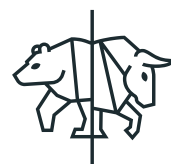
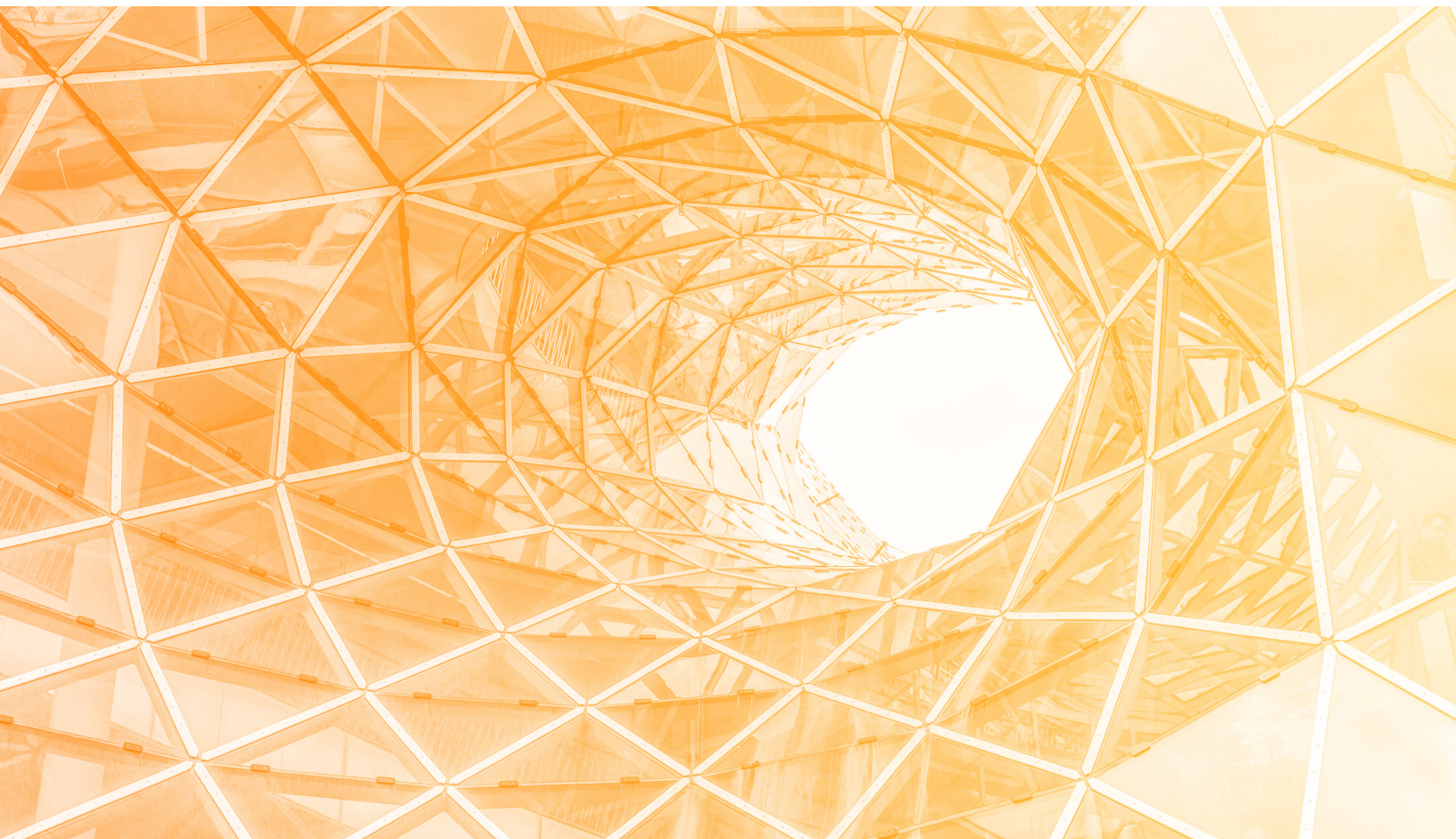


Market Digest – May 2020



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Not out of the woods yet

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AMY LUBAS, CFA, DIRECTOR, WEALTH
MANAGEMENT & ADVISORY SOLUTIONS
CHAD ELLIS, RESEARCH ANALYST



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AMY LUBAS, CFA DIRECTOR, WEALTH MANAGEMENT & ADVISORY SOLUTIONS
CHAD ELLIS RESEARCH ANALYST

MAY 15, 2020

Executive Summary

Some improvement, but more is needed

The unemployment rate is the highest since the Great Depression. Manufacturing dropped the most since 2008. The Leading Economic Index plunged the most on record. Earnings estimates have been revised down at a record rate. All of the above has been reported during the S&P 500's 31.4% move off the March 23 low. The benchmark is 15.2% below its February 19 record high and down only 11.6% on the year. In fact, the S&P 500 posted its best week since 1938 at the same time that the three-week total of jobless claims hit 16 million.

Below are our latest thoughts on the outlook for the economy and markets:

- **Global and U.S. Economy.** Compared to our last quarterly update in February, all of the world's largest economies have collapsed due to the COVID pandemic. Authorities have responded with unprecedented monetary and fiscal stimulus. Although countries are at different phases of the crisis, a clean V-shaped recovery seems unlikely in any of them. For the U.S., we expect a U-shaped or a square root-shaped recovery.
- **Asset Allocation.** With global stocks rallying off their lows, the All-Country World Index's top 40 stocks now account for 32% of global market cap, with the top 10 carrying 16% of the weight. This concentration is unhealthy. We're still missing breadth improvement that would describe an advance with staying power. As a result, we continue to recommend

The stock market is a discounting mechanism



Justin
@JustinAHorwitz



6:58 PM · Apr 9, 2020 · Twitter for iPhone

Source: Twitter/Justin Horwitz

40% stocks (maximum underweight), 50% bonds (overweight), and 10% cash (marketweight). We remain bullish on gold.

- **Fixed Income.** Despite the improvement in corporate securities last month, underlying credit conditions deteriorated. We remain marketweight credit and continue to prefer IG over HY. Net inflows have returned to bond funds and ETFs.
- **U.S. Equities, Themes, and Sectors.** We continue with a neutral stance on U.S. stocks. If the economy opens up, leadership should rotate to stocks that benefit — small-caps and cyclical Value on a style

box basis, and Industrials, Financials, Materials, and Real Estate on a sector basis. We continue to overweight large-caps, Growth, and defensive Health Care and Consumer Staples sectors until indicators tell us the rotation is underway.

- **Energy.** On May 12, we upgraded oil from bearish to neutral. The crude oil futures curve has begun to flatten from super contango. And the Saudis are unilaterally cutting more production.



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TIM HAYES, CMT CHIEF GLOBAL INVESTMENT STRATEGIST
ANOOP NATH, CFA GLOBAL ANALYST

MAY 15, 2020

Caution: Leadership remains narrow

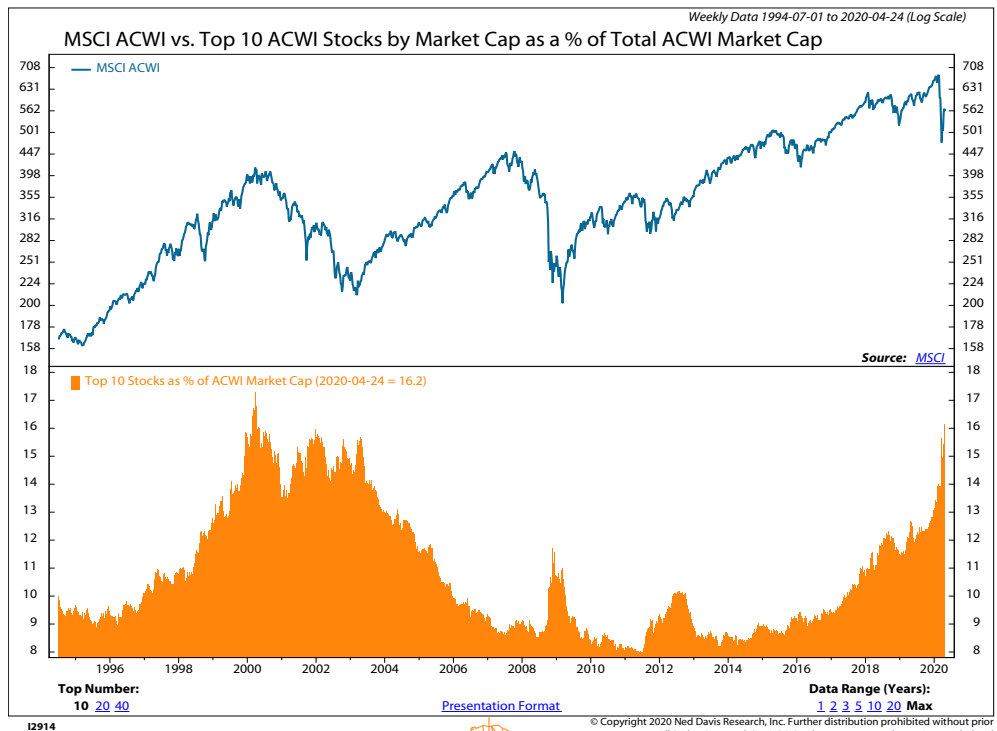
Key Takeaways

- Narrow leadership and limited breadth improvement reflect unhealthy market conditions, consistent with past global bear markets and recessions.
- Commodity weakness and gold strength consistent with continuing global bear market, global recession.
- Overall indicator message is one of caution about the prospects for the rally to continue.

When most megacaps are rising, it's a virtual certainty that most cap-weighted benchmarks are heading higher as well. That's especially the case now that the All Country World Index's (ACWI) top 40 stocks account for 32% of the ACWI's market cap, with the top 10 carrying 16% of the weight.

Those are the highest percentages since 2003 and 2000, respectively (**chart above**). Microsoft, Apple, and Amazon account for 9% of the market cap alone, a percentage of global market cap that exceeds the percentage for every country outside of the U.S. The MSCI U.S. Index accounts for 58% of the ACWI weight — a record high weighting. Japan's weight is a distant second at 7%.

Most concentration since 2000



This concentration is not healthy. For an uptrend to last, it must broaden out.

Sentiment by itself can drive rallying in the stable big name growth stocks, but a lasting advance requires participation from a broad contingent of markets, sectors, and individual stocks.

Flattening coronavirus curves tell us little about what will happen to future economic growth and earnings — as the scale of the damage will only be known in hindsight. But, global stocks have been able to rally as expectations have shifted away from the gloomiest outcomes.

