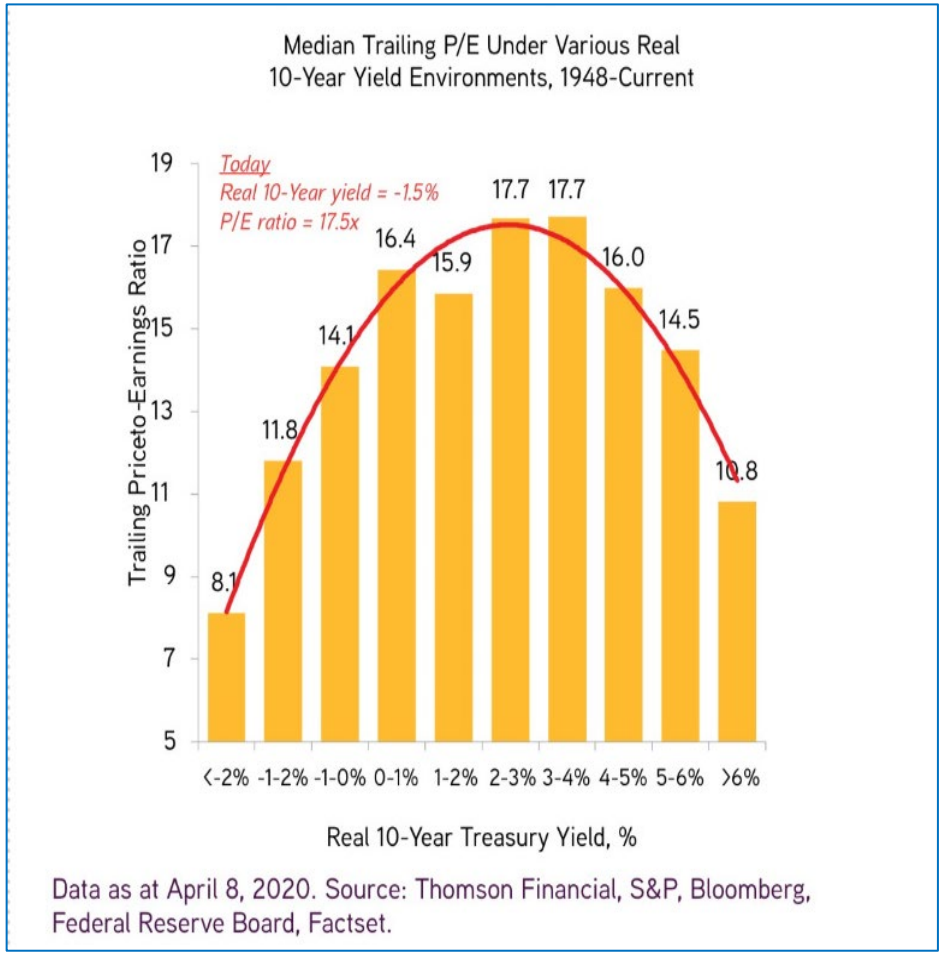


Source: State Street Global Advisors, FactSet, as of March 26, 2020.

Source : State Street Global Advisors

Significant Role of Interest Rates in the Current Valuation





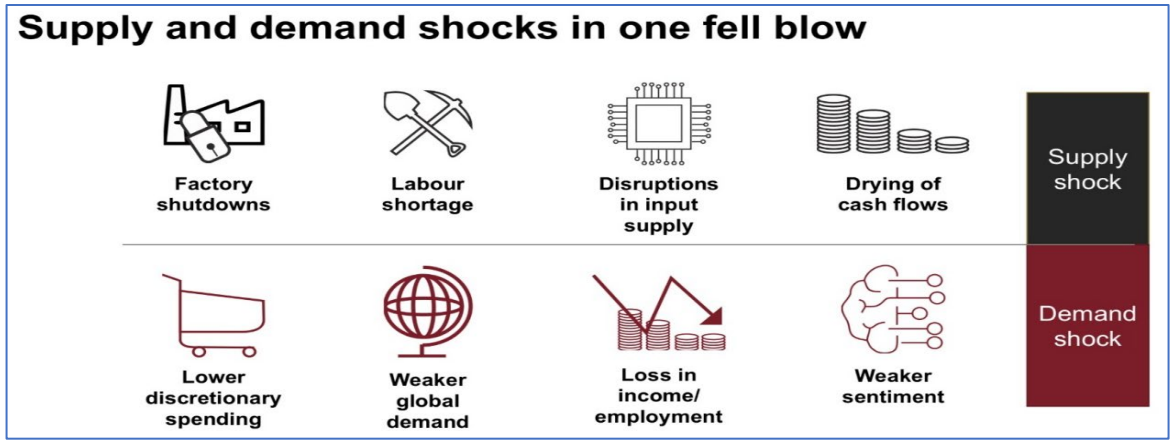
Source : FRED, Thomson Financial, Bloomberg

COVID-19 Moving Parts

"People take the longest possible paths, digress to numerous dead ends, and make all kinds of mistakes. Then historians come along and write summaries of this messy, nonlinear process and make it appear like a simple, straight line"- Dean Kamen

A Modern Pandemic in the Era of Airlines and Social Media

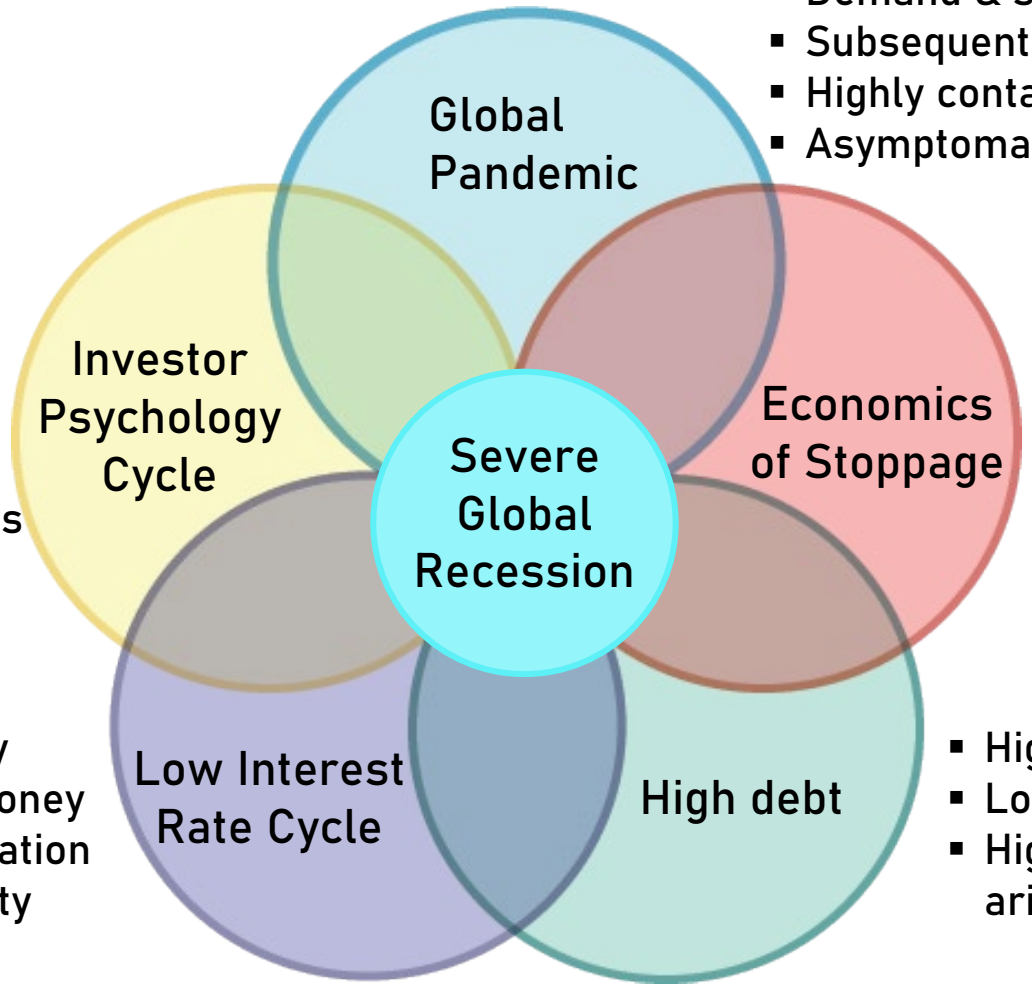
Twelve Large Pandemic Events with at least 100,000 deaths			
Event	Start	End	Deaths
Black Death	1331	1353	75,000,000
Great Plague of London	1665	1666	100,000
First Asia Europe Cholera Pandemic	1816	1826	100,000
Second Asia Europe Cholera Pandemic	1829	1851	100,000
Russia Cholera Pandemic	1852	1860	1,000,000
Global Flu Pandemic	1889	1890	1,000,000
Sixth Cholera Pandemic	1899	1923	800,000
Encephalitis Lethargica Pandemic	1915	1926	1,500,000
Spanish Flu	1918	1920	100,000,000
Asian Flu	1957	1958	2,000,000
Hong Kong Flu	1968	1969	1,000,000
H1N1 Pandemic	2009	2009	203,000



Sources : Wikipedia, Visual Capitalist

A Highly Contagious Global Pandemic Triggering Multiple Exogenous Shocks

- Demand & supply shock
- Subsequent waves
- Highly contagious
- Asymptomatic transmission



- Wide range of outcomes
- Policy errors
- Market dislocations

- Job losses
- Sharp GDP contraction
- Cost of stimulus
- Low commodity prices

- Money supply
- Velocity of money
- Inflation/Deflation
- Flight to safety

- High Debt/GDP
- Low GDP growth
- High government spending arising from stimulus

Liquidity dependent, inherently interconnected and a complex adaptive system

Source : FLAME University

Framework of Investing in the Post-Covid-19 Situation

- Virus will set timelines
- Subsequent waves
- Containment vs suppression strategies
- Mutations
- Interim treatment protocols
- Flattening the curve
- Living with the virus

- Access to healthcare
- Restricted living
- Lifestyle changes
- Economic pain
- Psychological issues
- Cognitive overload
- Uncertainty
- Feeling of helplessness

- Demand destruction
- Cashflow preservation
- Cash is king
- Supply chain issues

- Stimulus packages
- Restart policies
- Debt and deficits
- Who pays for the bill?
- Impact of helicopter money
- Policy errors
- Moral Hazard
- Blame game

- Market dislocations
- Flight to safety
- Volatility
- Collateral and solvency
- Liquidity terms
- Correlations
- Supply side issues
- Dealing with extremes of bubbles & crashes

Source : FLAME University

Odds, Frequency & Impact – All Three Matter

Frequency vs. Magnitude : Probability and outcome, both matter

Good Probability, Bad Expected Value		
Probability	**Outcome**	**Weighted Value**
70%	+1%	+0.7%
30%	-10	-3.0
100%		-2.3%

Bad Probability, Good Expected Value		
Probability	**Outcome**	**Weighted Value**
70%	-1%	-0.7%
30%	+10	+3.0
100%		+2.3%

Source : Risk, Uncertainty and Profit

Expected Value

Expected Value is the weighted average value for a distribution of possible outcomes.

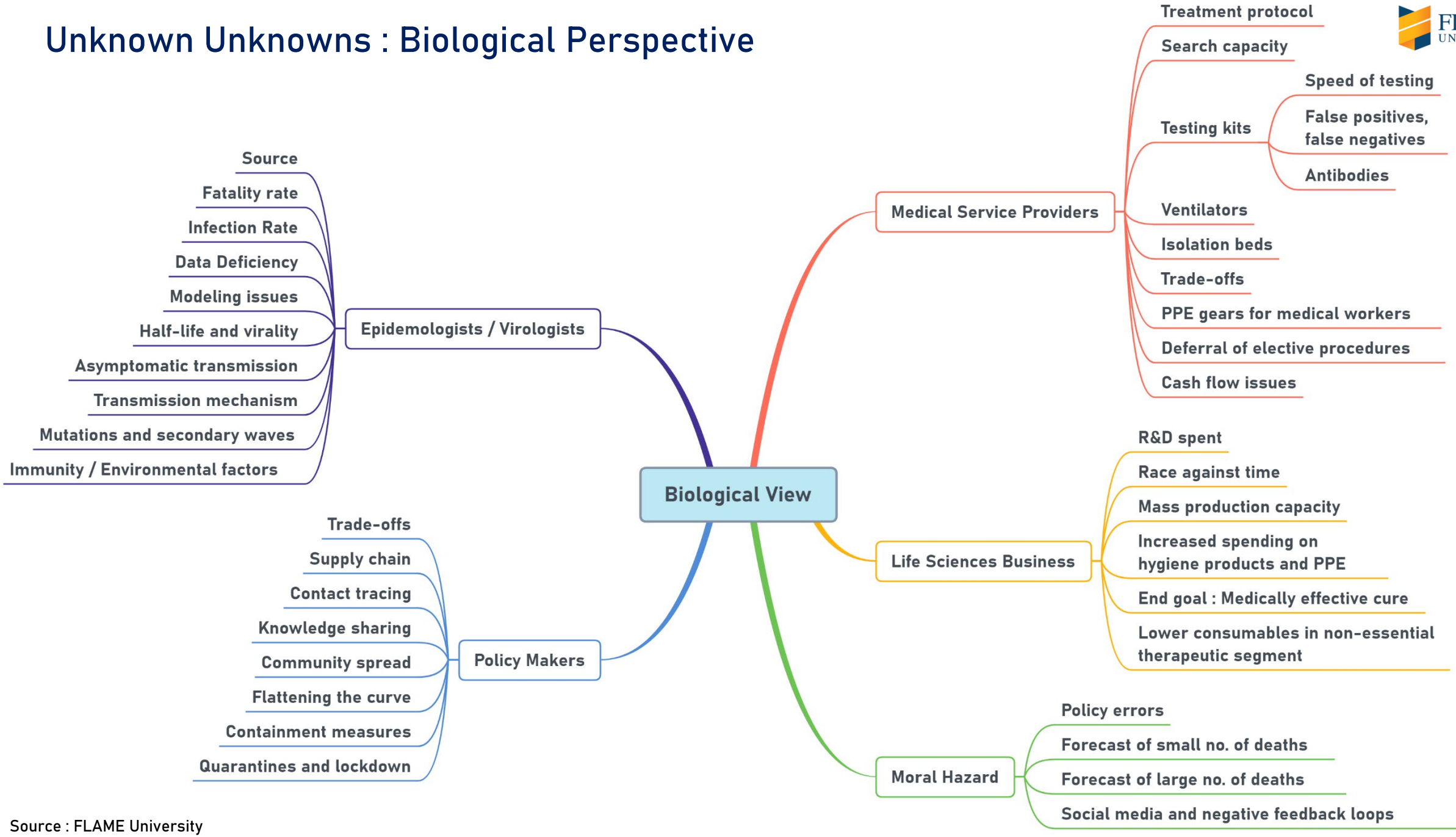
Take the probability of loss times the amount of possible loss from the probability of gain times the amount of possible gain. That is what we're trying to do. Its *Imperfect,* but that's what it's all about
- Warren Buffett

