

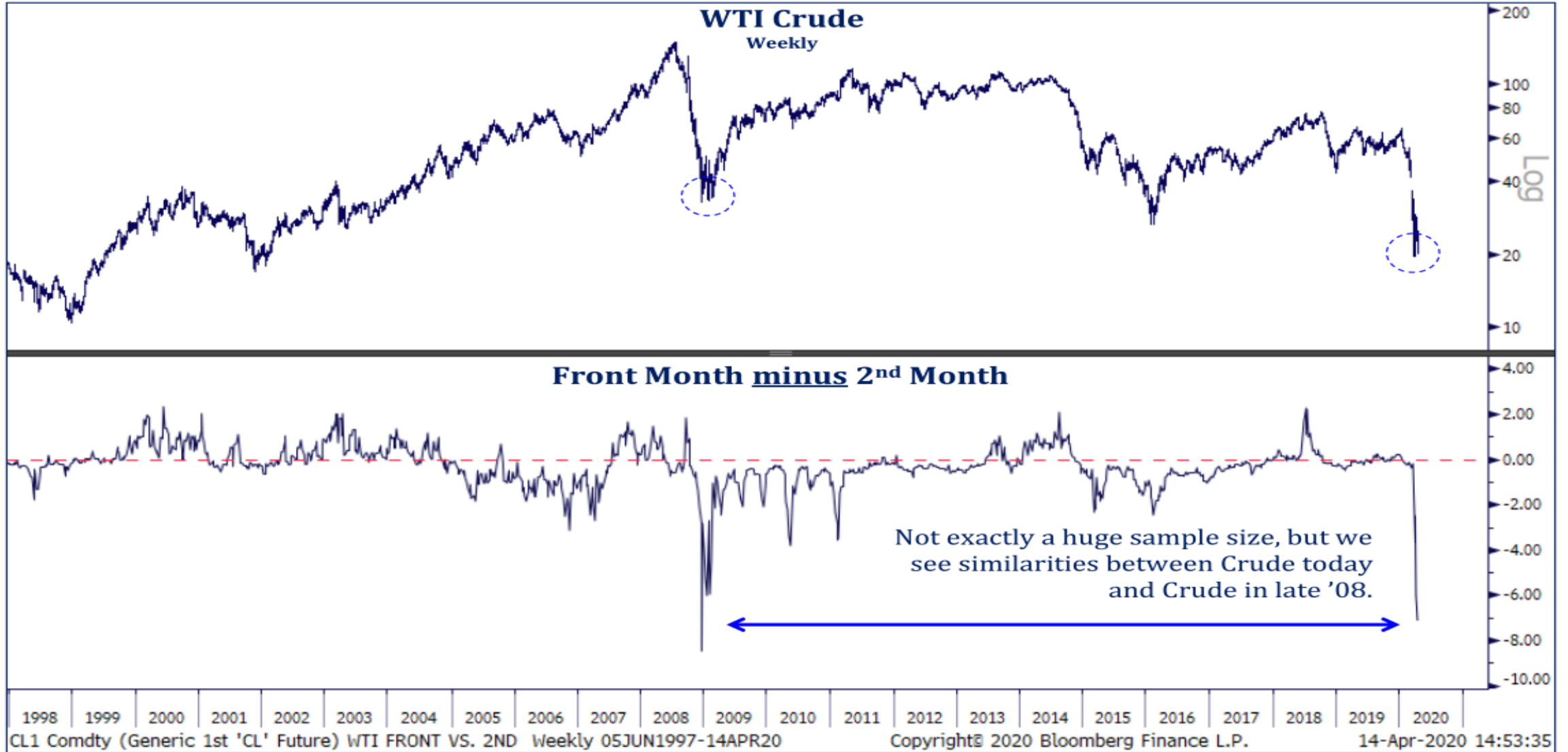
How did we get here?

- 1) Covid-19?
- 2) Bull rally since 2009?
- 3) Oil?
- 4) 10+ years with no recession?