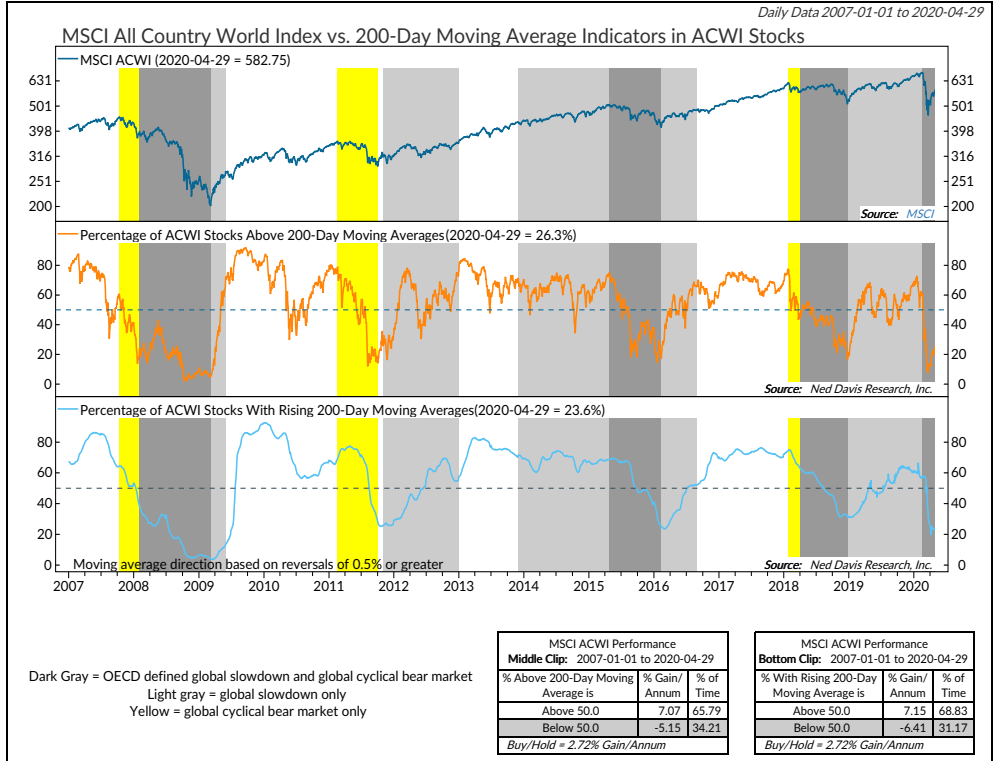
We haven't seen the breadth improvement that would describe an advance with staying power. The breadth would be a sign that investors had started to consider valuations as justified and see increased upside potential in a broadening contingent of markets and sectors. That would reflect rising optimism in the outlook for economic growth and corporate profits, currently in very short supply.

The message is one of caution about the prospects for the rally to continue. We remain underweight stocks, overweight bonds, and bullish on gold.

After dropping to their lowest levels since the bottom in 2009, the breadth percentages have remained depressed as global economic conditions have worsened. While breadth thrust signals have been generated by four short-term components of the Rally Watch report, confirmation has been lacking from seven of the report's eight longer-term breadth indicators.

As the stock market rally has lacked significant broadening, the breadth of positive earnings revisions has been dropping like it did in late 2008, as has the percentage of Purchasing Manager Indices (PMI) above 50. If global market breadth improves to bullish levels, we will watch for recoveries in the PMI breadth, revision breadth, and earnings growth breadth — making it more likely that we are heading for an all-clear like in 2009-2010, 2013, and 2017 (chart right).

Breadth consistent with global bear market and recession

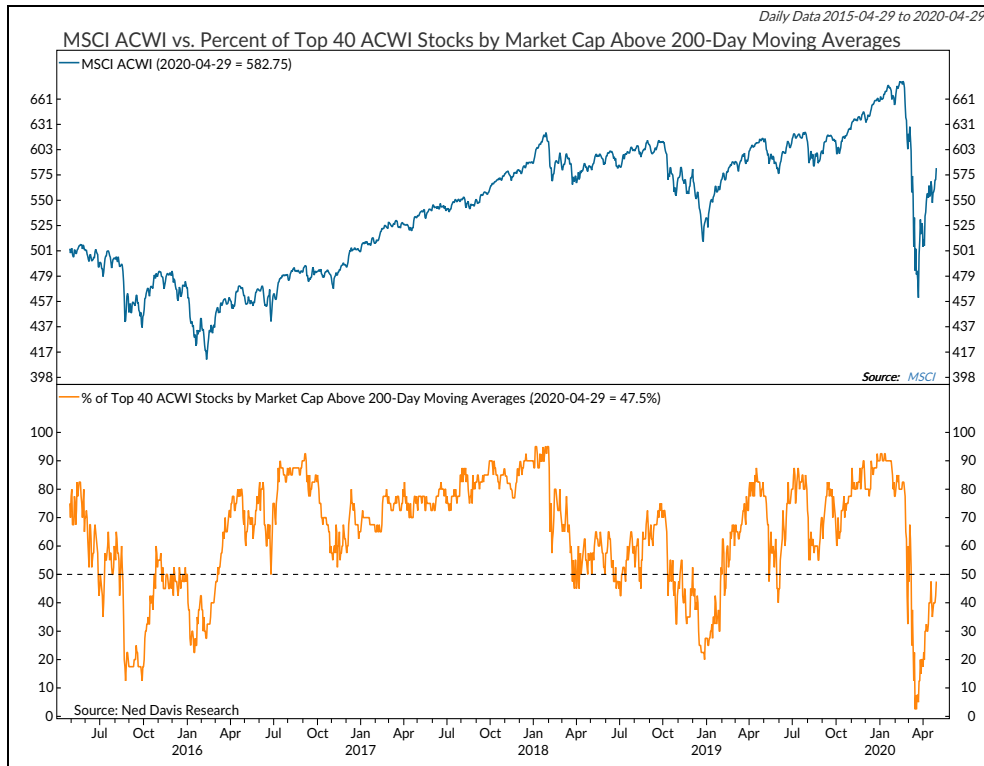


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Limited breadth improvement among biggest stocks



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The deficient breadth is also evident when breaking down the ACWI by the indices in our seven-way global market framework. While the MSCI U.S. Index has gained market share and has outperformed during the rally, only 24% of the U.S. stocks have risen back above their 200-day moving averages.

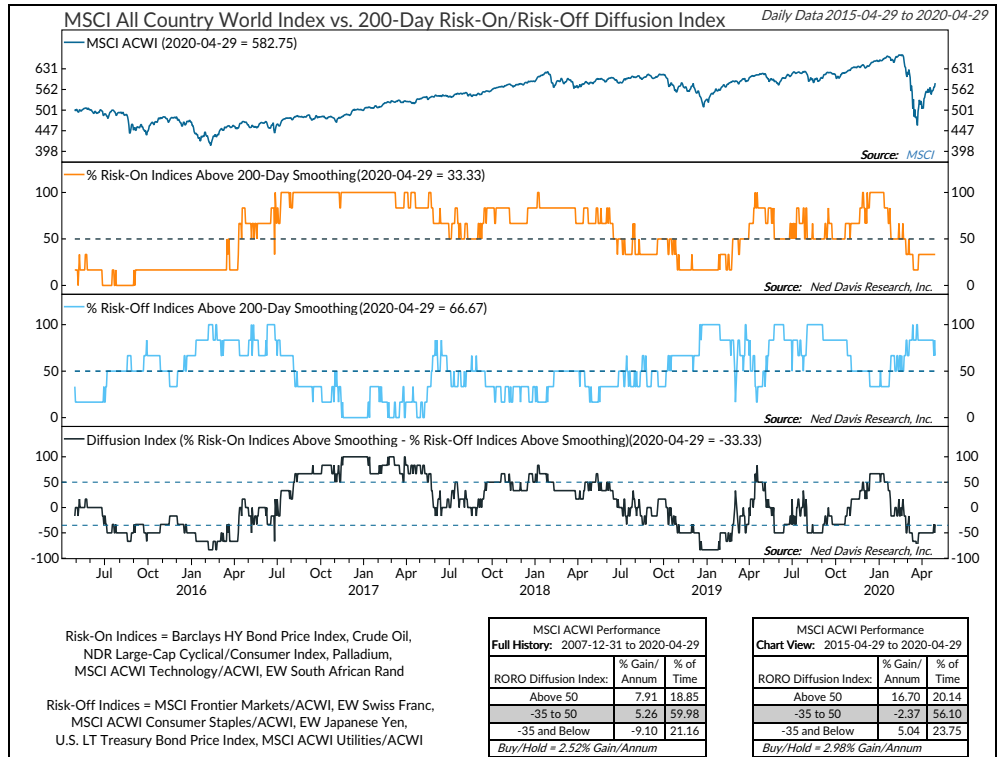
The breadth improvement has also been limited among the ACWI's top 40 stocks by market cap. As with the U.S. relative strength and its relative market cap, the U.S.-heavy top 40 has outperformed and gained market cap dominance, but the breadth of the improvement among those stocks has likewise been unimpressive (chart left). Unless the top 40 gains bullish breadth, leading to healthy broadening among the rest of the global market, the risk will remain that these stocks will weigh it down.

The prospects for continued rallying will also remain in doubt if we don't see the majority of risk-on proxies rising back above their 200-day moving averages (**chart right**), together with the majority of risk-off proxies retreating below their moving averages. Our risk-on/risk-off (RO/RO) ratio has diverged from the ACWI in remaining well below its April high.

The RO/RO breadth message is consistent with global equity breadth, including the breadth of regions, sectors, and even the biggest stocks that have led the rally. It is also consistent with the breadth of the PMIs, earnings revisions, and the breadth of trailing and expected earnings growth.

Above excerpted from: "Too narrow for comfort" by Tim Hayes, April 30, 2020 (available through NDR's Institutional product offerings)

Limited RO/RO breadth improvement

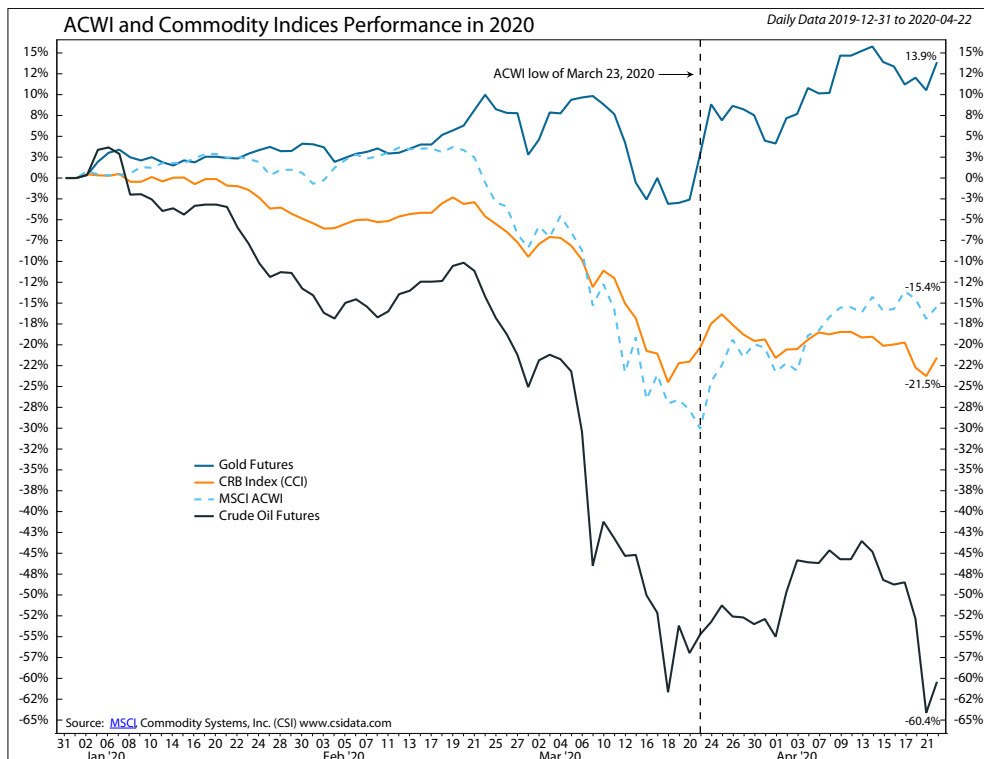


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A bad year for commodities, but good year for gold



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The oil crash and continuing volatility has been the latest installment within a 2020 commodity descent (**chart left**) and is yet another reminder that the global economy is in very bad shape. Also, considering the big exception among commodities — gold's run toward record highs — the depressed macro-economic landscape and high-risk investment environment continue to warrant minimum exposure to stocks, overweight exposure to bonds, and a bullish position on gold.