Risk vs. Uncertainty

Risk : We don't know the outcome, but we know what the underlying distribution looks like (incorporates the element of loss / harm)

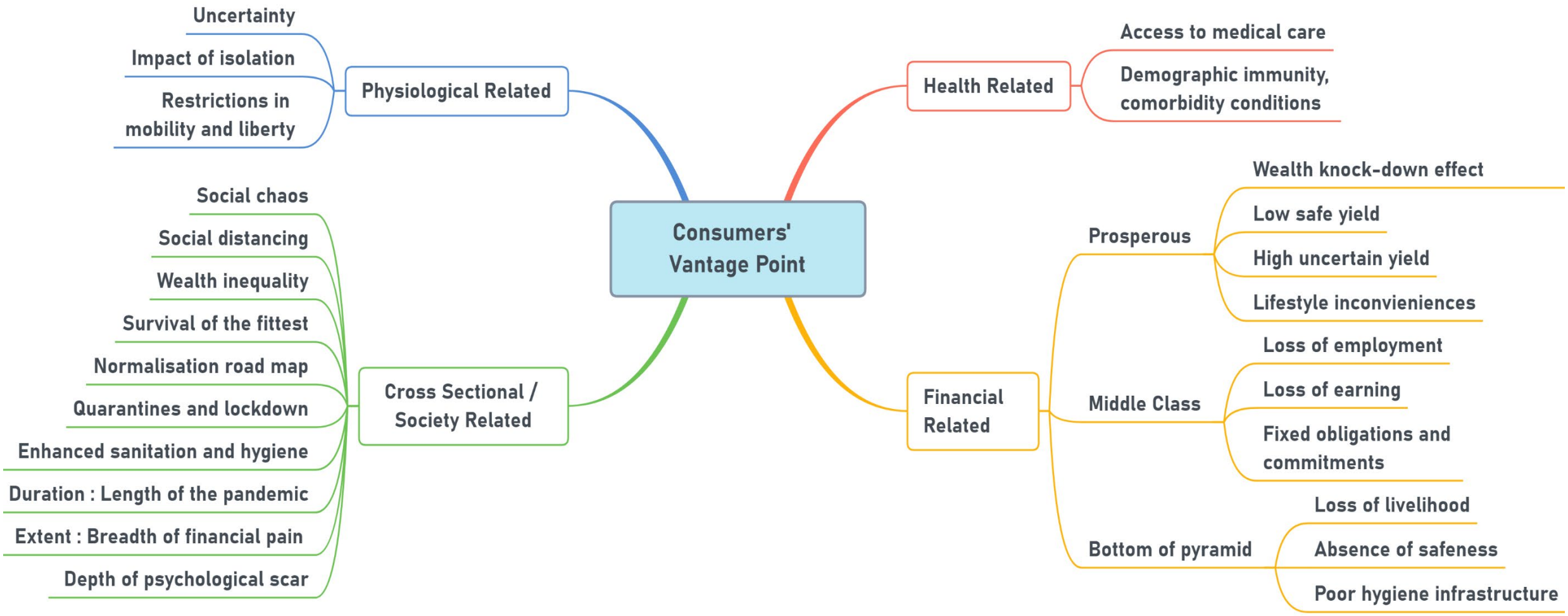
Uncertainty : We don't know the outcome, and we don't know what the underlying distribution looks like (Need not incorporate loss / harm)
- Frank Knight