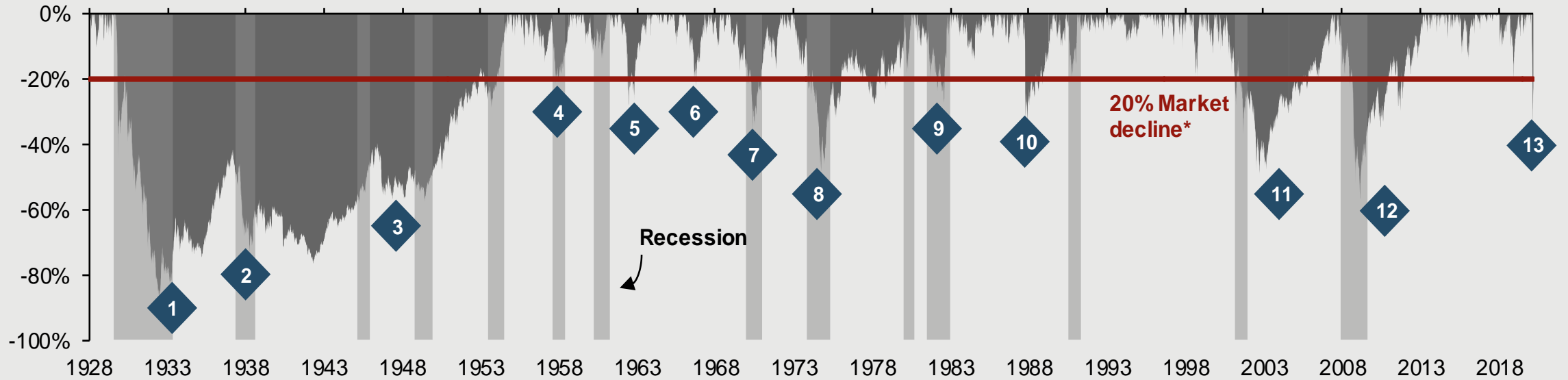
S&P 500 Price Index



CRUDE CURVE (MASSIVE CONTANGO) SIMILAR TO LATE '08



U.S. recessions and S&P 500 composite declines from all-time highs



Characteristics of bull and bear markets

Market correction	Bear Market			Macro environment				Bull markets		
	Market peak	Bear return*	Duration (months)*	Recession	Commodity Spike	Aggressive Fed	Extreme Valuation	Bull begin date	Bull return	Duration (months)
1 Crash of 1929 - Excessive leverage, irrational exuberance	Sep 1929	-86%	32	◆			◆	Jul 1926	152%	37
2 1937 Fed Tightening - Premature policy tightening	Mar 1937	-60%	61	◆		◆		Mar 1935	129%	23
3 Post WWII Crash - Post-war demobilization, recession fears	May 1946	-30%	36	◆			◆	Apr 1942	158%	49
4 Eisenhower Recession - Worldwide recession	Aug 1956	-22%	14	◆		◆	◆	Jun 1949	267%	85
5 Flash Crash of 1962 - Flash crash, Cuban Missile Crisis	Dec 1961	-28%	6				◆	Oct 1960	39%	13
6 1966 Financial Crisis - Credit crunch	Feb 1966	-22%	7			◆	◆	Oct 1962	76%	39
7 Tech Crash of 1970 - Economic overheating, civil unrest	Nov 1968	-36%	17	◆	◆	◆		Oct 1966	48%	25
8 Stagflation - OPEC oil embargo	Jan 1973	-48%	20	◆	◆			May 1970	74%	31
9 Volcker Tightening - Whip Inflation Now	Nov 1980	-27%	20	◆	◆	◆		Mar 1978	62%	32
10 1987 Crash - Program trading, overheating markets	Aug 1987	-34%	3				◆	Aug 1982	229%	60
11 Tech Bubble - Extreme valuations, .com boom/bust	Mar 2000	-49%	30	◆			◆	Oct 1990	417%	113
12 Global Financial Crisis - Leverage/housing, Lehman collapse	Oct 2007	-57%	17	◆	◆	◆		Oct 2002	101%	60
13 Global Slowdown - COVID-19, oil price war	Feb 2020	-24%	1	◆				Mar 2009	401%	132
Averages	-	-42%	22					-	166%	54



Federal Reserve Actions:

- March 3rd Rate cut to 1 percent
- March 15th Rate cut to a range of 0% to .25%
- March 23rd Announced “unlimited QE”
Buy Bonds not covered by QE – corporate debt and non-mortgage debt (student, auto & CC loans)
Originally had to be BBB or higher – later lowered to “fallen angels” (bonds downgraded to junk territory from investment grade – F, OXY & KHC)
- April 9th \$500 billion to buy state & large local government bonds
\$600 billion PPP loans

GRAB

Enter all values and hit <GO>.