The extent to which economic weakness is bearish for commodities is clearly evident in (**top chart, next page**). When global slowdowns have been in progress, the CRB has dropped at a yearly rate of -4% vs. a positive 9% yearly rate when economic growth has been gaining speed. The weakened commodity breadth is evident

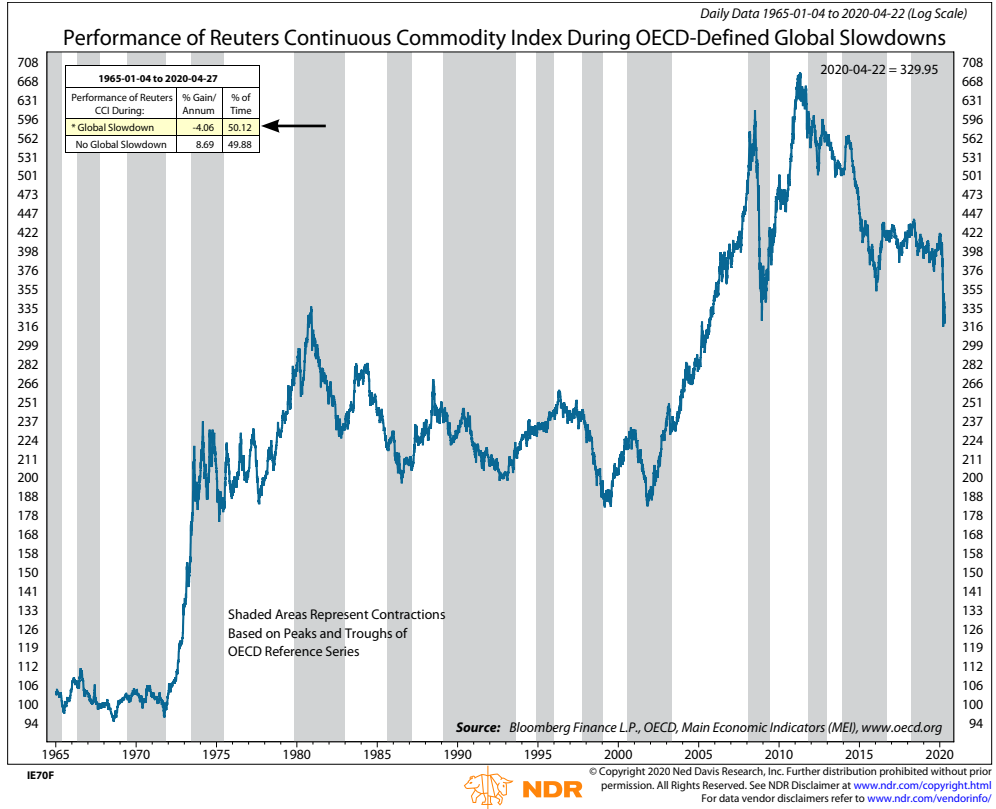
with only 29% of the individual commodities above their 200-day moving averages, while fewer than 25% are rising.

The commodity and gold performance during the current cyclical bear market in stocks has been consistent with historical tendencies. During six previous global bears, starting with the bear of 2000, the CRB Index has experienced a median decline of -12%, oil has dropped by a median of -26%, and gold has risen by a median of 10%.

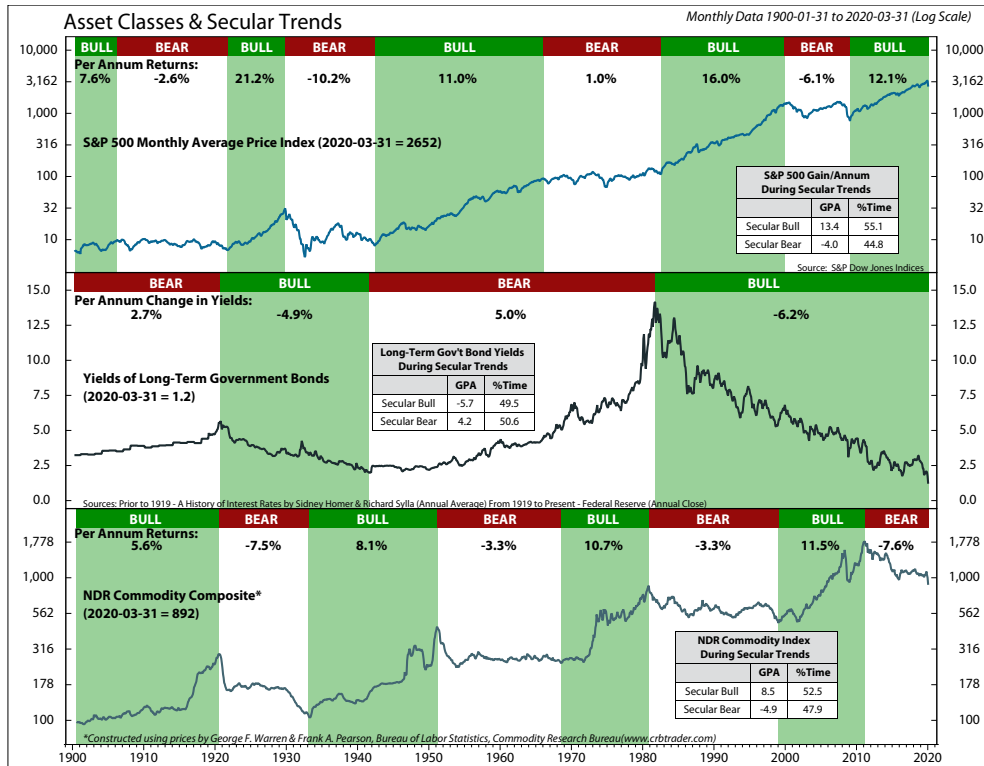
Over the near-term, commodities should be watched for the extent to which a recovery would take place along with a broadening stock market advance and rising RO/RO Ratio, reflecting the sustainability of an economic comeback.

Once stocks and commodities have both returned to cyclical uptrends, perhaps in an

Commodity drop consistent with recession



Stock and commodity secular trends usually opposite



environment of rising inflation, the secular assessment will have a bearing on the upside potential — more potential for stocks in an equity bull and commodity bear, more potential for commodities in an equity bear and commodity bull.

While our base case is that stocks remain in the same secular bull market that started in 2009, the case is now less decisive. The best secular news for commodities could, in fact, be the worst secular news for stocks **(chart left)**.

Above excerpted from: "The message from commodities" by Tim Hayes, April 23, 2020 (available through NDR's Institutional product offerings)



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ED CLISSOLD, CFA CHIEF U.S. STRATEGIST
THANH NGUYEN, CFA SENIOR QUANTITATIVE ANALYST

MAY 15, 2020

The Covid conundrum

Key Takeaways

- On a cap-weighted basis, 58% of the constituents are COVID winners — cushioning the impact to date.
- If the stock market rotates toward COVID loser leadership, cap-weighted indices could underperform.
- The strong rally since March 23 does not eliminate the chances of a retest.

The unemployment rate is the highest since the Great Depression. Manufacturing dropped the most since 2008. The Leading Economic Index plunged the most on record. Earnings estimates have been revised down at a record rate.

All of the above has been reported during the S&P 500's 31.4% move off the March 23 low. The benchmark is 15.2% below its February 19 record high and down only 11.6% on the year. In fact, the S&P 500 posted its best week since 1938 at the same time the three-week total of jobless claims hit 16 million. How can the S&P 500 be so close to its all-time high with the economy so weak?

Contrarian investing

The market leads the fundamentals. On

COVID winners 58% of market cap, but 33% of stocks

S&P 500 Performance by Relative Impact of COVID-19 (2/19/2020 - 5/12/2020)

COVID Relative Impact	% Change	% Weight	% Contribution	% Stocks
Loser	-33.41	30.96	-9.83	48.92
Neutral	-20.81	10.90	-2.01	18.00
Winner	-6.14	57.73	-3.24	33.07
Total			-15.09	
Actual Index Return			-15.24	
Residual			0.15	

COVID winner - business not meaningfully impacted or positively impacted by economic impact of COVID-19. COVID loser - significantly negatively impacted by COVID-19 related stoppage of economic activity.

Source: S&P Dow Jones Indices.

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average, **the stock market has bottomed four months before the end of recession.**

The S&P 500 has risen at a faster pace when the unemployment rate has been high and earnings expectations have been low. Such leading tendencies were supporting evidence for our shift from cautious to neutral, although the upgrade was based primarily on technical indicator improvements.

COVID winners vs. losers

There's another more technical answer. **On a market-cap weighted basis, the S&P 500 is not as impacted by the economic**

dislocations caused by the pandemic as might be expected. The **table above** shows the attribution of S&P 500 returns since the February 19, 2020 peak. We classified each stock as a COVID "winner," "loser," or "neutral." Winners are stocks less impacted by COVID-19, with losers being stocks significantly impacted. To classify stocks, Pat Tschosik primarily looked at the sector and sub-industry in which the stocks were included.

The **COVID winners have fallen -6.1% versus -33.4% for the COVID losers.** Because the **COVID winners were 57.7% of the S&P**

500 as of 2/19/2020, they have prevented the index from declining more than if they were not in the index. The message is different on an equal-weighted basis. COVID losers account for nearly half of the stocks in the index versus 33.1% for the COVID winners.

More COVID losers within small-caps

Within small-caps, COVID losers outweigh COVID winners on a cap-weighted basis and on an equal-weighted basis (table right). In the S&P 600 Index, COVID winners have fallen only 14.2% since 2/29/2020, but they account for only 26.2% of the cap-weighted index and 24.2% of the stocks. COVID losers fell 36.5% and are 58.0% of the index on a cap-weighted basis and 62.3% of the constituents. Note — S&P 600 classifications were made completely at the sub-industry level.

More COVID losers than winners in small-cap S&P 600

S&P 600 Performance by Relative Impact of COVID-19 (2/19/2020 - 5/11/2020)

COVID Relative Impact	% Change	% Weight	% Contribution	% Stocks
Loser	-36.52	57.98	-20.63	62.34
Neutral	-25.91	15.91	-3.81	13.49
Winner	-14.22	26.18	-3.23	24.18

Total	-27.67
Actual Index Return	-28.30
Residual	0.63

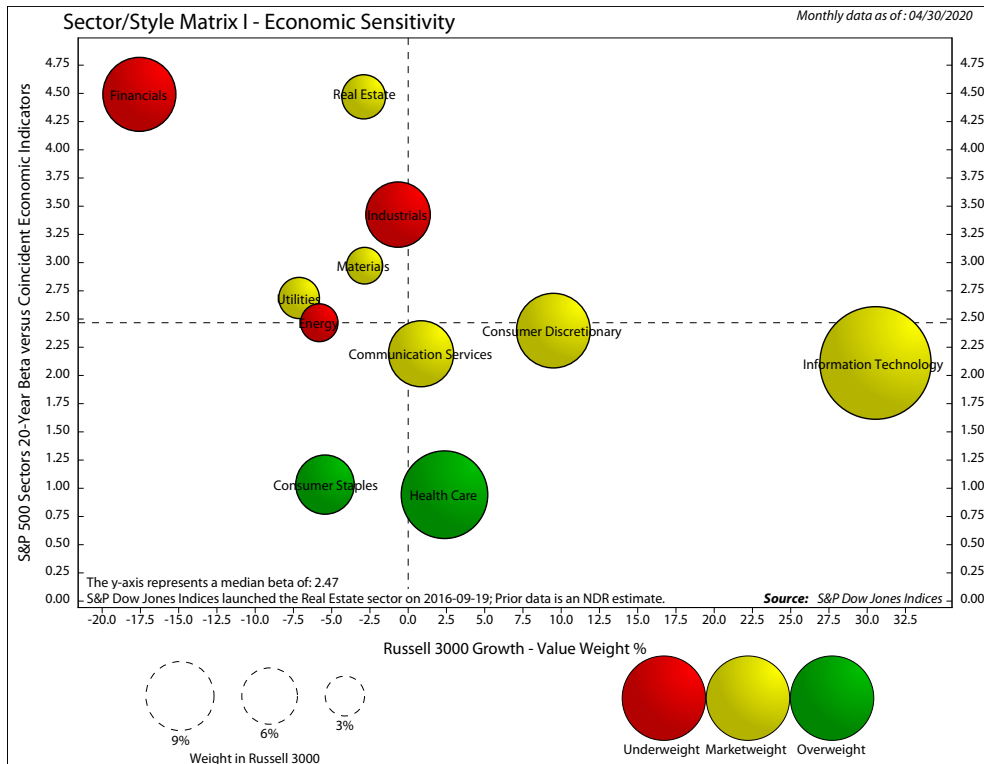
COVID winner - sub-industries not meaningfully impacted or positively impacted by economic impact of COVID-19. COVID loser - sub-industries significantly negatively impacted by COVID-19 related stoppage of economic activity.