Unknown Unknowns : Biological Perspective



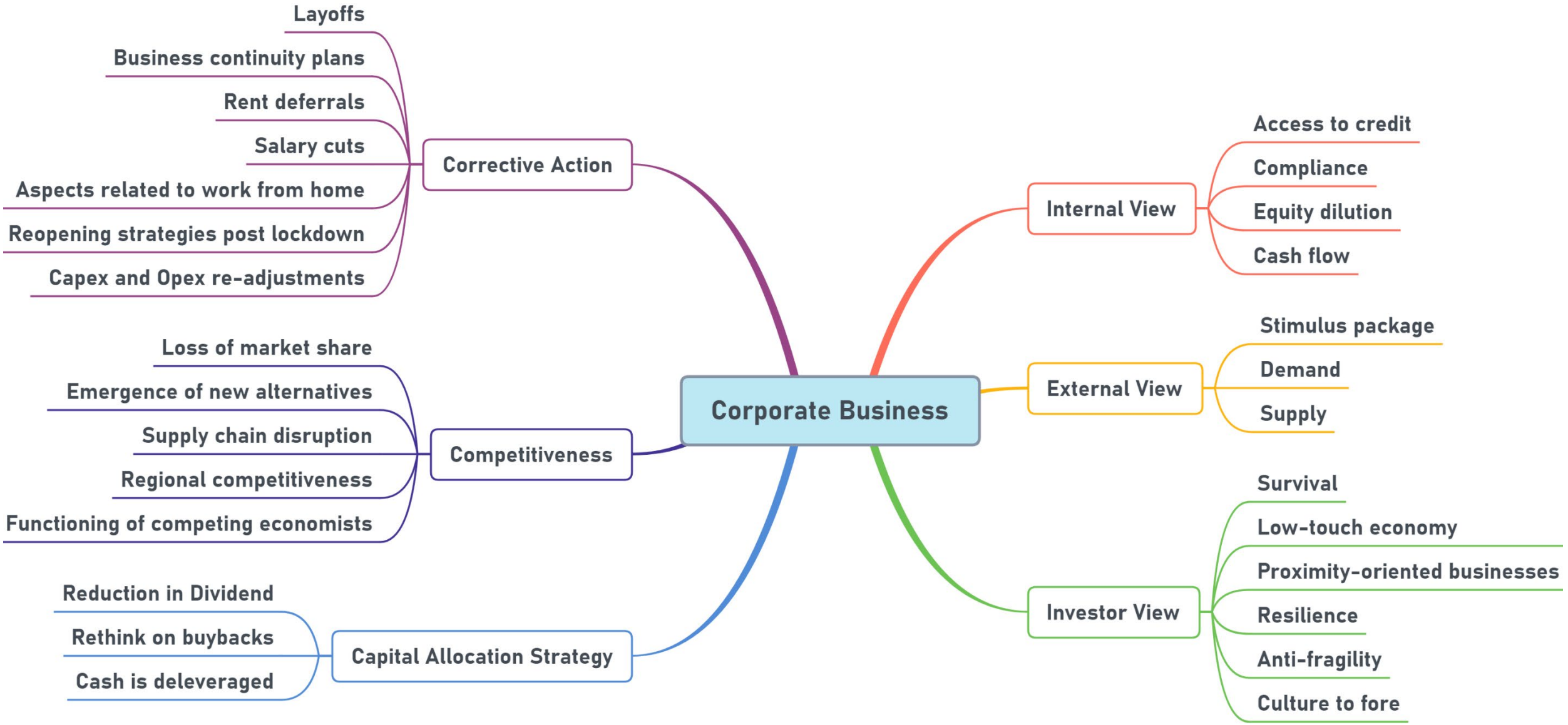
Source : FLAME University

Consumers' Perspective



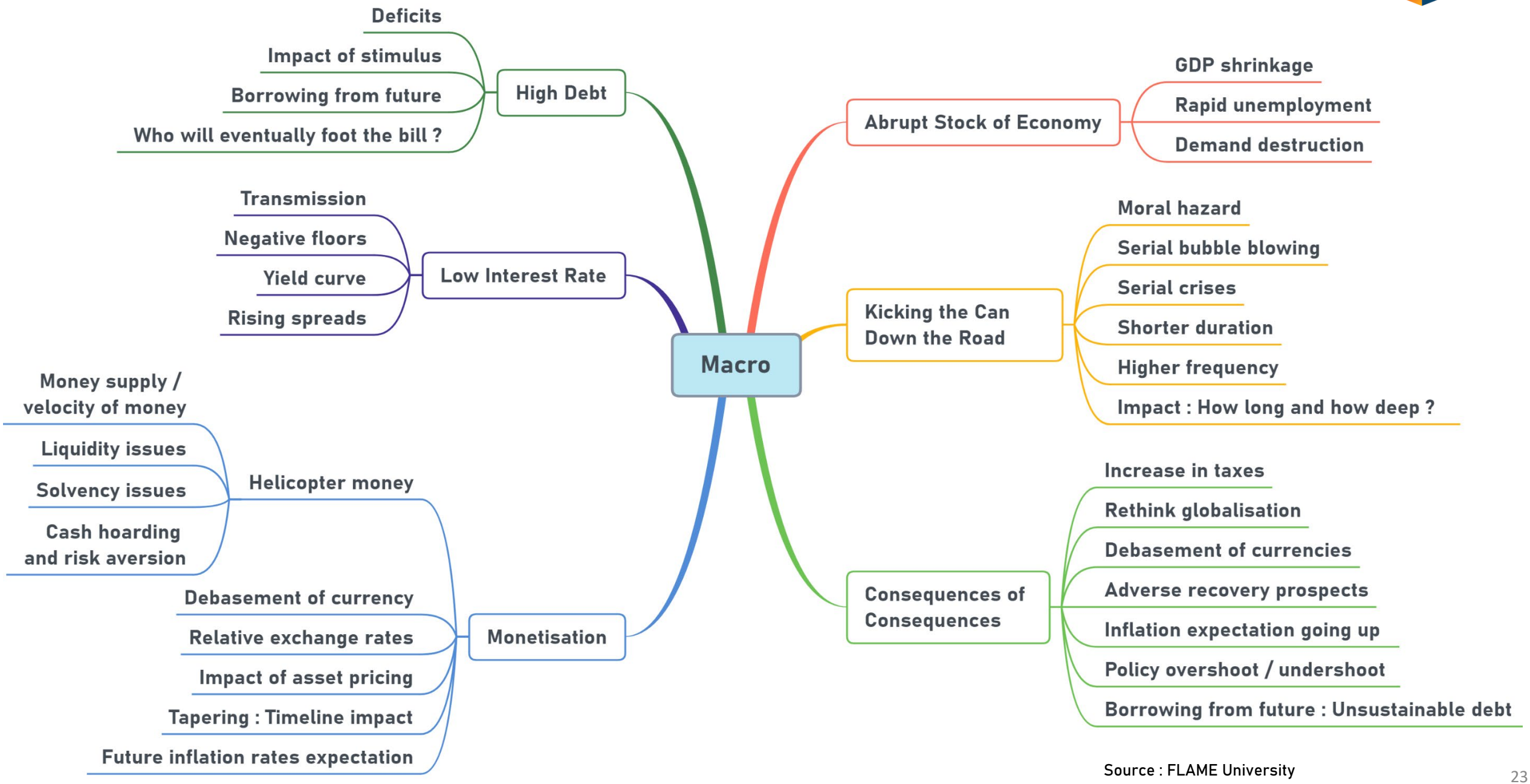
Source : FLAME University

Corporate Business : Operating Managers' Perspective



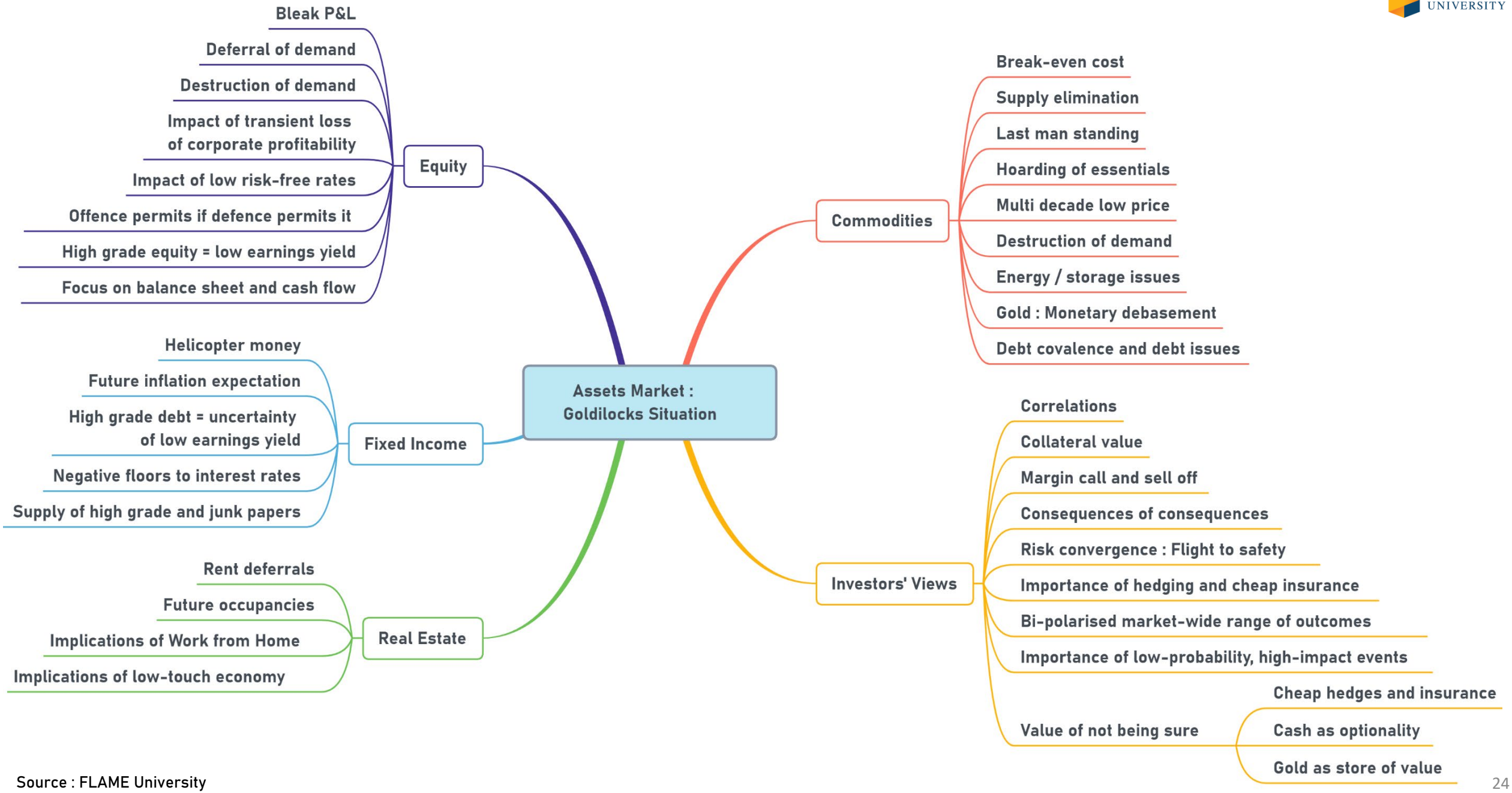
Source : FLAME University

Macro Perspective



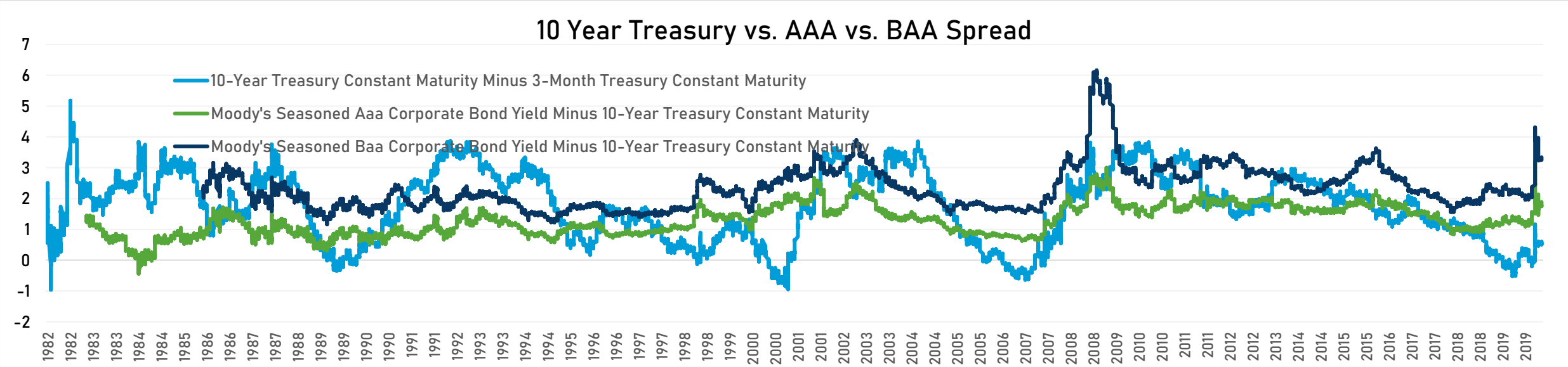
Source : FLAME University

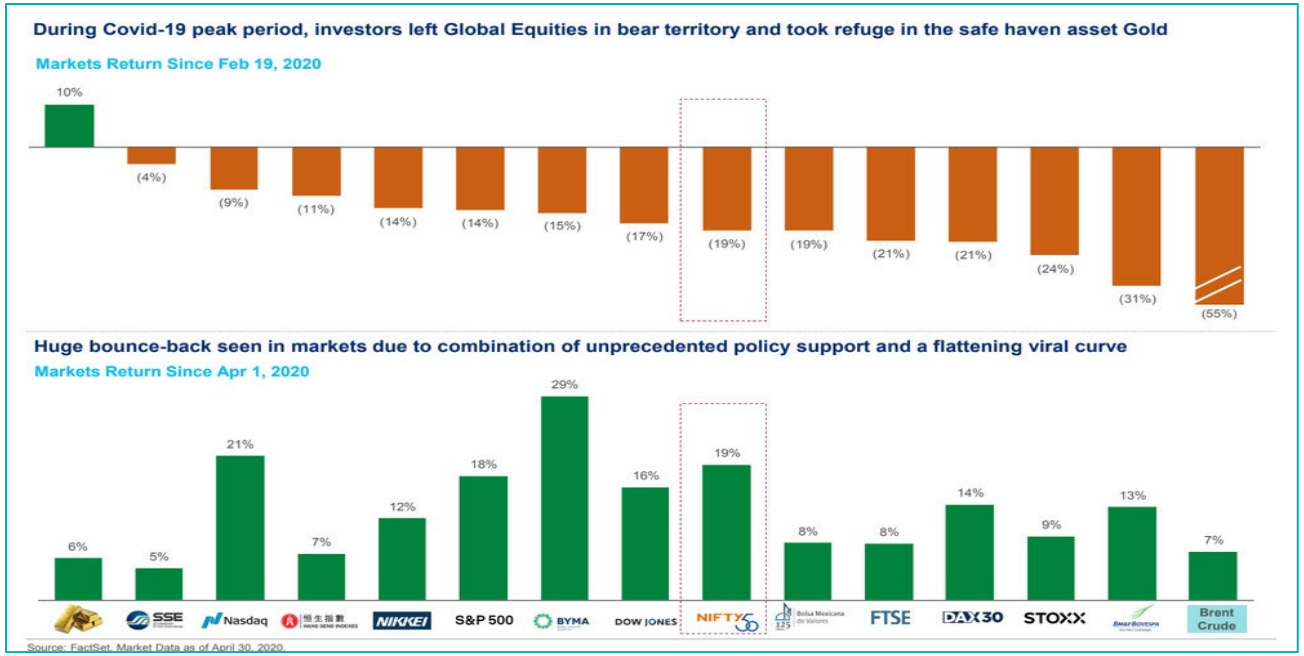
Asset Market Perspective

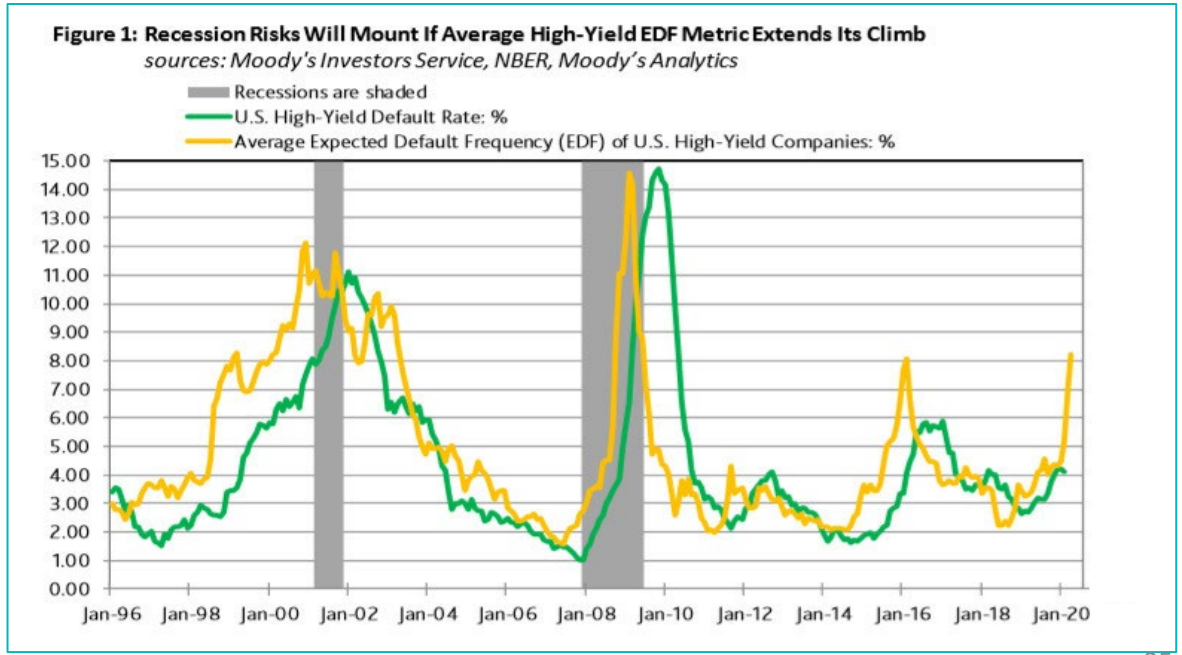


Source : FLAME University

Flight to Safety : Rising Spreads





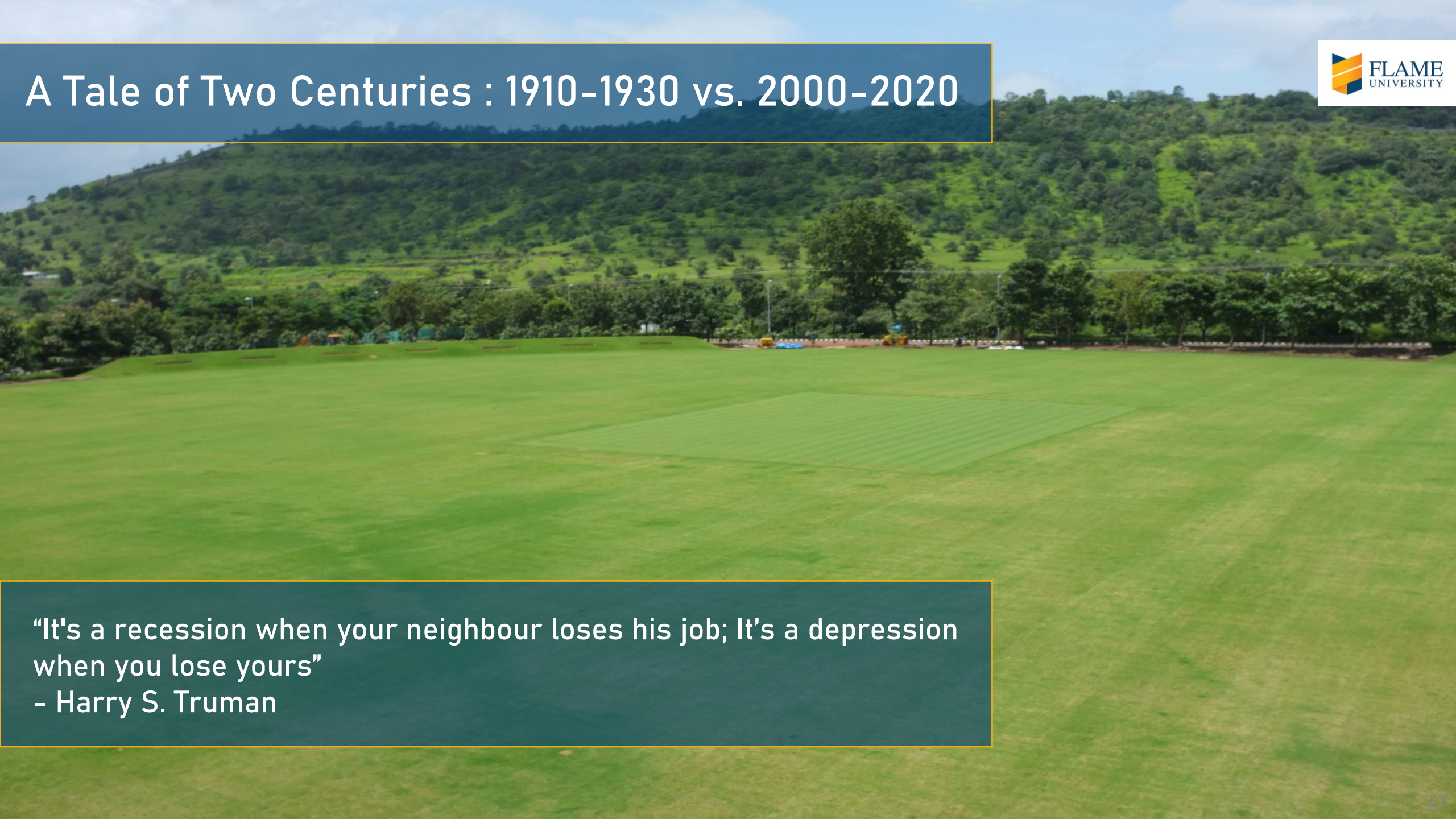


Source : Refinitiv, FRED, Moodys Analytics, NBER, Factsheet

Ring of Moral Hazard

Source : Slickcharts.com

A Tale of Two Centuries : 1910-1930 vs. 2000-2020



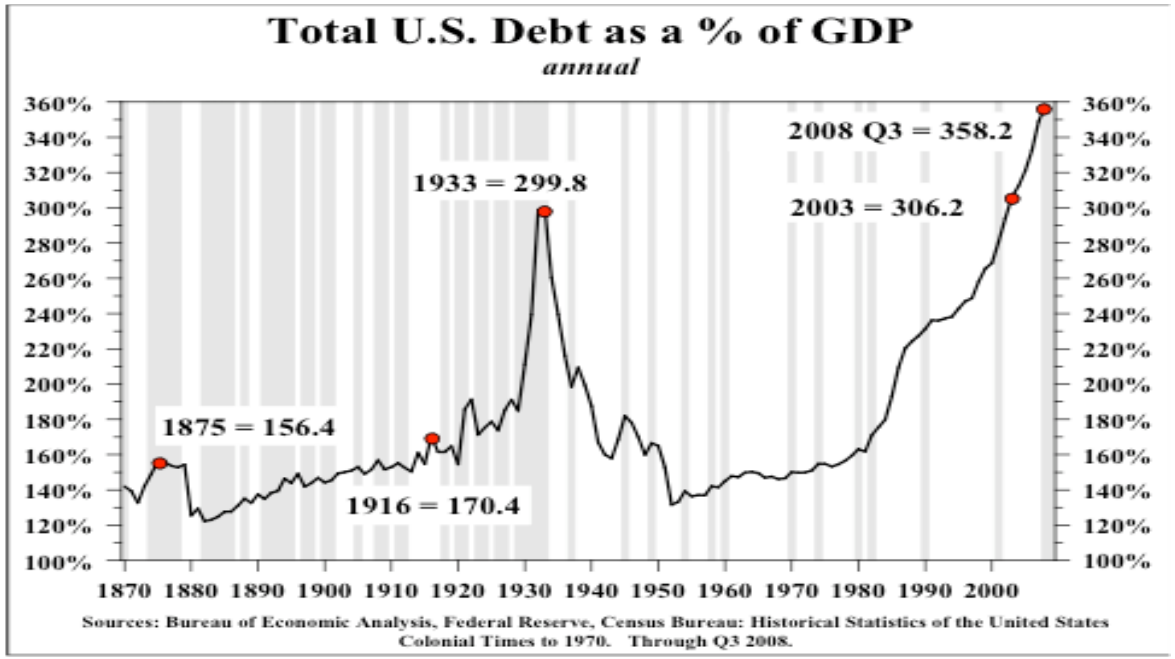
"It's a recession when your neighbour loses his job; It's a depression when you lose yours"
- Harry S. Truman

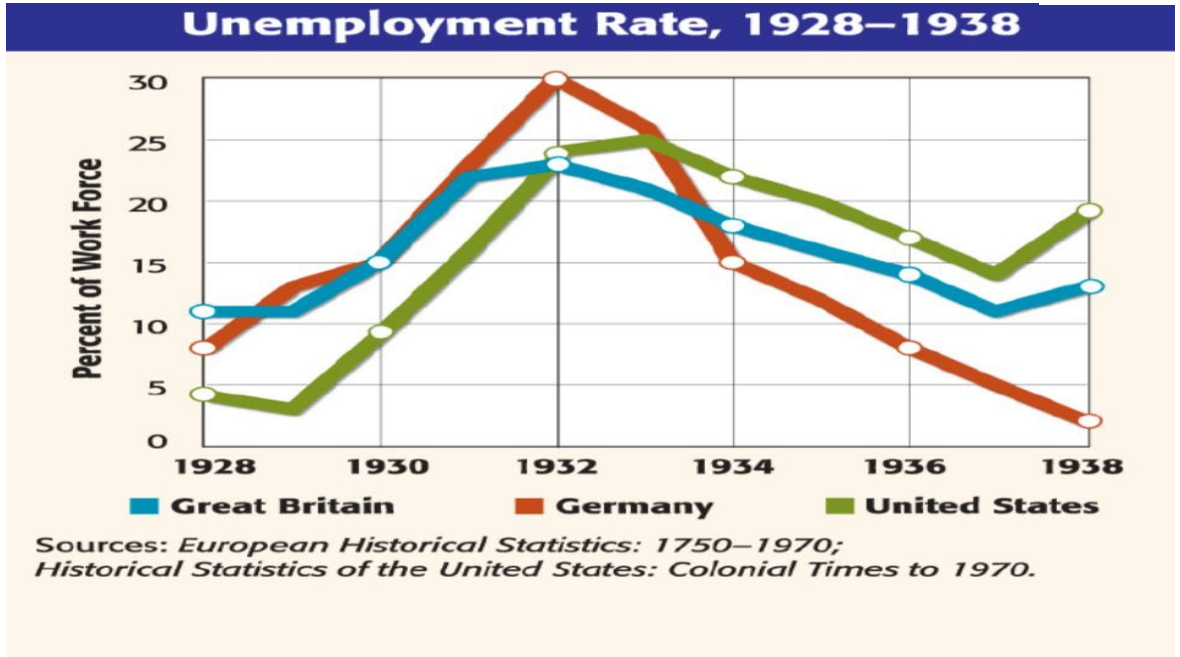
The Great Depression vs. The Great Recession vs. The Great Lockdown

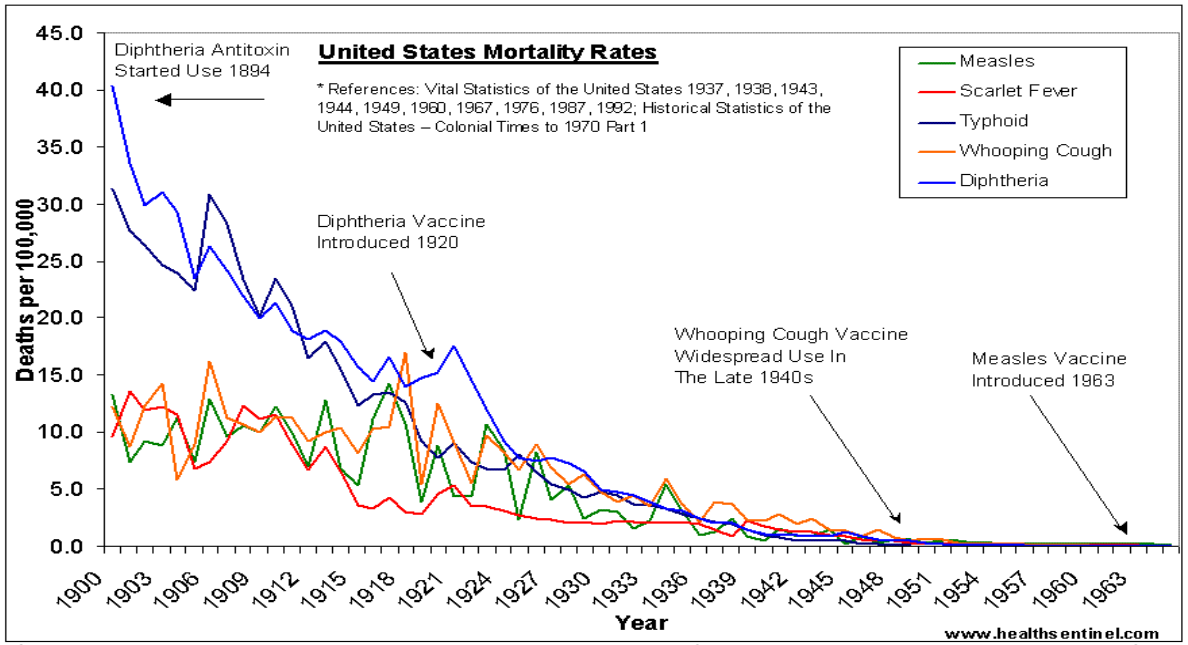
	Great Depression 1930s	Global Financial Crisis 2008	Ongoing COVID-19 Recession
Bank Failures	9,096 - 50% of banks (Jan. 1930- March 1933)	57 - 0.6% of banks (Dec. 2007 - May 2009)	Banks well capitalized, new NPA cycle likely