Corporate Ratings

Credit Ratings Trends

Criteria

- Agencies Moody's
- Region/Country United States
- Rating Type All
- Industry All
- Credit Watch Exclude
- Rating Criteria All

Results for the selected period

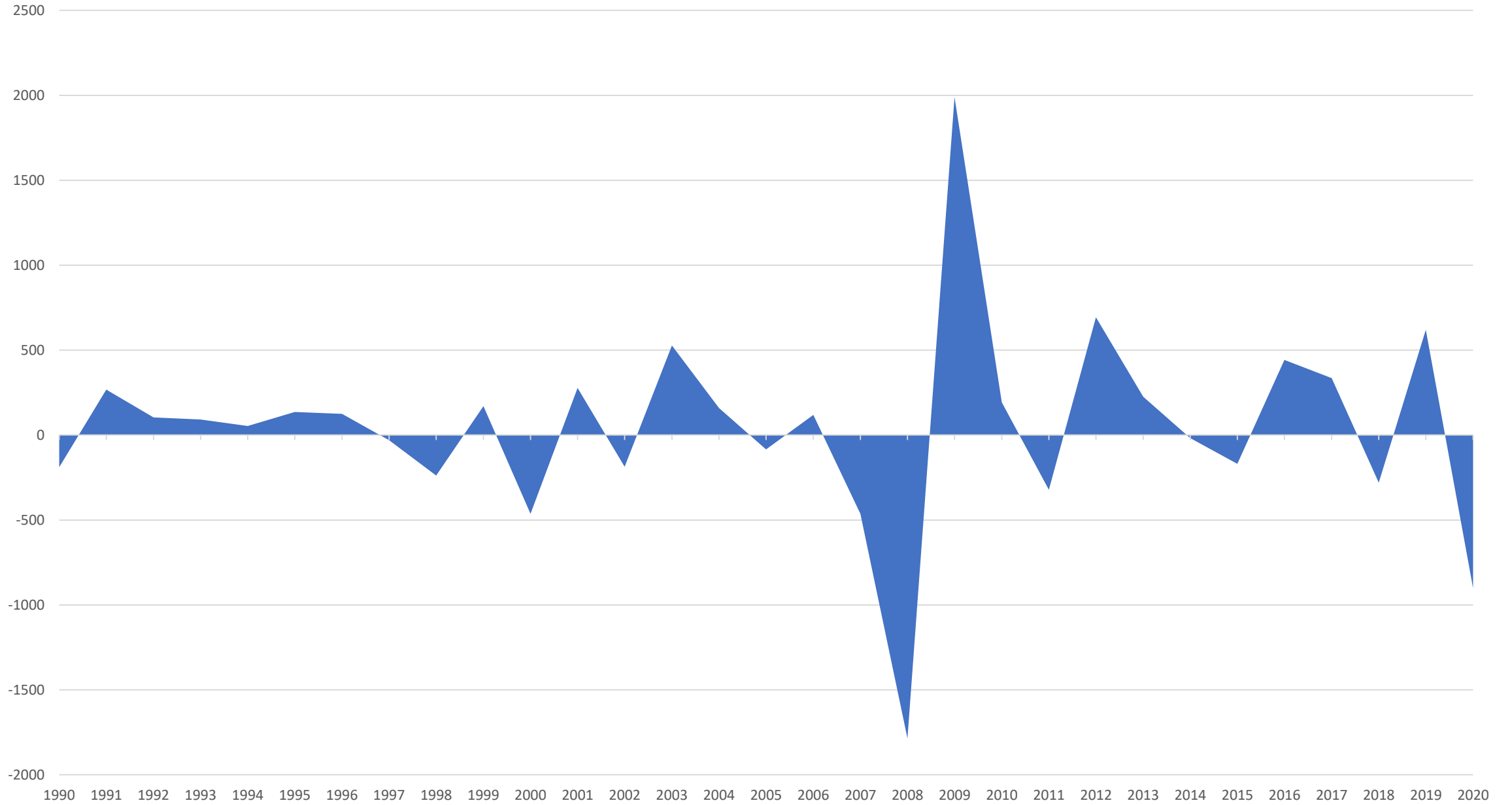
Period	YTD	Upgrades	Downgrades
Total		96	707
Investment Grade		23	119
High Yield		57	540
Fallen Angels		0	13
Rising Stars		5	0