Source: S&P Dow Jones Indices.

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Cyclical Value sectors should benefit when economy reopens



The next conundrum?

Moving forward, **if the economy opens up, leadership should rotate to stocks that benefit — small-caps and cyclical Value on a style box basis (chart left), and Industrials, Financials, Materials, and Real Estate on a sector basis.** We continue to overweight large-caps, Growth, and defensive Health Care and Consumer Staples sectors until indicators tell us the rotation is underway.

Above excerpted from: "Is the S&P 500 COVID-proof?" by Ed Clissold, May 13, 2020 (available through NDR's Institutional product offerings)

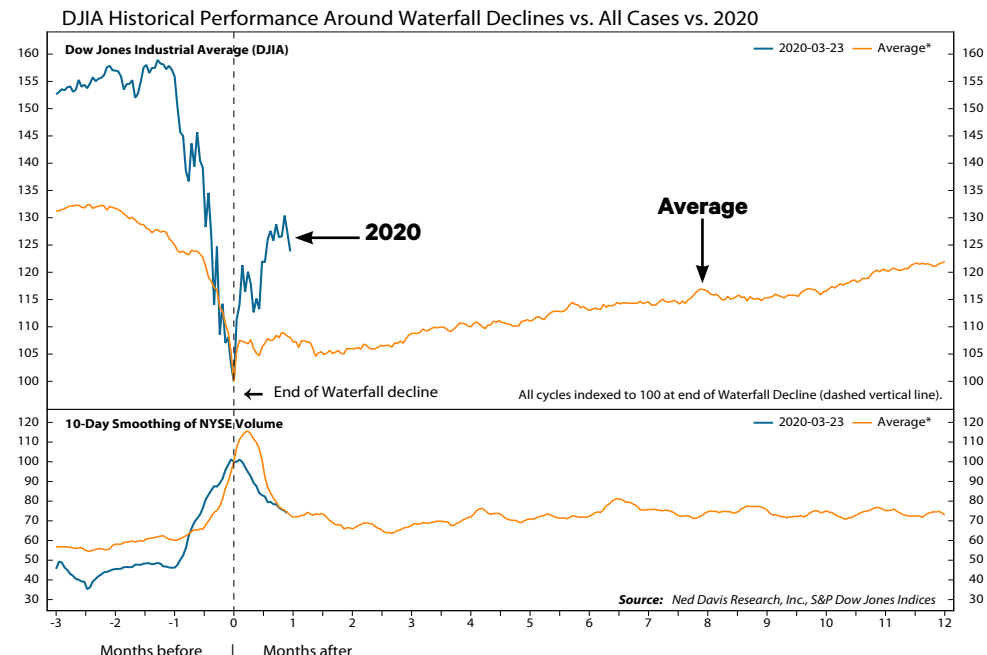
Retest not off the table, but it could be milder

The rally from the March 23 low has been huge. Not only has the rally been stronger than average coming off a waterfall low (**chart right**), but at this stage, it is also bigger than any of the 13 previous post-waterfall bounces.

So, is the rally big enough to dismiss the risks of a retest of the lows? No, the rally does not eliminate the possibility of a retest — but it increases the chances that any retest would be less severe.

The 30.4% surge from the 3/23/2020 waterfall low to 4/17/2020 high was bigger than any of the other post-waterfall rallies (**table below**). Since the 2020 decline was bigger, it is reasonable to expect that the rally would also be bigger. To adjust for volatility, the **right column** in the table

Rally since March 23 strongest of any post-waterfall rebound



***Average Waterfall Decline Based on End Dates of:**
 10/29/1929, 10/18/1937, 05/24/1940, 09/10/1946, 10/22/1957, 05/28/1962, 05/26/1970, 10/04/1974, 10/19/1987, 07/23/2002, 10/10/2008, 08/08/2011, 12/24/2018, 03/23/2020
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2020 (to date) is 3rd biggest retracement rally

Post-Waterfall Rallies in Dow Jones Industrial Average				
Waterfall End Date	Interim High Date	# Calendar Days	DJIA % Change	% of Decline Retraced
10/29/29	10/31/29	2	18.9	35.4
10/18/37	10/29/37	11	10.1	19.8
5/24/40	11/9/40	169	21.2	70.6
9/10/46	2/8/47	151	10.3	45.6
10/22/57	11/29/57	38	7.2	45.3
5/28/62	5/31/62	3	6.3	31.0
5/26/70	6/19/70	24	14.1	55.3
10/4/74	11/5/74	32	15.4	42.3
10/19/87	11/2/87	14	15.8	30.5
7/23/02	8/22/02	30	17.5	51.0
10/10/08	11/4/08	25	13.9	36.0
8/8/11	8/31/11	23	7.4	42.1
12/24/18	N/A	N/A	N/A	N/A
3/23/20	4/17/20	25	30.4	51.6
Median		25	14.0	42.2

2020 case not included in summary statistics. 4/17/2020 is the most recent high and is subject to being updated. 2018 case did not have a retest. Source: S&P Dow Jones Indices.

shows how much of the decline the rally has retraced. At 51.6%, the 2020 post-waterfall rally through April 17 was the third-biggest retracement, after the 1940 and 1970 cases.

With the caveat that there are few cases and the dates are subjective, **the bigger the retracement, the less severe the retest**. When the retracement rally was greater than the median, the retest low broke the waterfall low by a median of only 1.8%.

Above excerpted from: “Does the historic rally eliminate the retest?” by Ed Clissold, April 22, 2020 (available through NDR’s Institutional product offerings)



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PAT TSCHOSIK, CFA, CMT U.S. SECTOR STRATEGIST
ROB ANDERSON, CFA INVESTMENT RESEARCH ANALYST

MAY 15, 2020

Is it time for social undistancing?

Key Takeaways

- Thanks mainly to Amazon, Consumer Discretionary has outperformed the S&P 500 YTD.
- Equal-weighted Discretionary sector has far underperformed the cap-weighted sector, but could play catch-up during the COVID-19 recovery.
- Sales and margin trends explain why FANMAG is loved, but we have it on bubble watch.

It is hard to believe that by the end of April, the S&P 500 Index was only 13% below its 2020 high. However, 30% of stocks in the index were still down more than 30% from their 52-week high. The flight to safety in mega-caps caused the S&P 500 cap-weighted index to outperform the equal-weighted index by nearly 10% from February 24 to April 16 — but that trend could be reversing.

Nowhere is the difference between cap-weighted and equal-weighted more pronounced than in the Consumer Discretionary sector. Over the same February 24 to April 16 period, equal-weighted Consumer Discretionary was down over 30% — while Amazon was up nearly 20%. The net result is that equal-weighted S&P 500 Consumer Discretionary has underperformed the cap-weight-

Most upside for Discretionary on an equal weighted basis

S&P 500 Sector	% in Bear	EW YTD %	CW YTD %	EW vs CW
Energy	100	-40	-29	-11
Financials	80	-22	-16	-6
Consumer Discretionary	76	-24	6	-30
Real Estate	74	-16	-3	-13
Materials	61	-16	-4	-12
Industrials	56	-17	-12	-5
Communication Services	58	-10	3	-14
S&P 500 Index	54	-15	-9	-6
Information Technology	30	-5	10	-15
Utilities	32	-11	0	-11
Consumer Staples	27	-7	3	-10
Health Care	18	-2	8	-10

% in bear is the percent of stocks in the S&P 500 sector down more than 20% from their 252-day high as of 4/29/2020. Source: S&P Dow Jones Indices.

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ed sector by over 20% year-to-date.

What makes Discretionary so unique is the stark difference between COVID-19 winners and losers. McDonalds, Amazon, Home Depot, and Nike as a cap-weighted group account for 63% of sector market-cap and are up 16.9% year-to-date. The rest of the sector is down 22.5% year-to-date. The main culprits are the social distancing impacted sub-industries that include Department Stores (-55.8%), Hotels, Resorts & Cruise Lines (-47.7%), Apparel, Accessories & Luxury Goods (-41.2%), and Casinos & Gaming (-36.7%).

The best sector for social undistancing

Arguably, Energy and Financials have more upside than Discretionary. The two sectors have more companies in bear markets **(table above)** and are the worst performing cap-weighted sectors year-to-date. Still, Consumer Discretionary is our preferred sector to play the opening of the economy and what we call the “social undistancing” theme.

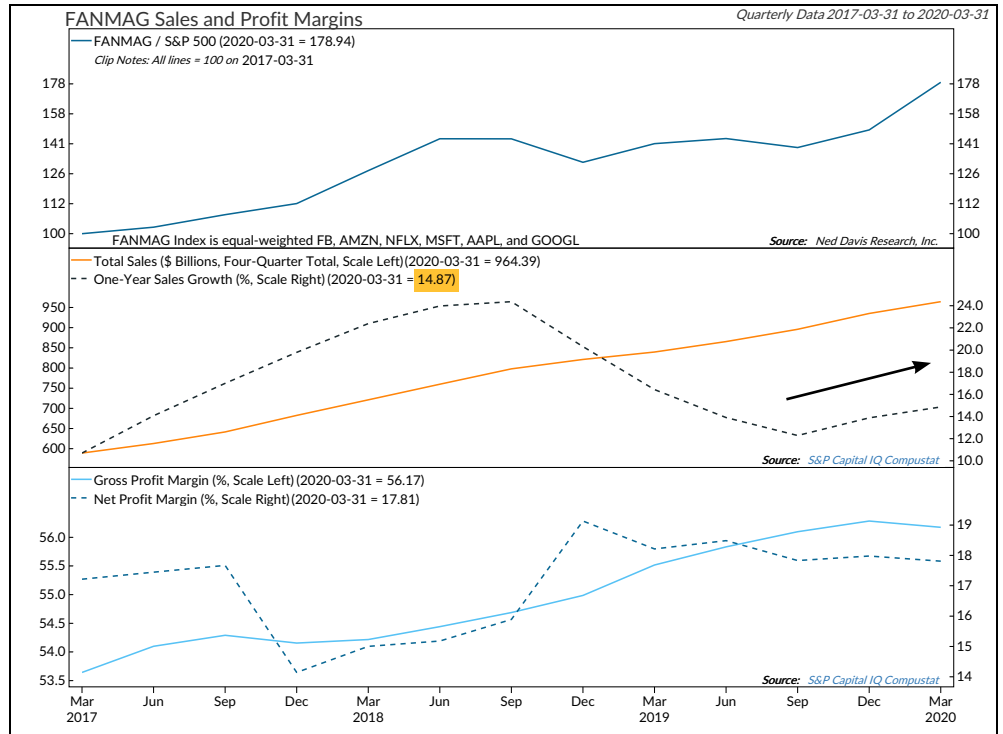
Above excerpted from: “The Social Undistancing theme” by Pat Tschosik, April 30, 2020 (available through NDR’s Institutional product offerings)

Investors' love for FANMAG

The group of tech-related mega-caps affectionately known as FANMAG — Facebook, Amazon, Netflix, Microsoft, Apple, Google (Alphabet) — are key drivers of that study highlighted on page 7 and 8. FANMAG currently accounts for 22% of the S&P 500's market-cap.