Unemployment Rate	25%	8.5%	14.7% (09-05-2020) and counting
Economic Decline	-26.5% (1929 1933)	-4.1% (last quarter 2007 - second quarter 2009)	Severe and counting
Biggest Decline in Dow-Jones Industrial Average	-89.2% (Sept. 3, 1929 - July 8, 1932)	-53.8% (Oct. 9, 2007- March 9, 2009)	Unfolding movie
Change in Prices	-25% (1929 - 1933)	+0.5% (Dec. 2007-March 2009)	Unfolding movie
Emergency Spending Programs	1.5% of GDP for 1 year (increase in 1934 budget deficit)	2.5% of GDP for 2 years (2009 American Reinvestment and Recovery Act)	Fiscal Stimulus > 11% of GDP (08-05-2020) and counting
State's Response	Raise taxes, cut spending	Federal stimulus plan gives fiscal relief to states to lessen impact of tax increases	Rate cuts, asset purchases, back stopping money/ bond markets, USD swap lines and ongoing measures
Increase in Money Supply by Federal Reserve	17% (1933)	125% (Sept. 2008- May 2009)	13.7% (27-04-2020) and counting

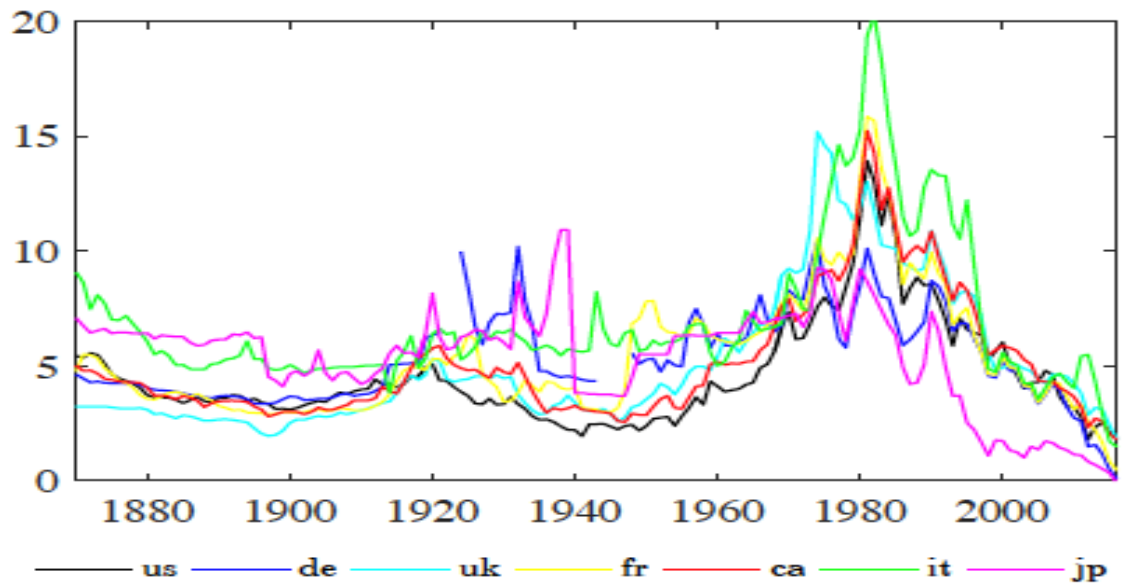
Source : www.gold-eagle.com, https://jhss11rajankalsi.wordpress.com

1910-1930 Conditions in the Era of the Spanish Flu Pandemic and The Great Depression







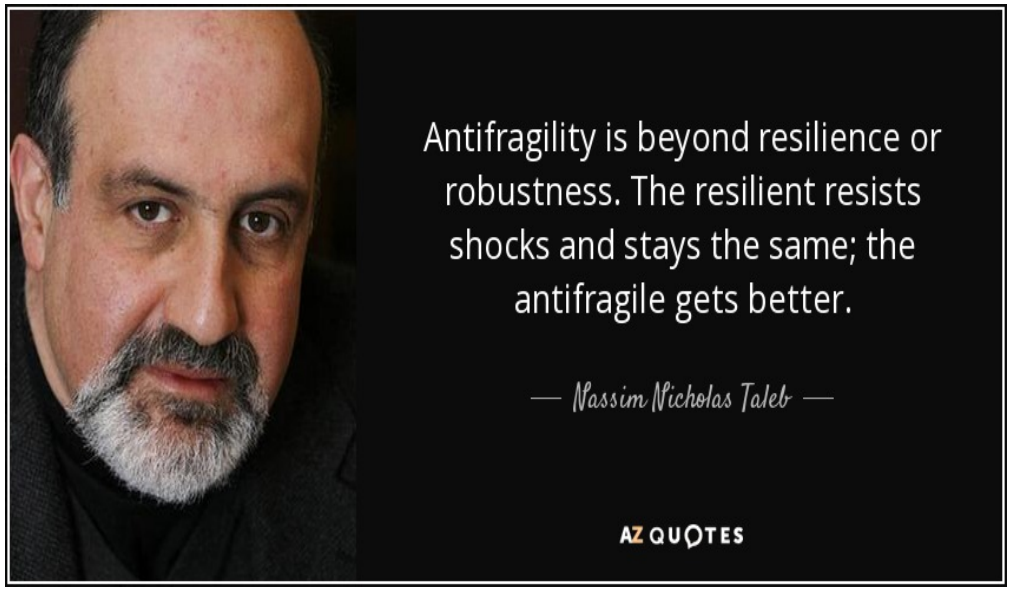


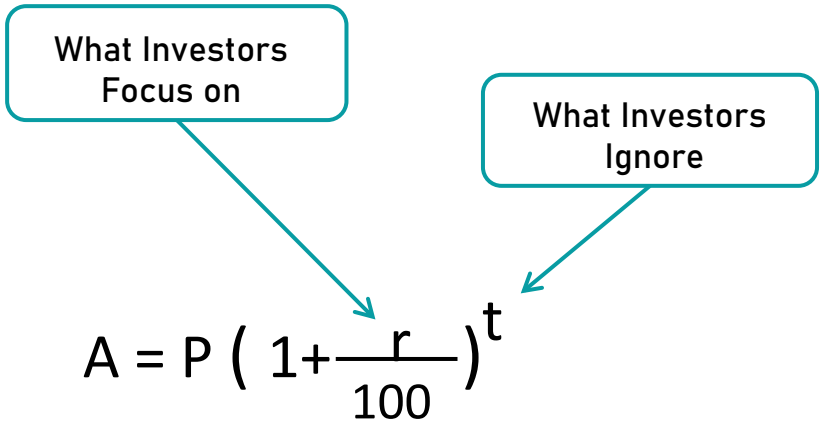
Source : Federal Reserve, Bureau of Economic Analysis, Census Bureau, European Historical Statistics, Historical Statistics of the United States.