Historical Rating Actions Up/Down Ratio

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Q1	.22	.78	.97	1.32	.36	.97	2.83	.81	.98	1.31	.55
Q2	.02	.66	1.71	.98	.62	1.91	1.31	1.09	.44	1.67	1.56
Q3		.74	1.66	1.43	1.15	.62	1.18	1.35	.75	.66	1.41
Q4	N/A	.66	.79	1.00	.67	.35	1.06	1.27	1.05	.61	1.31
Total	.14	.71	1.20	1.15	.60	.99	1.56	1.11	.67	.94	1.02

Excess Return



1Q 2020

	Value	Blend	Growth
Large	-26.7%	-19.6%	-14.1%
Mid	-31.7%	-27.1%	-20.0%
Small	-35.7%	-30.6%	-25.8%

YTD

	Value	Blend	Growth
Large	-26.7%	-19.6%	-14.1%
Mid	-31.7%	-27.1%	-20.0%
Small	-35.7%	-30.6%	-25.8%

Since market peak (October 2007)

	Value	Blend	Growth
Large	55.1%	115.3%	189.1%
Mid	66.0%	93.7%	134.7%
Small	33.6%	62.4%	93.3%

Since market low (March 2009)

	Value	Blend	Growth
Large	286.6%	381.2%	489.7%
Mid	324.0%	367.5%	442.7%
Small	230.3%	291.5%	356.3%