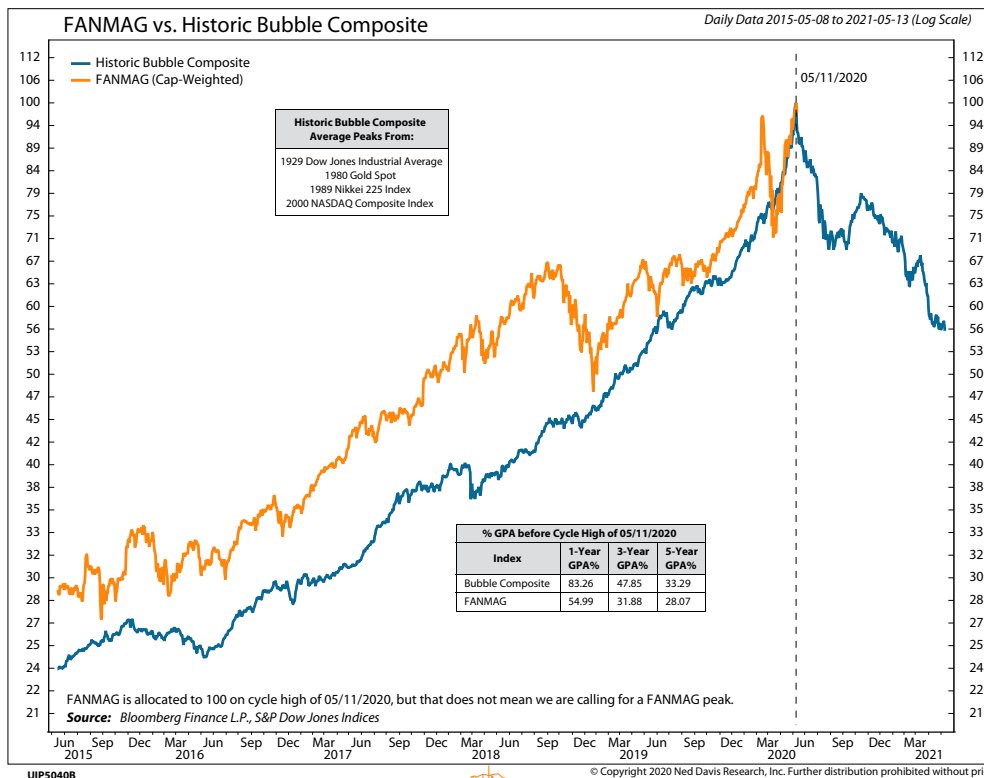
A quick look at sales growth and profitability for FANMAG helps explain why the group is beloved by investors, especially during the COVID crisis. Trailing four quarter (T4Q) results for Q1 (**chart right**), show sales growth actually **accelerated** versus Q4 2019 T4Q, reaching nearly 15% growth — roughly five times that of the S&P 500 ex-FANMAG. Profit and net margins did decline, but not by much. Other sectors have to be envious of FANMAG's 56.2% gross margins and 17.8% net margins, especially during a pandemic.

FANMAG T4Q sales growth accelerated in Q1



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FANMAG 3-year GPA of 32%, so it's on bubble-watch



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Bubble watch

A cap-weighted FANMAG composite compared to our historical bubble composite highlights the strong run for the group (**chart left**). The trailing three-year gain per annum (GPA) for FANMAG is an incredible 31.9%. However, that is still well below the bubble composite — which shows a three-year GPA of 47.9% — leading into the peak.

Eventually, other sector fundamentals will improve and FANMAG will mean revert. The group now accounts for 16% of S&P 500 net income, but its market cap is now heading north of **22% of S&P 500 market cap**, which has us on a “1999-like” bubble watch.

Above excerpted from: “Why FANMAG is loved by investors” by Pat Tschosik, May 14, 2020 (available through NDR's Institutional product offerings)



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WARREN PIES, ERP ENERGY STRATEGIST

MAY 15, 2020

Oil outlook upgraded to neutral

Key Takeaways

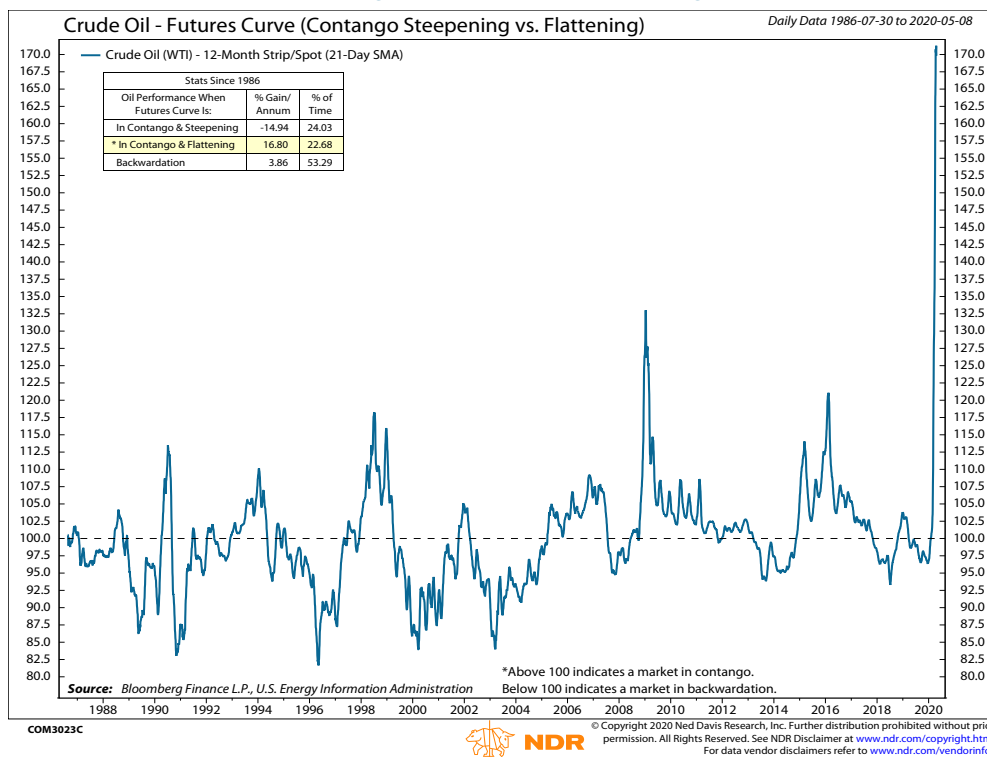
- We upgraded oil from bearish to neutral.
- The crude oil futures curve has begun to flatten from super contango.
- The Saudis are unilaterally cutting more production.

From early-March to early-April, crude oil's futures curve moved from backwardation to "super contango." This move occurred over a record 23 trading days.

Steep contango is a symptom of an unbalanced market. The present case of super contango has been the most extreme on record (reflecting the massive supply/demand mismatch caused by social distancing measures).

Steep contango is the market's way of removing excess supplies from the market. Once contango is steep enough to choke off excess supply, the curve begins to flatten and rollover, which reflects incrementally improving fundamentals.

Futures curve flattening from super contango



Late last week, the curve — as measured by our term structure indicator — began to flatten (**chart above**).

On average, oil rallies by ~27% in the three months following the initial flattening from a super contango term structure.

Earlier this week, Saudi Arabia announced an additional 1 million barrel per day decrease to its June production target (now down to a projected ~7.5 million bpd).

In our most recent downgrade to bearish, we speculated that the OPEC+ price war

could not last and that the Saudis were in the weakest position.

The combination of the price war ending, the Saudis unilaterally making additional cuts, and oil's flattening term structure provide enough evidence that the worst is now behind the market.

We upgraded our oil outlook to neutral.

Above excerpted from: "Oil: Digging out from the wreckage" by Warren Pies, May 12, 2020 (available through the Energy Strategy add-on product offering)



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ALEJANDRA GRINDAL SENIOR INTERNATIONAL ECONOMIST
PATRICK AYERS INTERNATIONAL ECONOMIC ANALYST

MAY 15, 2020

World's largest economies collapsed

Key Takeaways

- All of the world's largest economies have collapsed due to the COVID pandemic.
- Global manufacturing shrank at its fastest pace since the GFC amid broad-based global lockdowns.
- However, manufacturing is still faring notably better than during the GFC.

Compared to our last quarterly update in February, all of the world's largest economies have collapsed due to the COVID pandemic. Authorities have responded with unprecedented monetary and fiscal stimulus. Although countries are at different phases of the crisis, a clean V-shaped recovery seems unlikely in any of them. We discuss the most likely recovery scenarios based on the current COVID developments. The **table at right** summarizes our outlook by major country and region.

Above excerpted from: "G7 and BRIC outlook: V-shaped recoveries unlikely" by Alejandra Grindal, April 30, 2020, respectively (available through NDR's Institutional product offerings)

G7 and BRIC economic summary

Country/Region	Outlook for Economic Growth	Summary
U.S.		<ul style="list-style-type: none"> • We expect a U-shaped or a square root-shaped recovery. • Uncertainty about the path of the virus and stimulus effectiveness lead to four broad recession/ recovery scenarios. • Neither economic data nor financial markets are signaling yet an end to the recession.
Eurozone		<ul style="list-style-type: none"> • Early signs of flattening in the COVID-19 curve and partial easing of lockdowns provide hope for the eurozone economy. • With unprecedented monetary and fiscal support, break up risk remains subdued. • But expect a U-shaped recovery at best, as downside risks remain elevated.
U.K.		<ul style="list-style-type: none"> • The spread of COVID and lockdowns have led to an abrupt stop in the economy. • We anticipate a U-shaped recovery in the U.K. • But the possibility of a W-shaped recovery increases if Brexit negotiations aren't extended.
Japan		<ul style="list-style-type: none"> • Japan's COVID outbreak has so far been less severe than other parts of the developed world. • But social distancing still points to economic collapse, which is partly offset by massive stimulus. • We expect a square-root shaped recovery as long-term structural problems persist.
China		<ul style="list-style-type: none"> • China's quick economic rebound from COVID-19 is corroborated by a broad array of data. • But pronounced stimulus has been lacking, the recovery is lopsided, and long-term problems remain in place. • This suggests that the recovery is likely to be square-root shaped.
India		<ul style="list-style-type: none"> • Countrywide lockdowns have ebbed the growth of official COVID numbers. • But this comes at a huge economic cost, especially since significant fiscal stimulus has been lacking. • Lower pollution-related deaths is an unexpected upside of the crisis.
Brazil		<ul style="list-style-type: none"> • States have taken the lead in stemming the growth of COVID amid denials by the president. • Economic activity has slumped as the population engages in social distancing. • Recent firings and resignations of respected ministers has only worsened the president's standing.
Russia		<ul style="list-style-type: none"> • After a slow start, COVID cases have jumped, resulting in nationwide lockdowns. • As a result, economic activity has collapsed, held down further by lower oil prices. • Leading indicators suggest more downside to come.