Process

"The essence of investment management is the management of risks, not the management of returns"
– Benjamin Graham

What are the Qualities that Bring Longevity, Resilience and Anti-Fragility?





Parameter	Fragile Companies	Resilient/Robust Companies	Anti-Fragile Companies : Resilience with Optionality
System	Efficiency optimized	Redundancy & buffers driven	Degeneracy
Error Considerations	Hate errors : Irreversible, large errors leading to blowups	Longevity of growth	Fail fast, frequently, but cheaply
Incentives	No skin in the game	Skin in the game	Soul in the game
Management Consideration	Reactive Delayed by small changes in plans Siloed	Proactive Survives change in plans Partially connected	Positive serendipity Gets better when plans change Fully Integrated

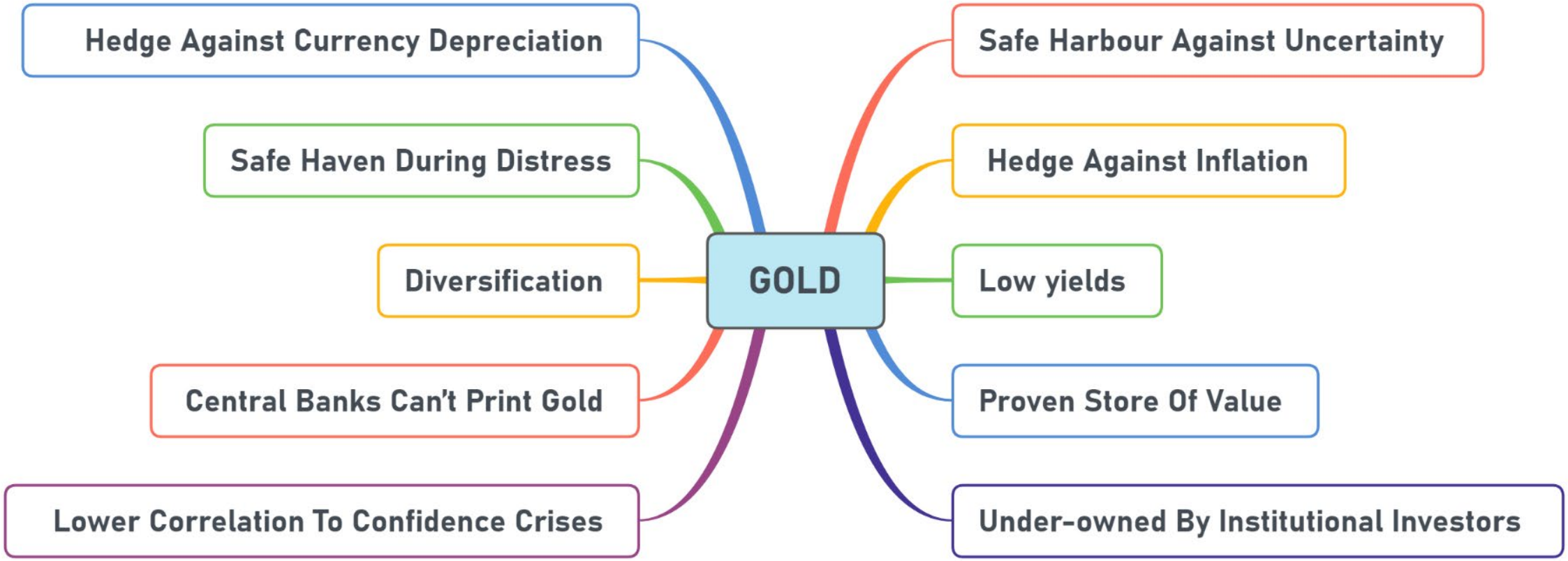
Source : FLAME University

Ideal Portfolio Construct : Barbell Approach of Resilience and Optionality

Parameter	Resilient Companies	Anti-Fragile companies : Resilience with Optionality	Only Optionality	Survival Issues / Value Traps	Mediocre : Neither Resilient nor Optionality
Allocation	Core of portfolio	Rare but large allocation	Many positions but small allocation. Maximum of this bucket is capped	Avoidable commitment	Avoidable
Valuation Consideration	Timeline of investment horizon arbitrage	Longevity of growth and level of out of the money optionality implied in the current prices	Large total addressable market and network effects	Cheap, getting cheaper due to deteriorating core business	Market performer
Investor Consideration	Sector leadership Markets share and adjacencies	Take advantage of volatility to add and trim positions Rare companies; should be averaged up. Risk contribution will be more equally distributed i.e. large position represents the same risk as a very small position	Venture capitalist investing framework Extension of tail leads to minimizing of error. Foot in the door and a possibility of averaging up or trimming down depending on subsequent outcome	Avoid commitment bias Alternative opportunity cost	Filter out at screening level Companies stuck in the middle, though they can give buy low, sell high, or round tripping opportunities

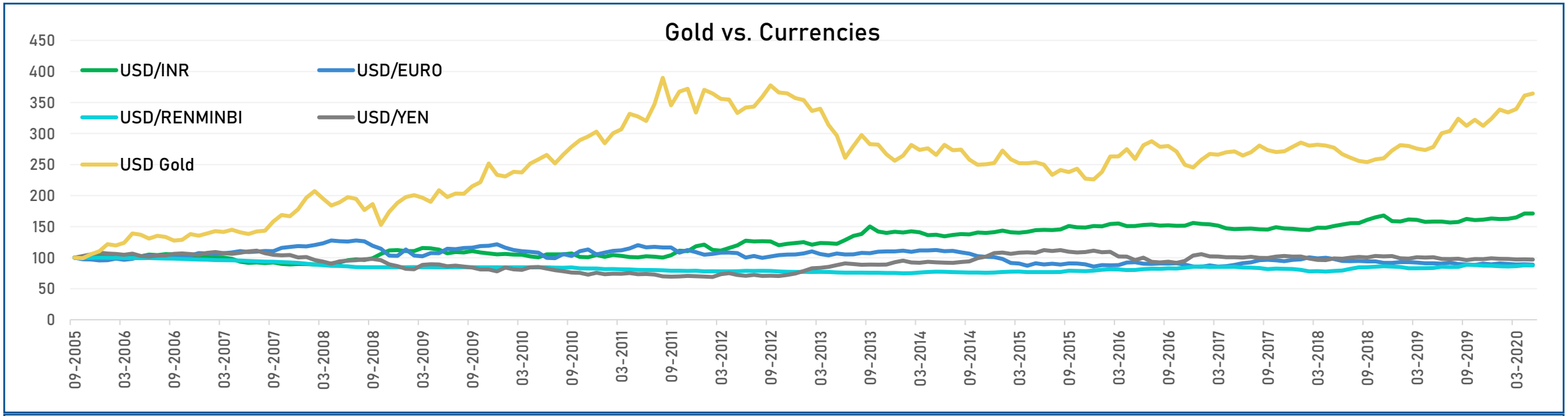
Source : FLAME University

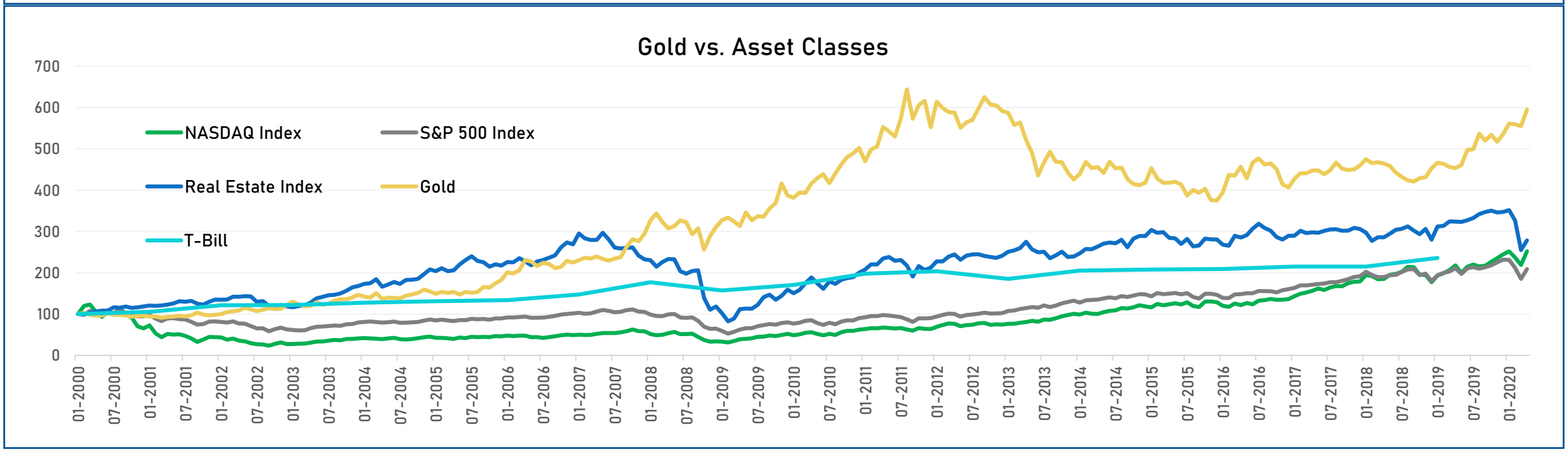
Gold : Hedge Against Inflation and Negative Interest Rate



Source : FLAME University

Golden Performance

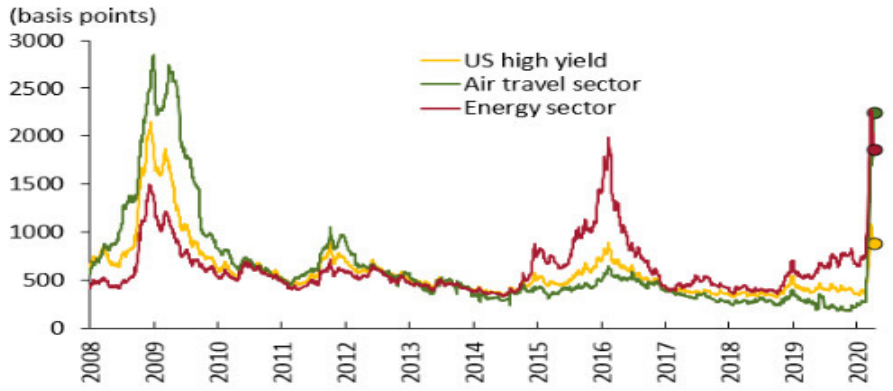




Source : FRED, Refinitiv

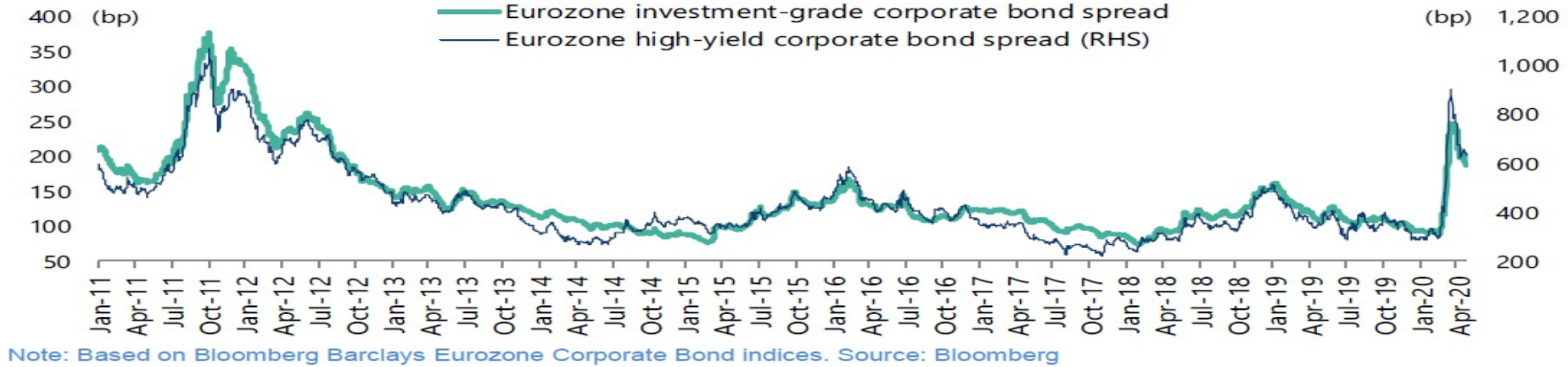
High Yield Bonds

Skyrocketing spreads
In the segment of markets where borrowers have lower credit ratings, borrowing costs have risen sharply.