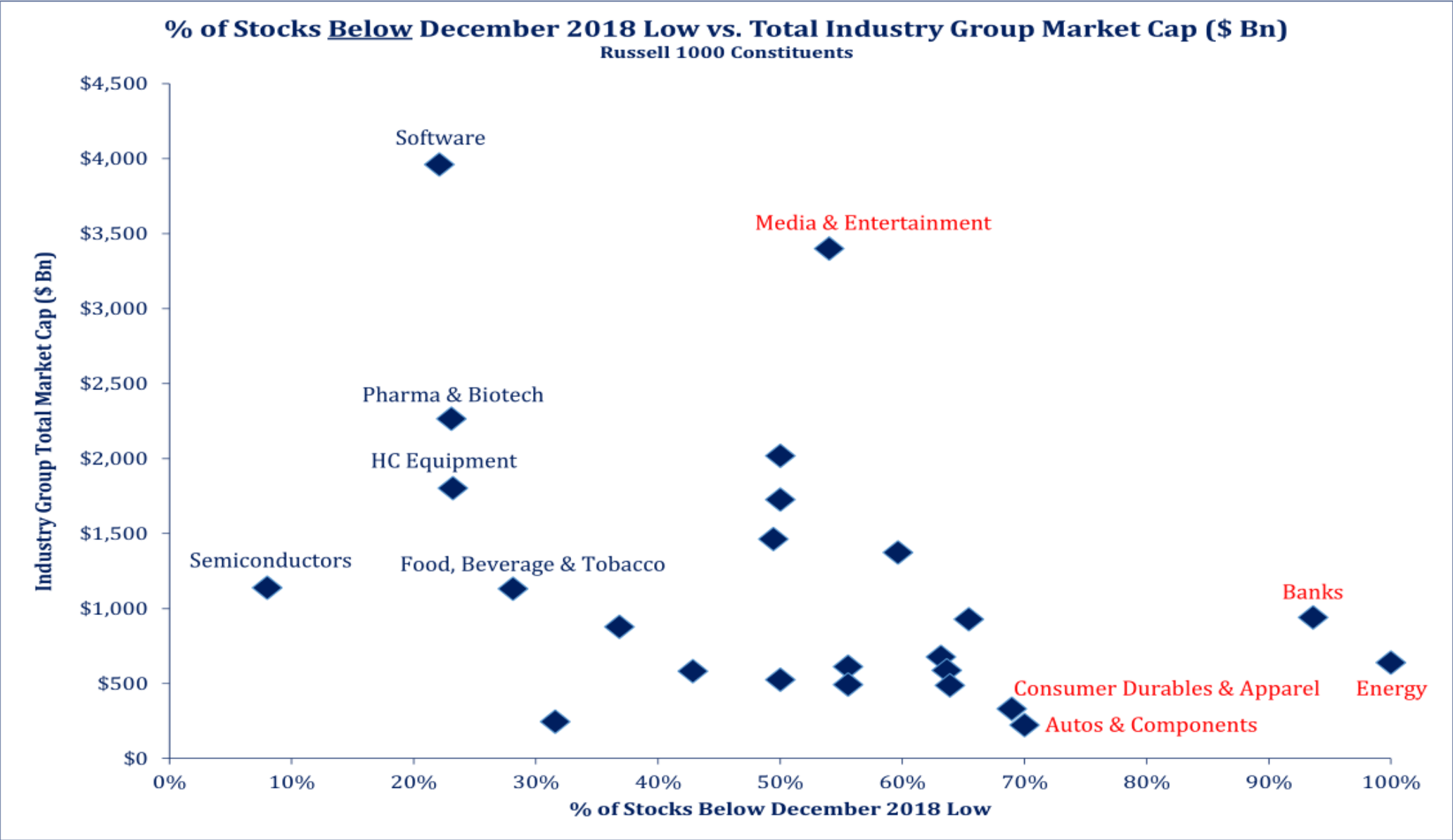
Current P/E vs. 20-year avg. P/E

	Value	Blend	Growth
Large	12.2 / 13.6	15.4 / 15.5	20.1 / 18.9
Mid	11.6 / 14.2	14.5 / 16.1	21.4 / 20.6
Small	11.9 / 16.4	19.5 / 20.5	39.8 / 29.6

Current P/E as % of 20-year avg. P/E

	Value	Blend	Growth
Large	89.7%	99.8%	106.3%
Mid	81.7%	90.0%	104.3%
Small	73.0%	95.1%	134.3%

STRUCTURAL LEADERS VS. LAGGARDS



THIS RALLY IS IN VERY GOOD COMPANY...