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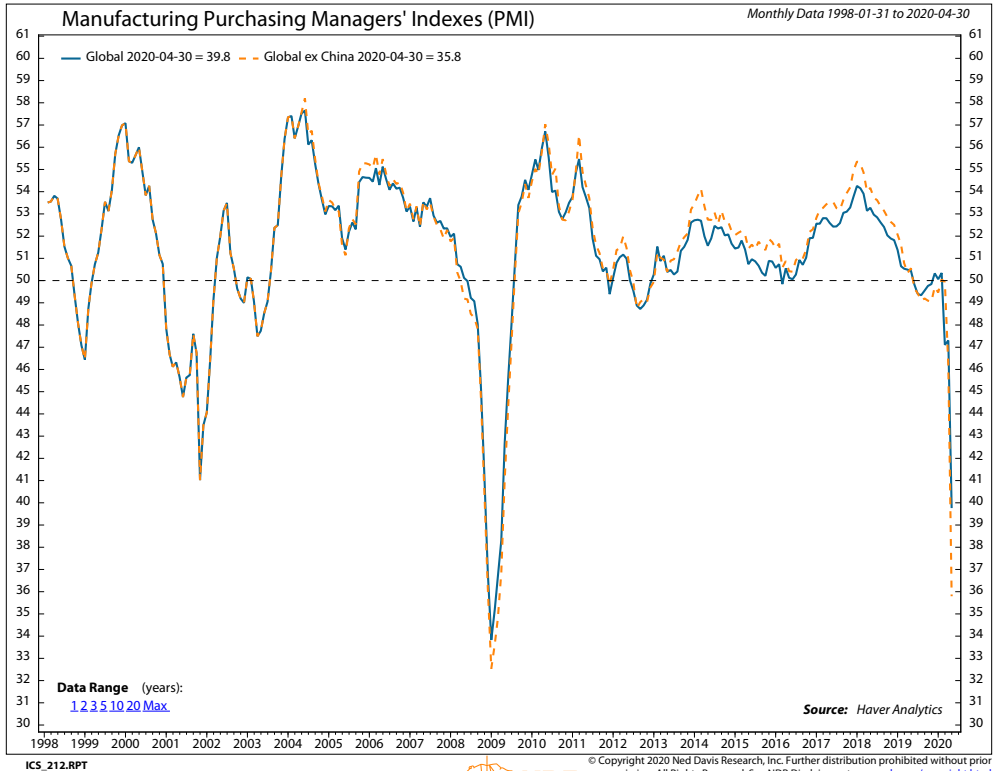
But why not more?

The global manufacturing PMI plunged 7.9 points to 39.8 in April. It was the largest decline on record to its lowest point since April 2009. According to our calculations, this latest reading is historically consistent with a 7.7% year-to-year drop in global industrial production, which would be the largest fall since September 2009.

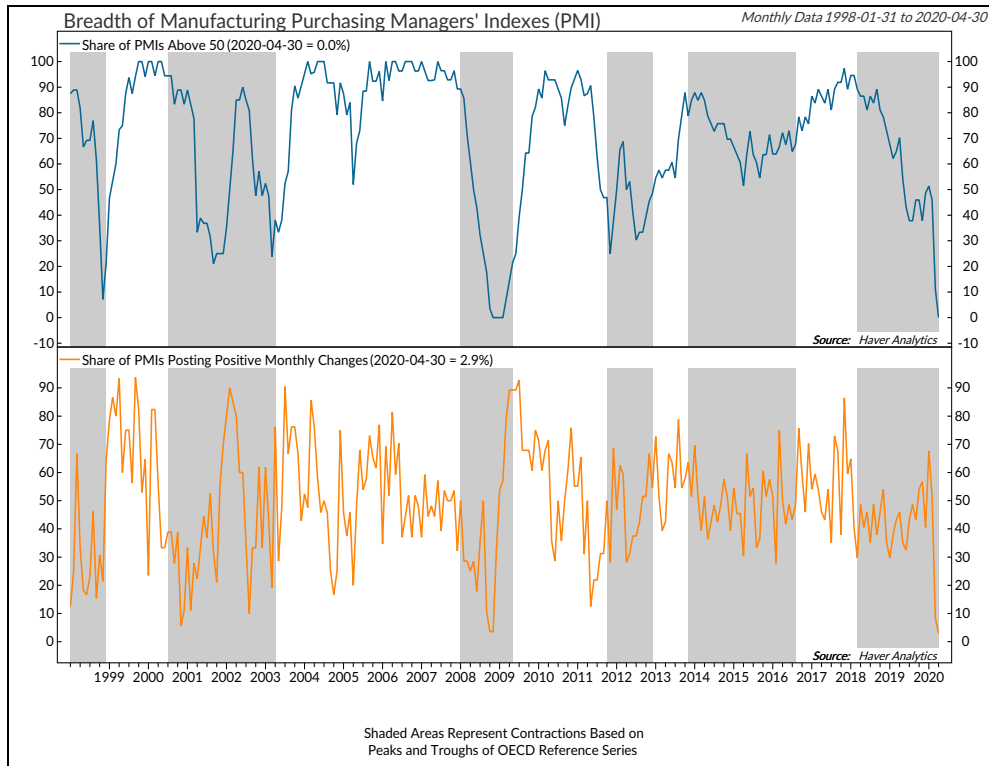
It's interesting to note that unlike many other economic indicators (both on a global aggregate and country level), the global manufacturing PMI is still a decent distance away from its all-time low set during the Global Financial Crisis (GFC). With many of us expecting a greater global GDP contraction this time around, how could this be?

Of course, the PMI could get worse. It takes just one more decline of April's caliber to

Global manufacturing worse without China



Broadest deterioration since GFC



bring the PMI to an all-time low. But with some European economies and U.S. states gradually opening up activity in May, the month-to-month difference may not be as pronounced as April's.

Another explanation is that the lock-downs were staggered. April so far appears to be the worst month in terms of stay-at-home orders for the U.S. and Europe. But China's nastiest month was February, when the lock-downs were in full force. Since then, it has since seen large swaths of its economy reopen, bringing up the global average. That being said, the Global PMI ex-China is still above its GFC lows (**chart above**).

No country left unscathed

Among all the countries that have reported PMIs at this point, every single one of them saw a decline in activity. The last time — and only time — this has happened was

Customized version of IE250B



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during the GFC, when this breadth measure remained at 0% for three months (**bottom chart, previous page**). Just one country (Hungary) reported a month-to-month gain in their PMI, the lowest share on record.

China leading recovery

China gave back some of the gain in March. Despite this decrease, China's PMIs are well above their February lows and much better than what's being observed in all other parts of the world in April (**chart below**).

But, China's good fortunes haven't rubbed off on its neighbors. Neighboring economies that are deeply integrated in

China's supply chains, such as Taiwan, South Korea, and Japan, saw their PMIs fall to their lowest levels since the GFC.

It is worth noting that those economies have relatively higher PMIs than other parts of the world. Better containment of the spread of COVID-19 in those economies could explain some of their relative resiliency.

In March, U.S. manufacturing had fared better than other parts of the world due to its delay in stay-at-home orders. But in April, the U.S. caught up — or down, depending on your perspective.

The manufacturing PMI for the eurozone slumped to an all-time low. Every country in the zone contracted for the first time since May 2013. This is a sharp change from just two months prior, when almost two-thirds of the region's countries were expanding.

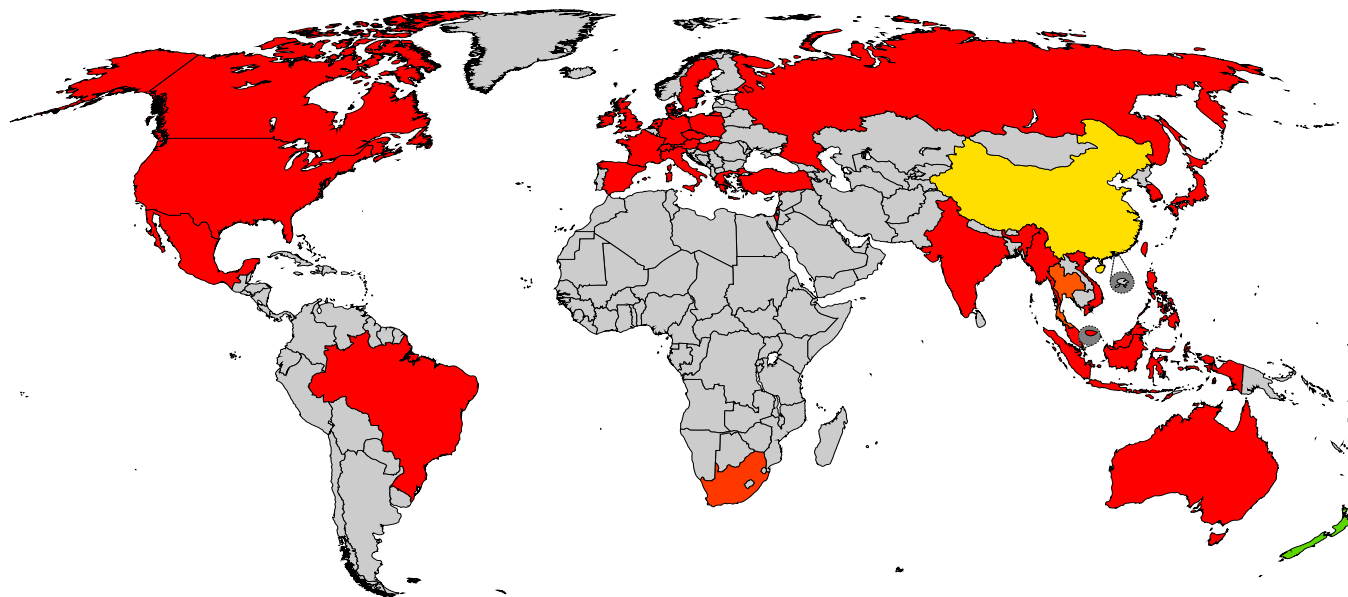
Above excerpted from: "Covid stunts manufacturing, but why not more?" by Alejandra Grindal, May 5, 2020, respectively (available through NDR's Institutional product offerings)

Global Manufacturing PMIs

Source: Haver Analytics

*Reflects prior month's reading

2020-04-30

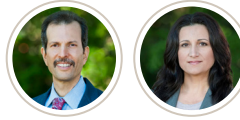


India	27.4
Indonesia	27.5
Burma (Myanmar)	29.0
Greece	29.5
Spain	30.8
Italy	31.1
Malaysia	31.3
Russia	31.3
France	31.5
Philippines	31.6
Austria	31.6
Poland	31.9
U.K.	32.6
Vietnam	32.7
Canada	33.0
Turkey	33.4
Eurozone	33.4
Hungary	33.6
Germany	34.5
Israel*	34.6
Czech Republic	35.1
Brazil	36.0
Ireland	36.0
U.S. (Markit)	36.1
Sweden	36.7
Denmark	38.6
Switzerland	40.7
Netherlands	41.3
South Korea	41.6
Japan	41.9
Taiwan	42.2
Australia	44.1
Singapore	44.7
South Africa	46.1
Thailand*	46.7
Mexico*	47.9
China (Markit)	49.4
New Zealand*	53.2

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JOSEPH F. KALISH CHIEF GLOBAL MACRO STRATEGIST
VENETA DIMITROVA SENIOR U.S. ECONOMIST