Issuer (US$ Secondary Levels)	Rating (M / S / F)	Amt. (mm)	Coupon	Price	Yield	G Spread	Z Spread	YTD (ΔYield)	YTD (ΔSpread)
Large National Bank	B1/BB-/--	300	5.50%	97.125	7.71%	753	735	3.44%	481
Gold Finance Co.	--/BB-/BB-	300	5.90%	76.45	17.13%	1689	1678	--	--
Housing Finance Co.	B3/--/--	350	6.38%	55.5	39.78%	3958	3942	21.46%	2282
Transport Finance Co.	--/BB/BB	500	5.10%	71.5	16.96%	1669	1660	--	--
Gold Finance Co.	--/BB/BB	550	4.40%	83	10.57%	1029	1021	--	--
Private Bank	Caa1/--/--	477	3.75%	84.25	10.45%	1020	1009	-0.07%	125
Finance Lending Co.	Ba3/--/B+	400	5.88%	63	23.98%	2372	2363	--	--

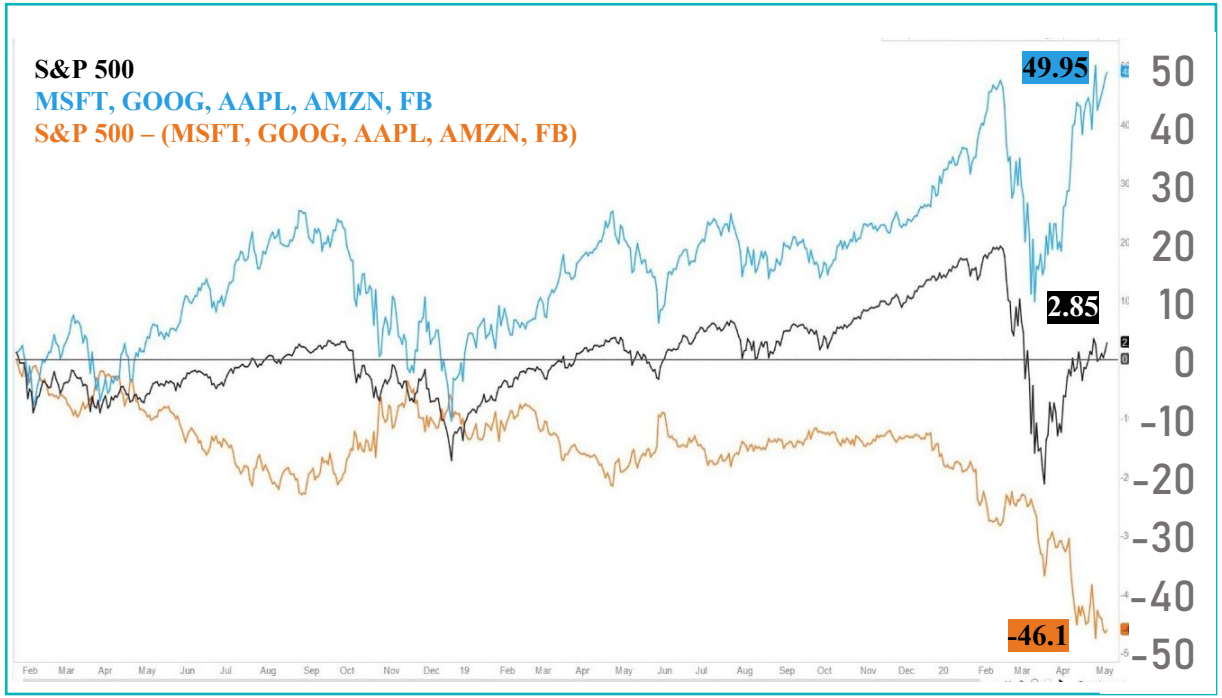
Exhibit 4: Eurozone investment-grade and high-yield corporate bond spreads

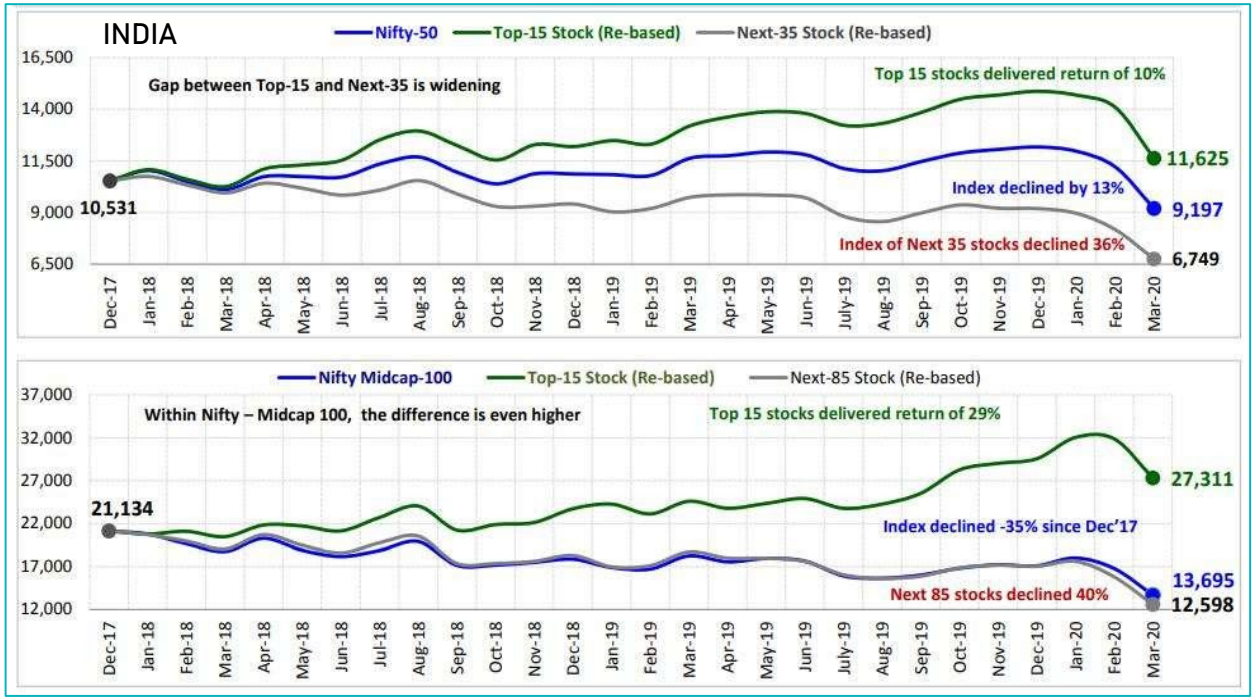


Note: Based on Bloomberg Barclays Eurozone Corporate Bond indices. Source: Bloomberg

Source : Citi Bank, Credit Suisse, Bloomberg

Polarisation ?





Ongoing (2020)	Market Weight (in %)	Market Cap (in $B)	Valuation (P/E)
Apple	5.4%	1164	19.1
Amazon	4.1%	1021	60.6
Microsoft	5.9%	1328	28.4
Alphabet	3.4%	793	23
Facebook	2.1%	434	19.6
FAAMG Aggregate	20.9%	4740	23

Tech Bubble (2000s)	Market Weight (in %)	Market Cap (in $B)	Valuation (P/E)
Microsoft	4.5%	581	55.1
Cisco System	4.2%	543	116.8
Intel	3.6%	465	39.3
Oracle	1.9%	245	103.6
Lucent	1.6%	206	35.6
Tech Bubble Aggregate	15.8%	2040	55.1

NIFTY 50 (1970s)	Market Weight (in %)	Market Cap (in $B)	Valuation (P/E)
IBM	7.1%	48	35.5
Eastman Kodak	3.6%	24	43.5
Sears Roebuck	2.7%	18	29.2
General Electric	2.0%	13	23.4
Xerox	1.8%	12	45.8
NIFTY 50 Aggregate	17.1%	115	35.5

Source: Citi Bank, Refinitiv

Talking Win–Win v/s Walking Win-Lose

Every day, managers must decide whether to enjoy a dollar of profit this year or two dollars a few years from now

GILLETTE

- 1996 : Promised investors that it would grow its earnings at 15% to 20%.
- Began channel- stuffing products to its' distributors to meet projections
- CEO Kilts stopped issuing earning guidance
- Overextended pricing power benefited in short term but drove customers away and invited hungry new customers

SOUTHWEST AIRLINES

- Kelleher : Sold a plane instead of laying off employees & formed a "No-Layoff Policy"
- 2010 : Was the biggest domestic airline in USA, with a market cap. Greater than all its domestic competitors combined
- Happy employees take care of the customers. Happy customers take care of the shareholders by coming back

Boeing

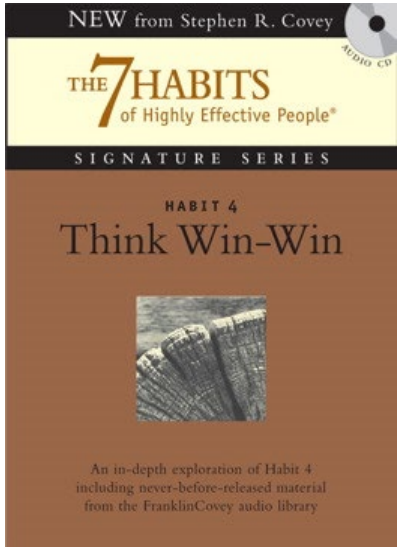
- Boeing spent 74% of its Free Cash Flow in Stock Repurchase in the last 10 years. Cost cutting was one of the reasons for failure of its aircraft (737-MAX) and then the company had to be bailed out

STARBUCKS

- 2010 : Howard Schultz said Starbucks had paid around $300 MN in healthcare costs in 2010
- Decision Unpopular with the investors
- Declined the offer to cut Healthcare spending to retain the respect and value of his employees

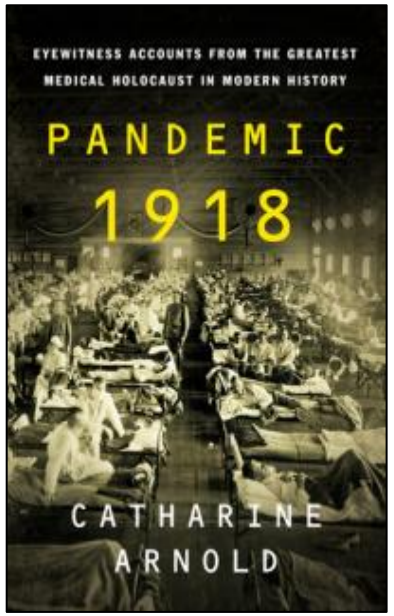
COSTCO

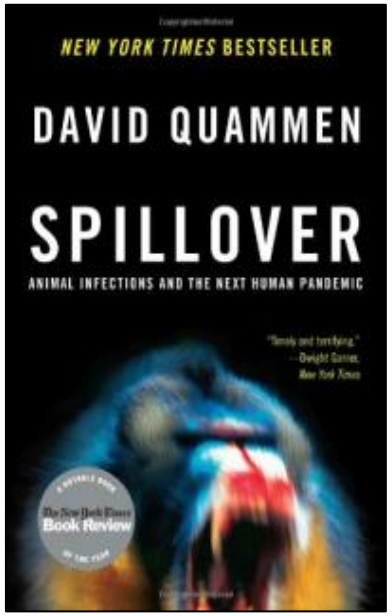
- 2008 : Galanti refused to make employees pay more than 10% for healthcare to save $10 – $20 Million per year
- Wanted to give their employees as much as they could in tough times

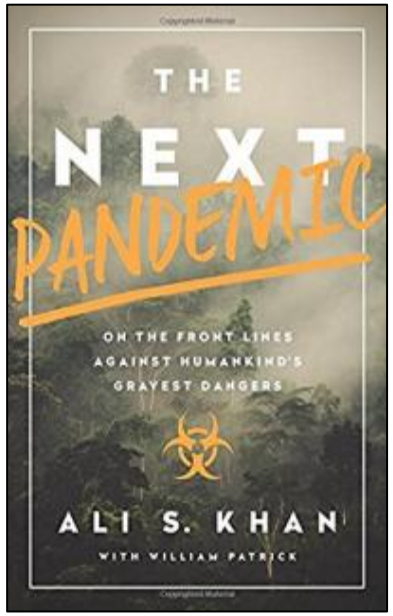


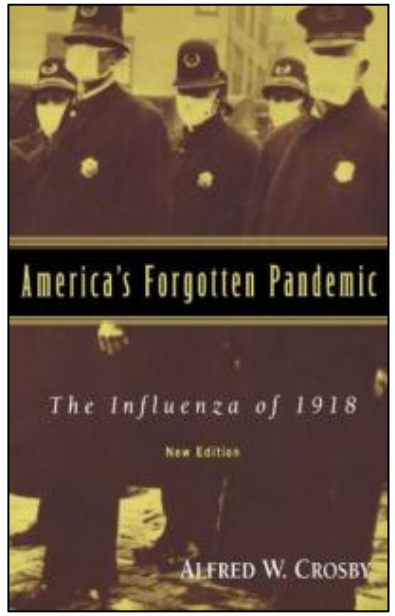
Source : The Investment Checklist

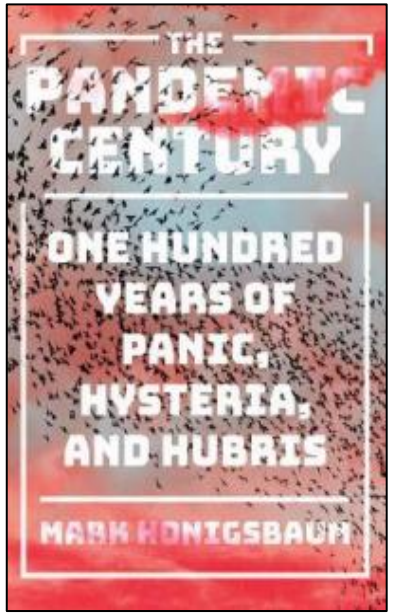
Additional Resources : History is not a Road-Map, but a Compass