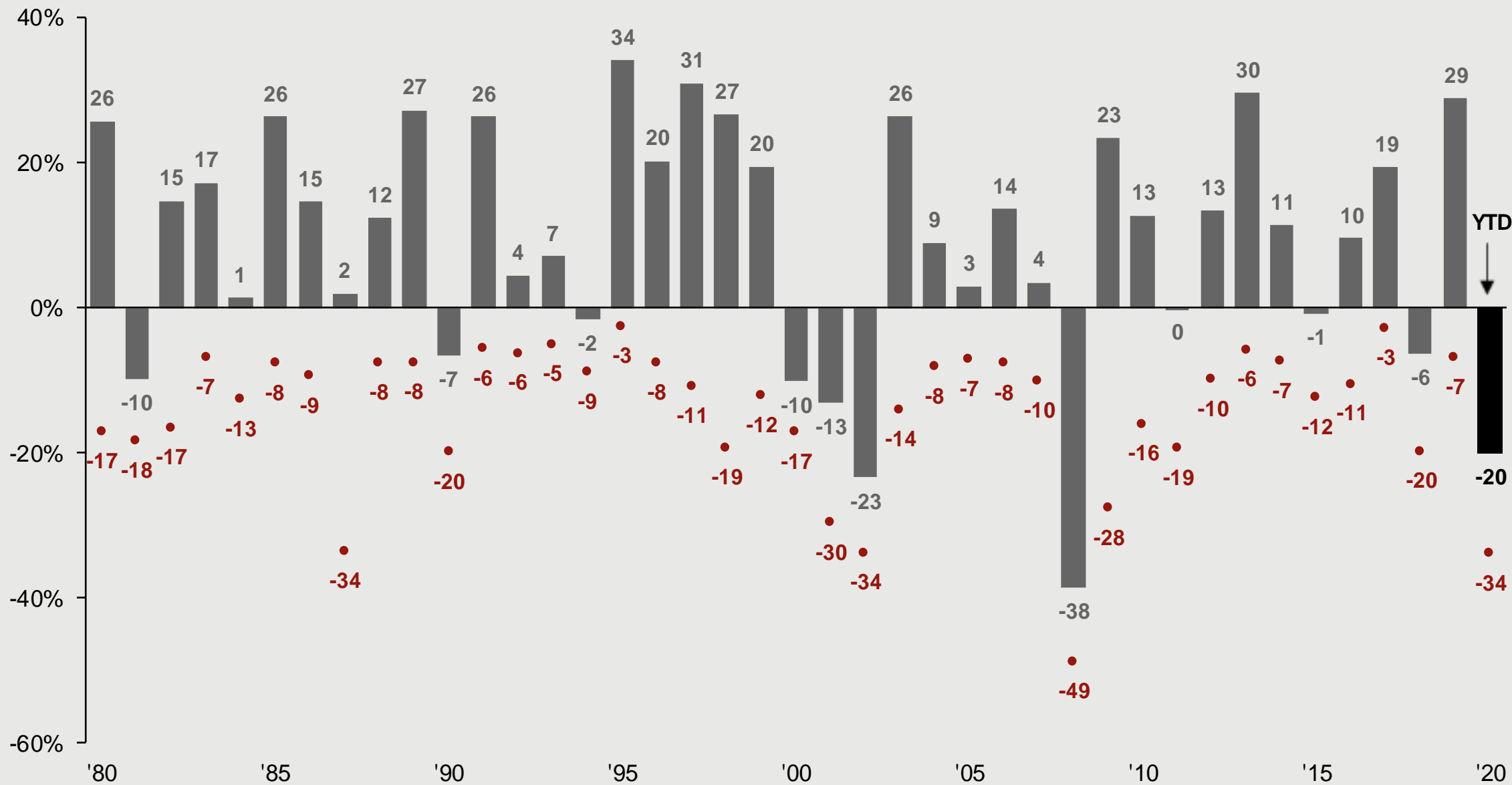
S&P Forward Performance Following Best 15-Day % Changes (Top 10)

	<u>Date</u>	<u>15-Day % Change</u>	<u>+20-Days</u>	<u>+65-Days</u>	<u>+125-Days</u>	<u>+250-Days</u>
1.	3/26/2009	22.0%	4.0%	11.3%	27.4%	40.2%
2.	9/3/1982	18.1%	-1.0%	16.3%	25.1%	32.5%
3.	12/12/2008	16.9%	-0.9%	-10.9%	5.0%	25.3%
4.	10/21/1974	15.7%	-5.8%	-1.9%	18.7%	21.6%
5.	10/21/1982	15.5%	-0.5%	0.7%	15.6%	22.6%
6.	10/30/2002	14.7%	5.4%	-4.8%	2.9%	17.5%
7.	10/24/2011	14.1%	-4.9%	5.0%	9.4%	14.3%
8.	8/26/2002	13.6%	-13.6%	-3.7%	-11.5%	4.8%
9.	2/6/1991	13.3%	5.0%	4.9%	9.1%	14.4%
10.	10/29/1998	13.2%	9.8%	17.1%	23.0%	19.4%
Last 15 Trading Days		27.2%	?	?	?	?
Average			-0.2%	3.4%	12.4%	21.3%
% Positive			40.0%	60.0%	90.0%	100.0%
Historical Average			0.7%	2.2%	4.3%	8.8%
Historical % Positive			61.1%	66.0%	70.2%	73.8%

Week Ending 4/17/2020

S&P 500 intra-year declines vs. calendar year returns

Despite average intra-year drops of 13.8%, annual returns positive in 30 of 40 years



S&P 500 Index: Forward P/E ratio



Valuation measure	Description	Latest	25-year avg.*	Std. dev. Over-/under-Valued
P/E	Forward P/E	15.43x	16.33x	-0.29
CAPE	Shiller's P/E	23.20	27.27	-0.66
Div. Yield	Dividend yield	2.43%	2.07%	-1.00
P/B	Price to book	2.67	2.97	-0.41
P/CF	Price to cash flow	11.34	10.58	0.39
EY Spread	EY minus Baa yield	1.89%	0.00%	-0.96