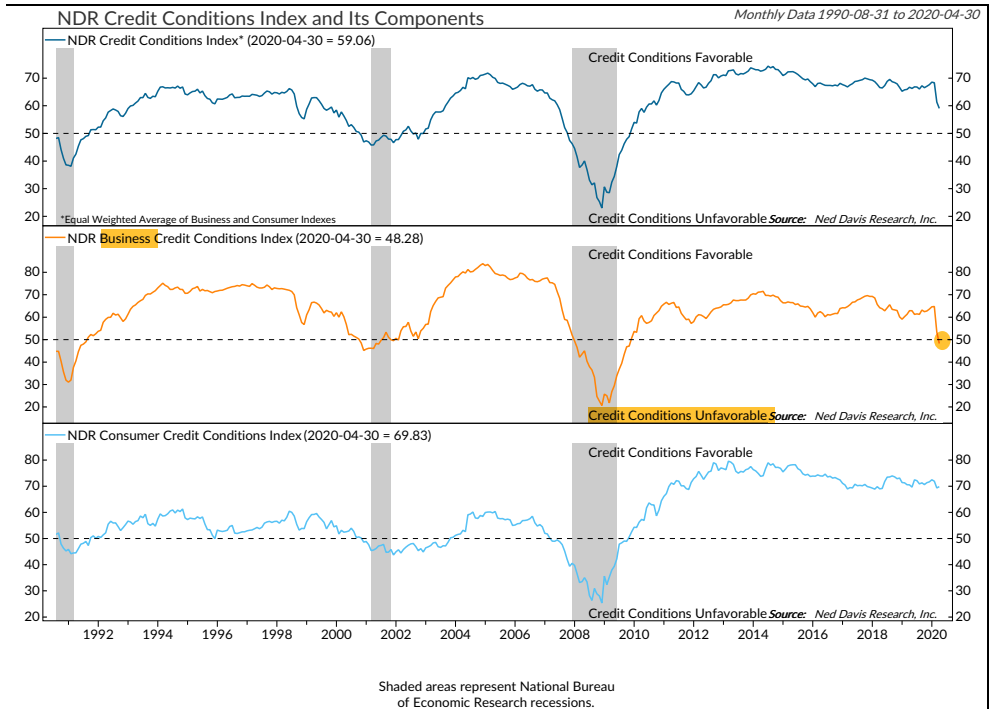
MAY 15, 2020

Credit rebounded in April

Key Takeaways

- Despite the improvement in corporate securities last month, underlying credit conditions deteriorated.
- Net inflows have returned to bond funds and ETFs.
- We do not expect the Fed to implement a negative interest rate policy in the U.S.

CCI falls to 10-year low



After a disastrous March, credit stormed back in April. After losing over 7.0% in March, the third worst monthly performance since the data began in 1973, investment grade (IG) corporates recovered 5.2% last month. High yield (HY), which lost nearly 11.5% in March, second only to the Global Financial Crisis (GFC), gained 4.5% in April.

The rebound in credit was not confined to the U.S. Global IG credit returned 4.8%, while Global HY gained nearly 4.4%. In Europe, HY gained more than IG, rallying 6.2% and 3.7%, respectively. In the U.K., corporate credit soared almost 6.4%.

Despite the improvement in corporate securities last month, underlying credit

conditions deteriorated. The Credit Managers' Index lost a record 8.4 points, bringing its two-month total to -15.6 points. Our own Credit Conditions Index, which examines the cost and availability of credit to households and businesses, fell to its worst level in nearly ten years (**chart above**).

One of the biggest questions facing credit investors is whether it is safe to go back into high yield. In sum, our indicators show a rebound in risk appetite among global investors. But, the recoveries are not consistent with low-risk opportunities

in high yield. **We remain marketweight credit and continue to prefer IG over HY.**

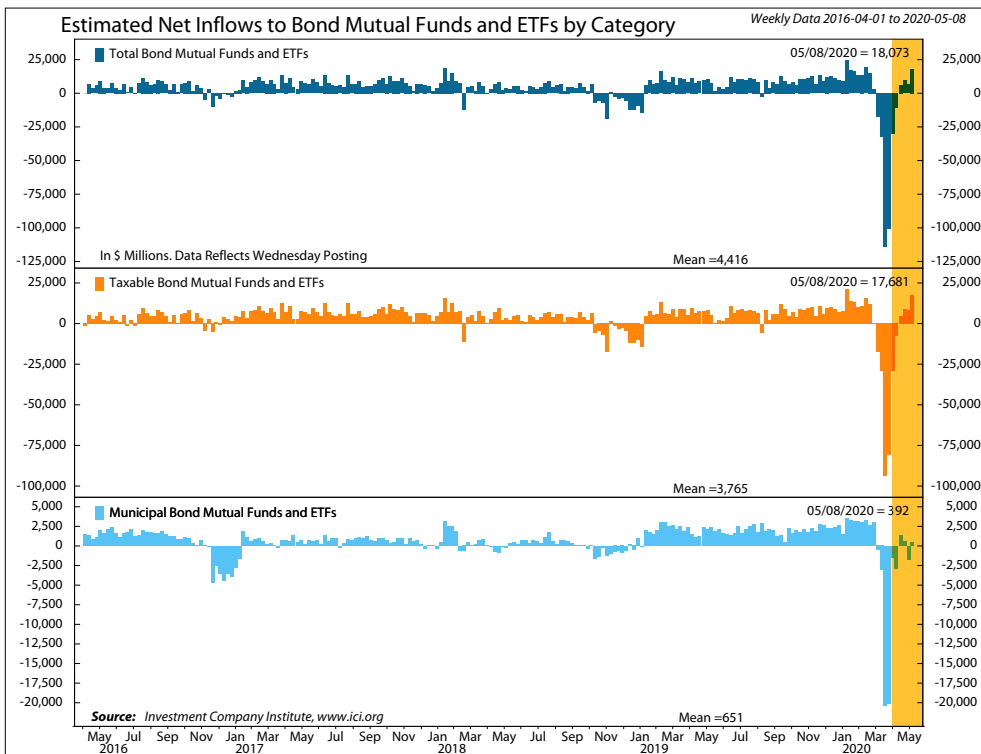
Above excerpted from: "Credit storms back" and "Five new risk-on/risk-off indicators for global credit" by Joseph Kalish, May 5 and May 7, 2020, respectively (available through NDR's Institutional product offerings)

Bond fund inflows returning

Shortly after the Fed's unprecedented March 23 announcement that it would begin buying corporate bonds and ETFs, along with unlimited amounts of Treasuries and agency MBS, net inflows began to return to taxable bond ETFs. Following two horrendous weeks in mid-March, which saw nearly \$30 billion of net outflows, there have been six consecutive weeks of inflows that recovered all of the outflows.

Inflows to traditional taxable bond funds took three extra weeks to move back into positive territory, but have a long ways to go before they can make up their \$242 billion hole. Municipal bond funds and ETFs, which are not being supported by secondary market purchases from the Fed, haven't fared as well. Over the past six weeks, net outflows have totaled almost \$4 billion (chart right). Uncertainty

Bond inflows have returned!



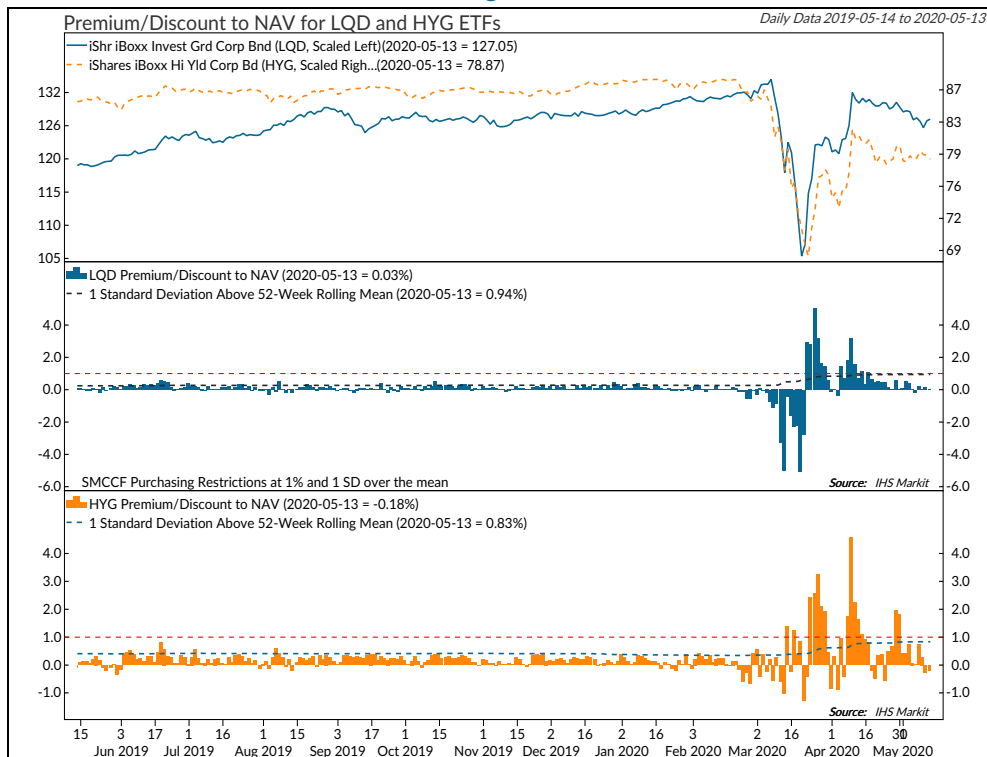
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Track what the Fed is watching on LQD and HYG



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surrounding Senate support of state and local governments has also weighed on investor flows.

How much is too much?

When the Fed updated its terms sheet for the Secondary Market Corporate Credit Facility (SMCCF), it said, “the Facility will avoid purchasing shares of eligible ETFs when they trade at prices that materially exceed the estimated net asset value (NAV) of the underlying portfolio.”

Using LQD and HYG, the two largest investment grade and high yield corporate ETFs, respectively, as representative of Fed purchases, clients can track when the Fed might be active ETF purchasers and when they will not be (chart left).

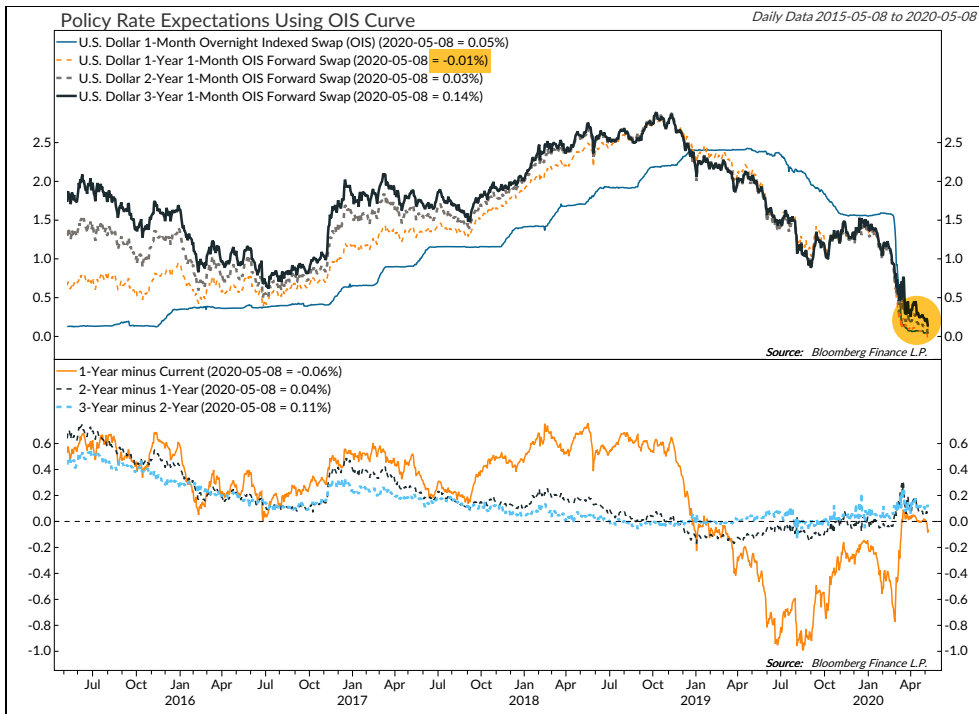
Above excerpted from: “Bond fund inflows returning,” by Joseph Kalish, May 12, 2020,

respectively (available through NDR's Institutional product offerings)

NIRP in the U.S.?