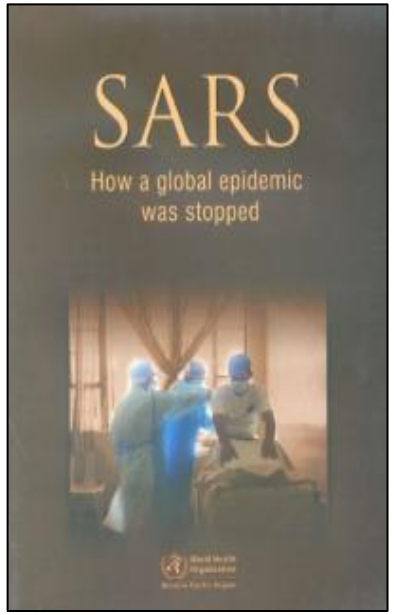


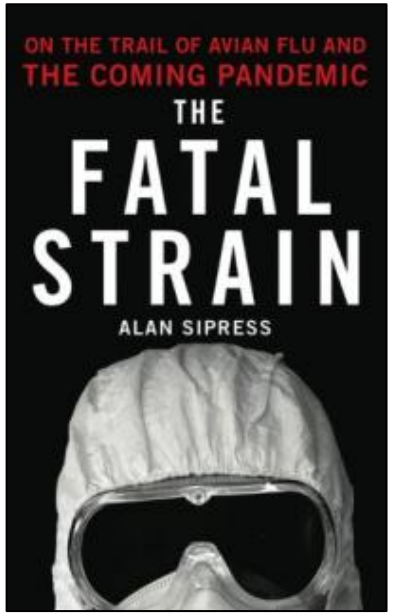


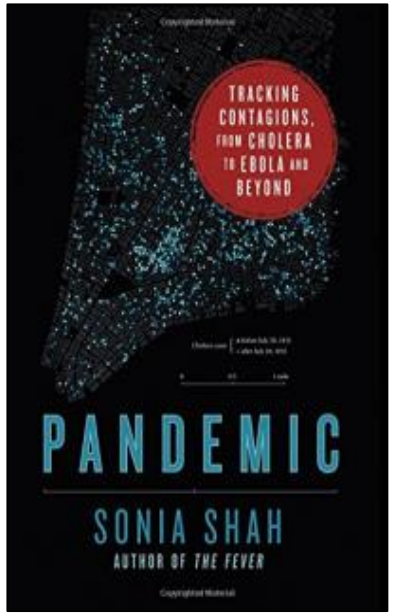


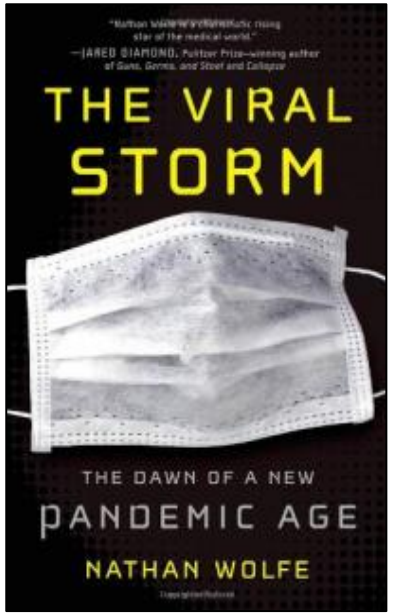












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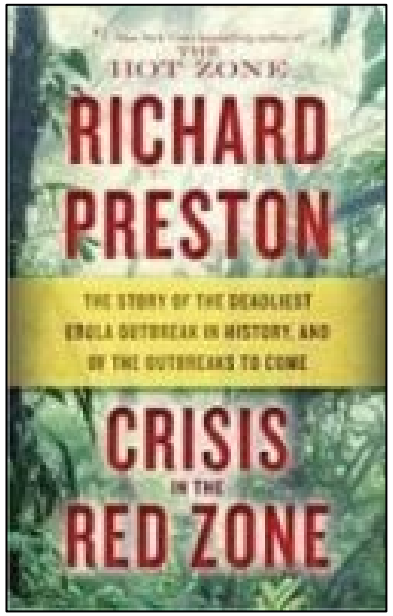

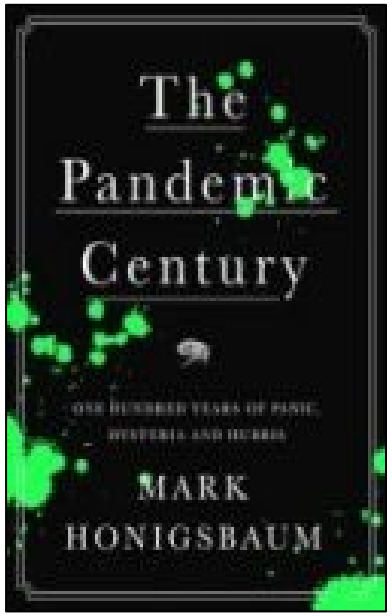

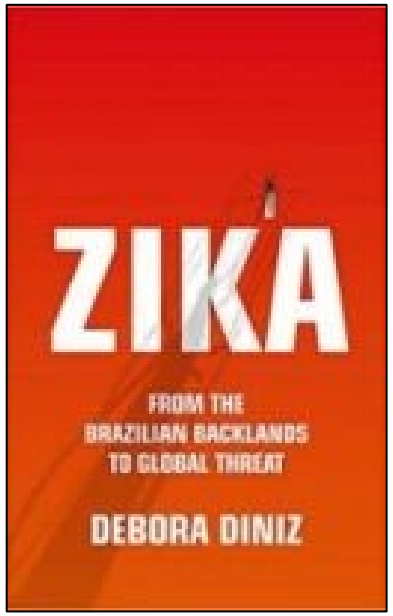

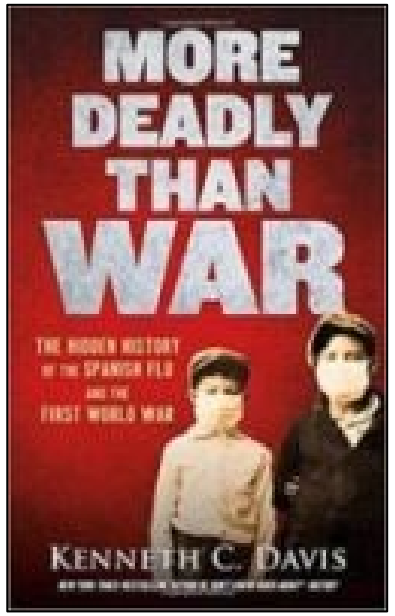

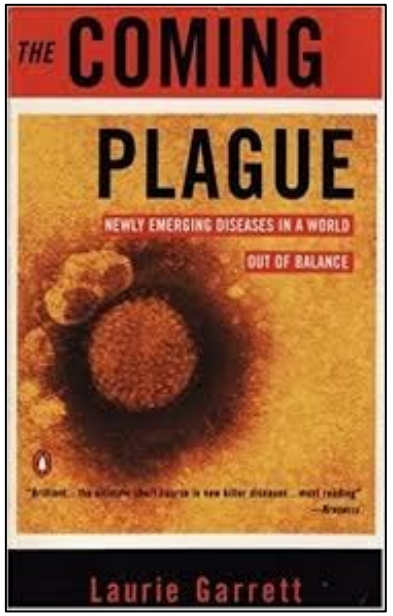

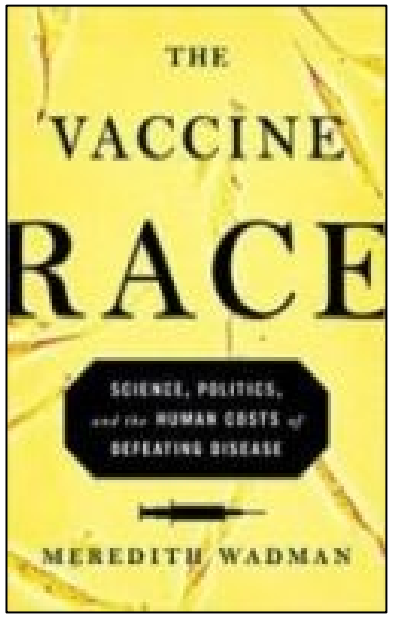

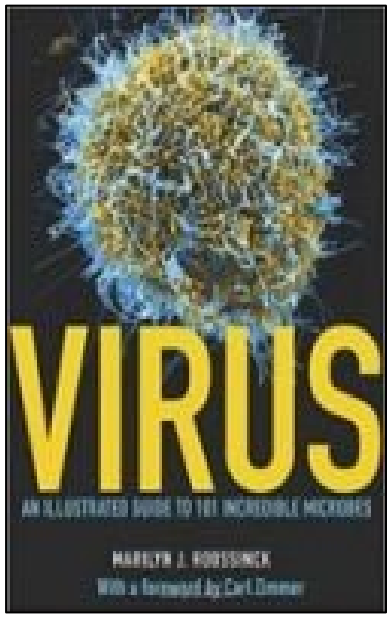

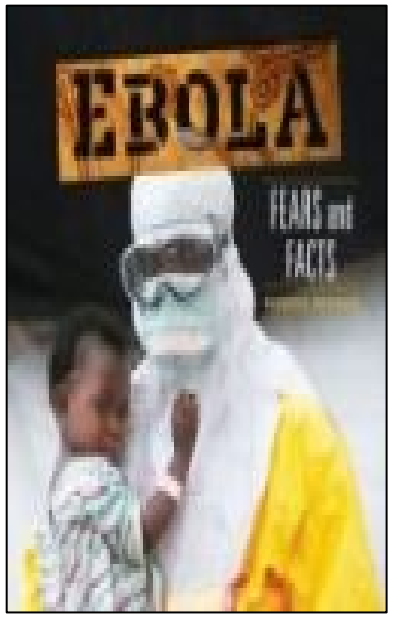

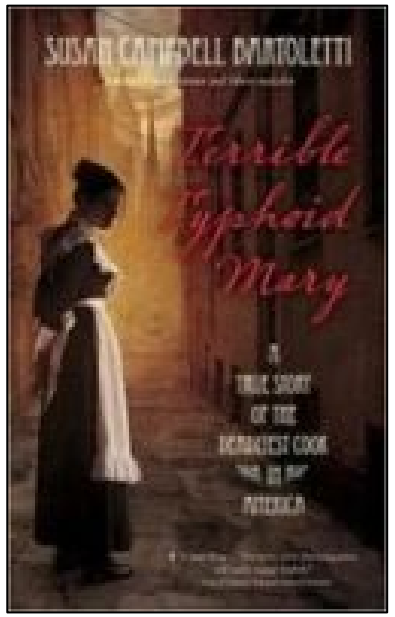

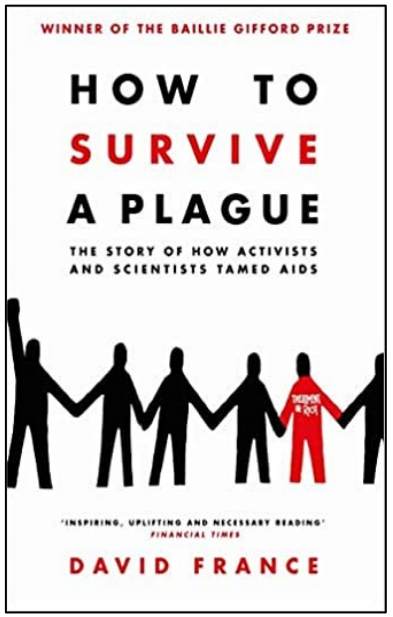

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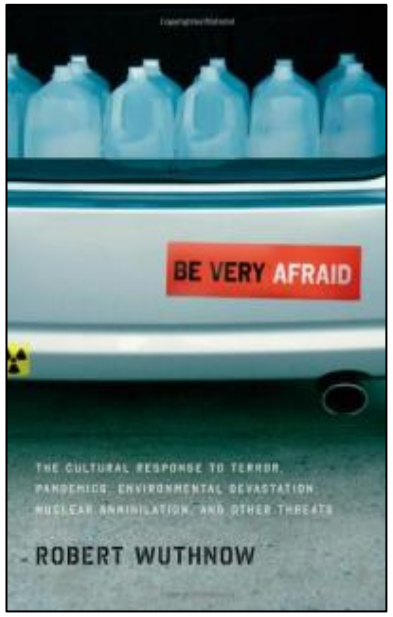

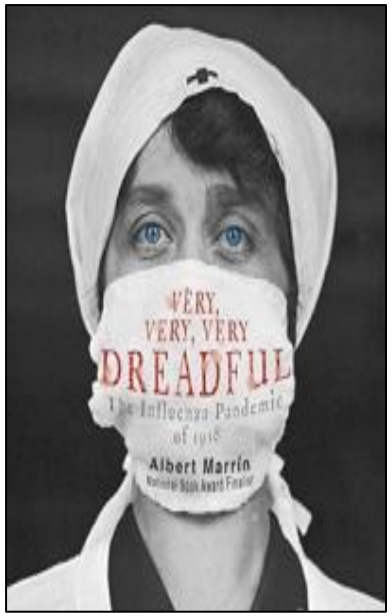

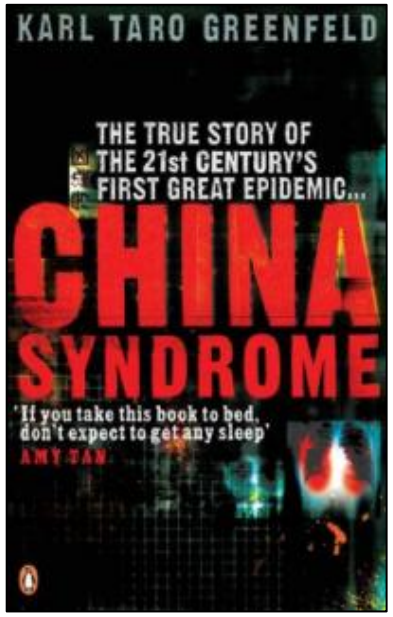

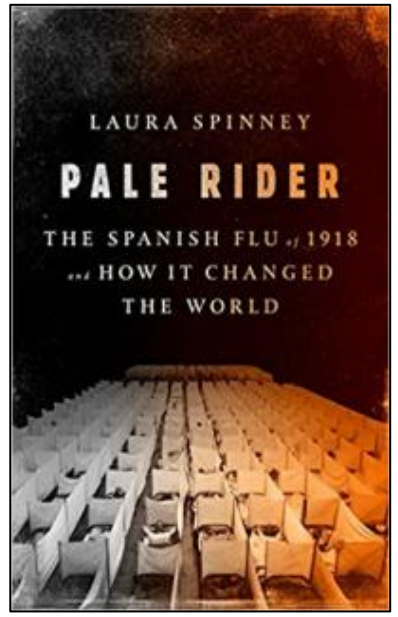

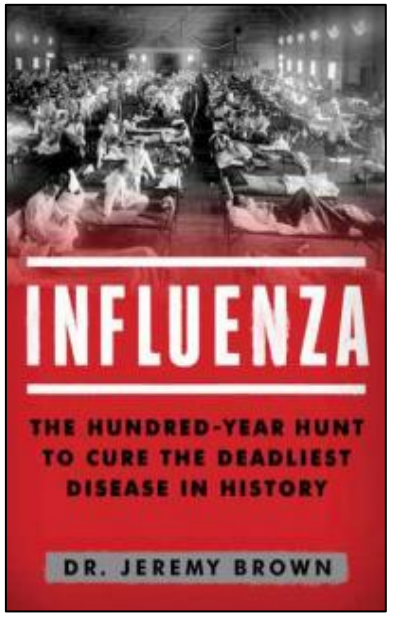

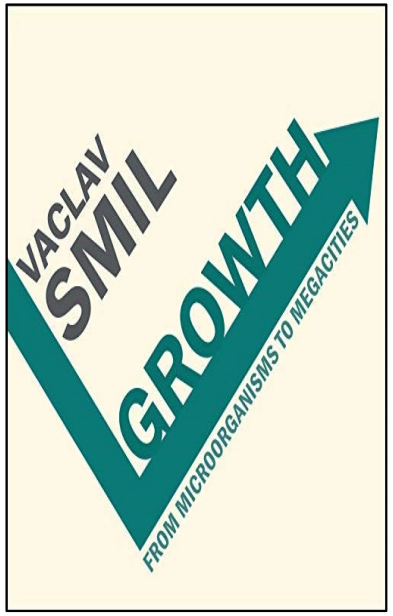

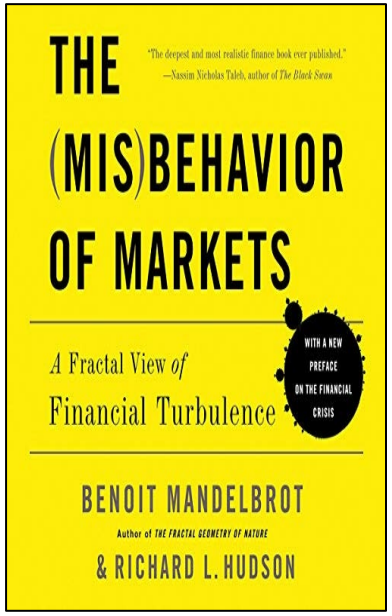

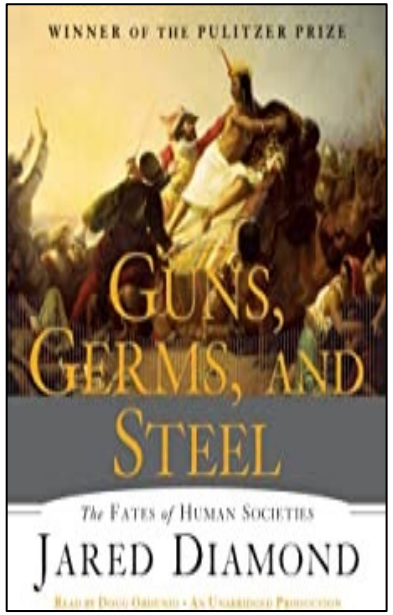

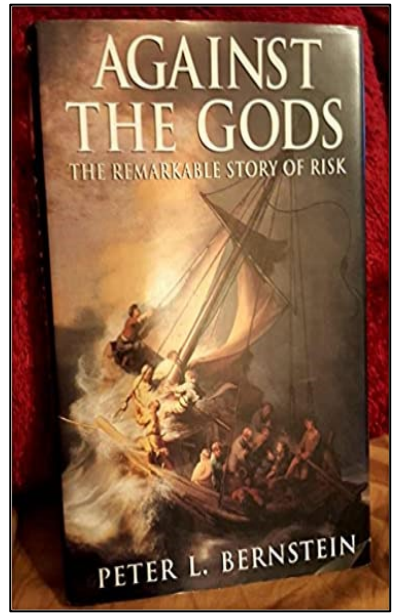

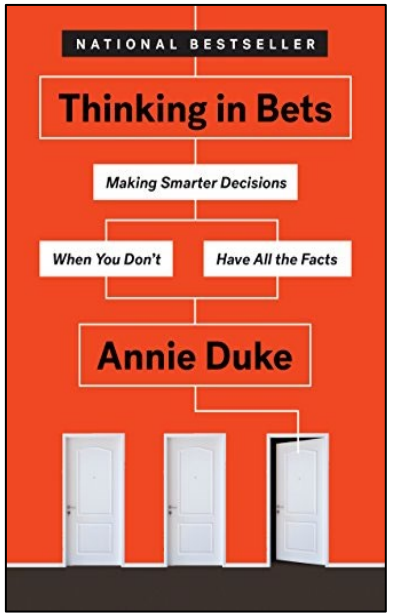

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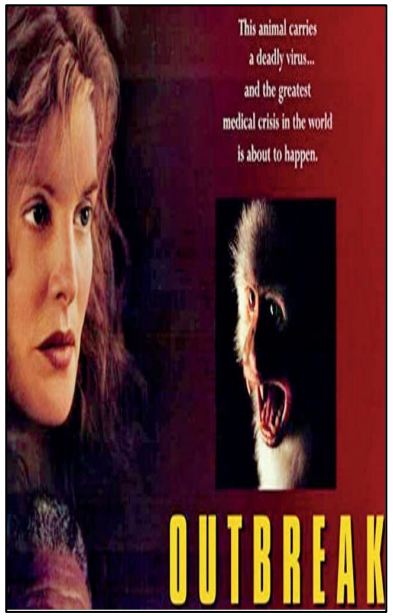
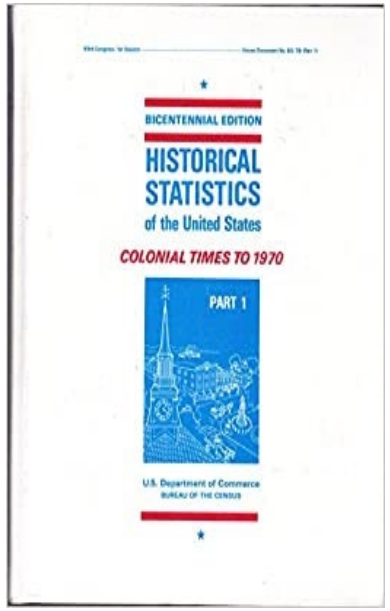
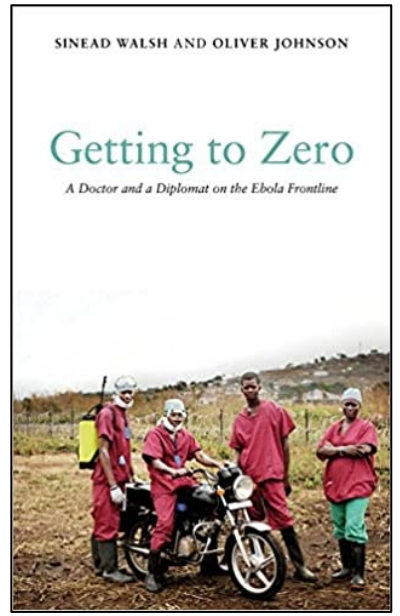
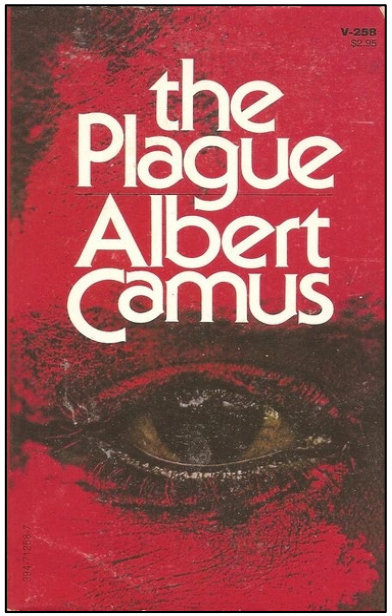
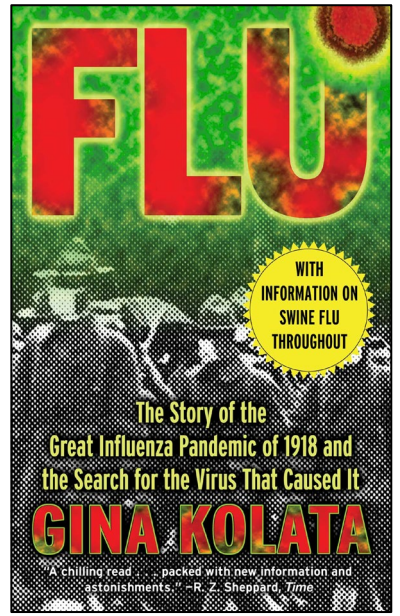


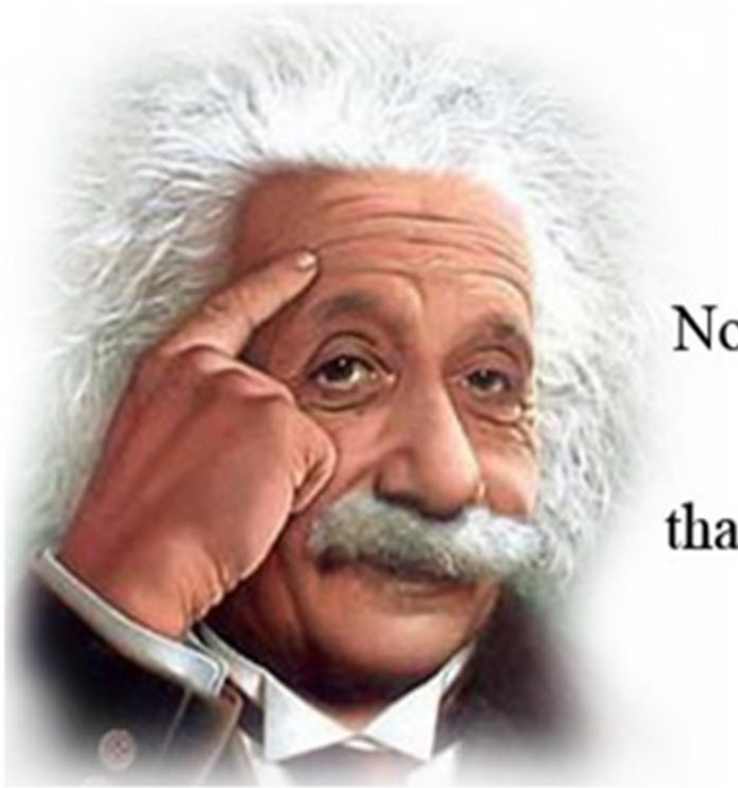






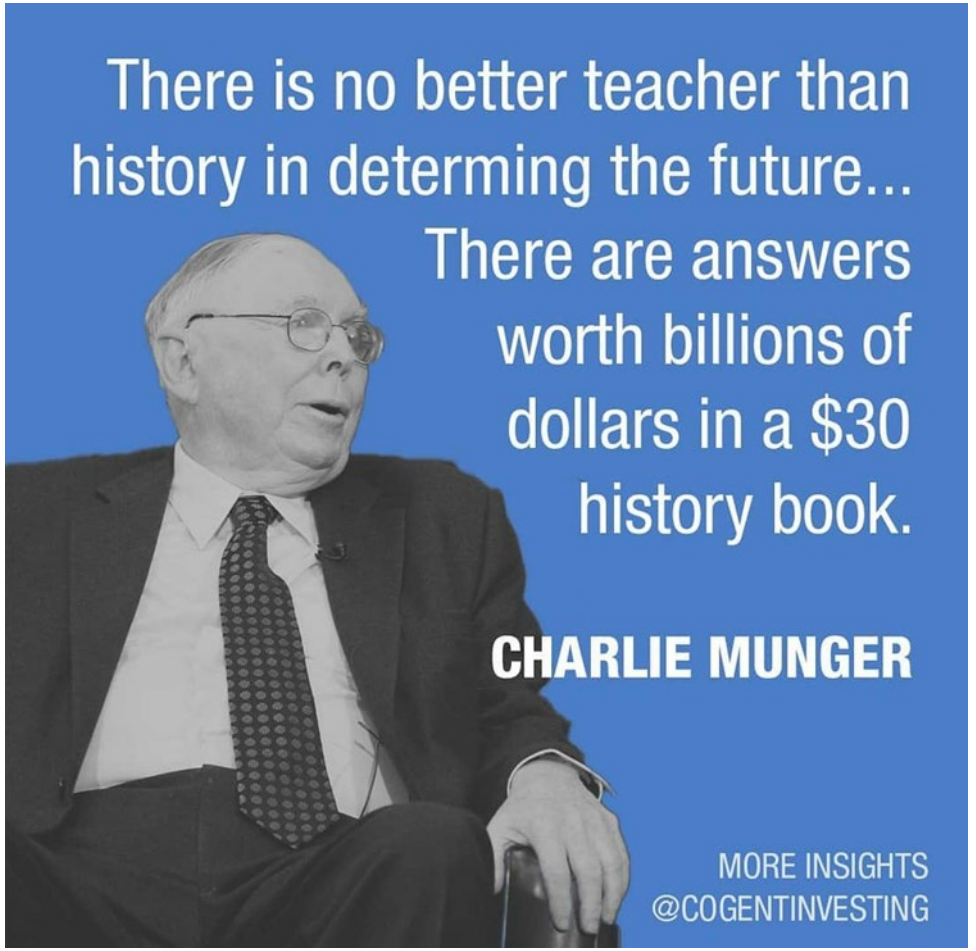


Questions?



Not everything that can be
counted counts,
and not everything
that counts can be counted.

Albert Einstein



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