The bond market can't seem to shake the possibility of the U.S. having a negative policy rate. Last week, the market was pricing below zero rates in the forward curve (**chart right**). How can that be? Led by Chair Powell, numerous Fed speakers have said the Fed won't be resorting to negative interest rates. It has other tools it can use such as asset purchases, forward guidance, and yield curve control. Negative rates could wreak havoc in the money markets and cause problems for banks. Moreover, other central banks have begun to question the efficacy of negative rates. But the markets have gamed the Fed before, and won.

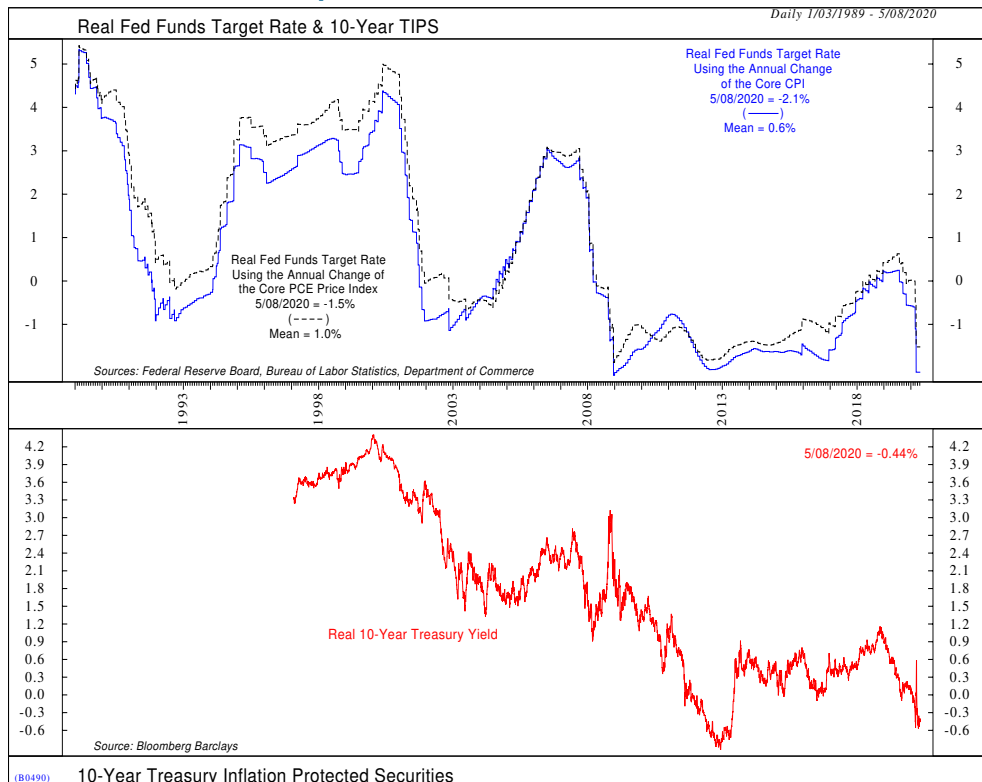
Market was pricing in negative rates last week



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Fed wants to avoid positive real rates



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How we can get to negative rates

The markets price in a range of outcomes, while the Fed discusses the most likely course. Although we expect a square-root- or U-shaped recovery, there's about a 10% chance of a Depression-like outcome. Under a Depression scenario, we could reasonably expect that prices would be falling. If the Fed did nothing, we would see a tightening of financial conditions, as real rates would move into positive territory (**chart left**). To prevent that from happening (which would discourage borrowing), the Fed might cut rates.

Above excerpted from: "NIRP in the U.S.?" by Joseph Kalish, May 12, 2020 (available through NDR's Institutional product offerings)



VENETA DIMITROVA SENIOR U.S. ECONOMIST
JOSEPH F. KALISH CHIEF GLOBAL MACRO STRATEGIST

MAY 15, 2020

The U.S. economy is contracting

Key Takeaways

- Nearly all economic cycles moved into contraction territory in Q1.
- Employment Trends Index drops to its lowest level since 1983.
- Massive monetary and fiscal support could limit the economic damage.

Where the U.S. economy stands in Q1 2020



OVERALL CYCLE Contraction

In an effort to slow the spread of COVID-19, governments imposed lockdowns causing a collapse of economic activity. In response, large monetary policy accommodation combined with huge fiscal support were implemented to help limit the damage.

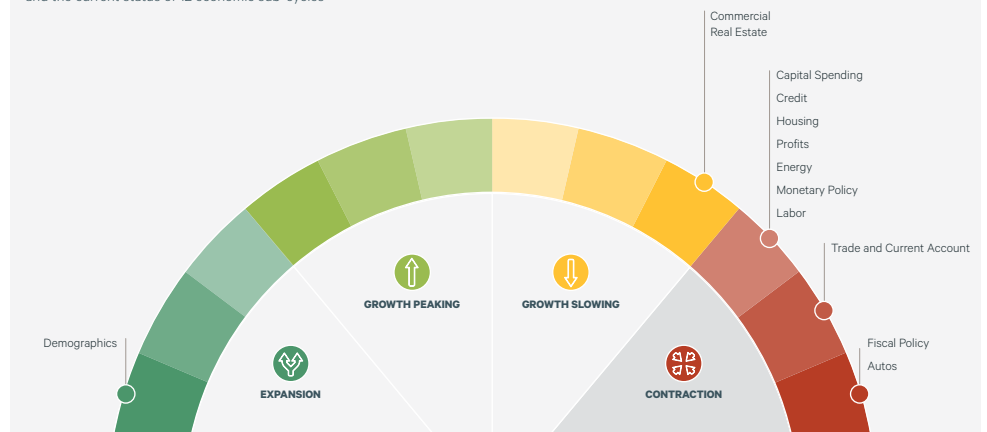
POSITIVES

- Including CARES Act, around \$2.6 trillion of federal support should aid economic activity.
- Massive monetary accommodation has improved the liquidity and functioning of the financial markets and the flow of credit to households and businesses.

NEGATIVES

- Soaring unemployment should restrain consumption, autos, and housing.
- Declining profits and tighter credit will weigh on capex, CRE, and energy.
- Disrupted supply chains are slowing trade flows and impeding production.

The four phases of the economic cycle and the current status of 12 economic sub-cycles



The U.S. economy is in contraction.

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In response, large monetary policy accommodation combined with huge fiscal support were implemented to help limit the damage.

Positives

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Above excerpted from: "Where the U.S. economy stands in Q1 2020" by Joseph Kalish, May 7, 2020 (available through NDR's Institutional product offerings)

Labor market trends slump

The Employment Trends Index (ETI) dropped another 25.0% in April, on the back of a record 47.0% decline in the previous month, leaving the index at its lowest level since April 1983. All eight ETI components posted big losses. The ETI was also off an unprecedented 60.2% from a year ago. The smoothed y/y change suggests a steep decline in real GDP growth in early Q2 (chart below). Following the April Employment Report, which showed 20.5 million nonfarm payroll cuts, **the unemployment rate surged to 14.7%.**

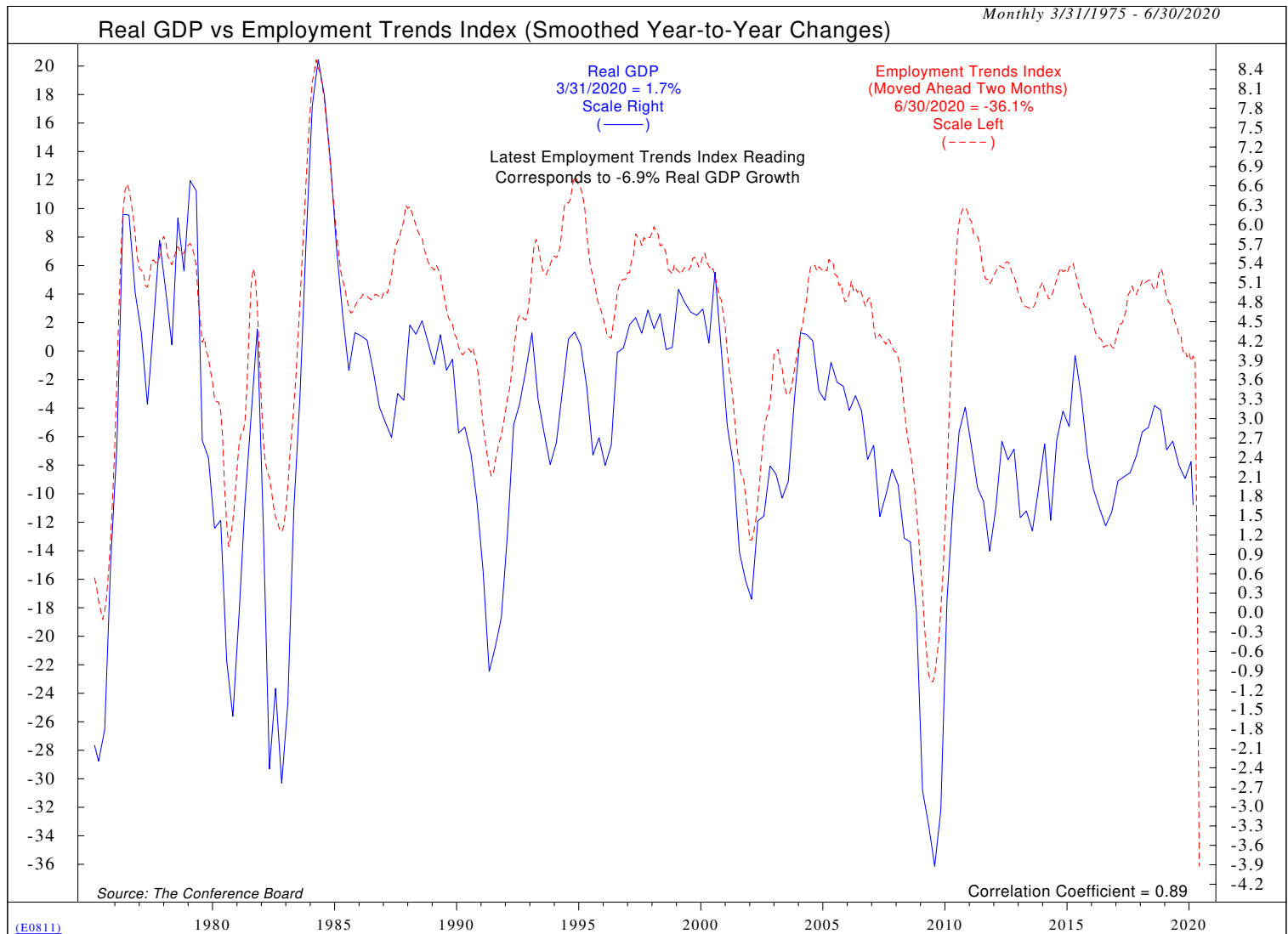
With states beginning to reopen their economies in the coming months, the unemployment rate may see its peak soon, but it will not return to pre-recession lows in the near future. The Conference Board notes that at the end of this year, “the labor market may still be in worse condition than it was at the peak of the Great Recession,” when the unemployment rate topped 10%.

A record number of people also left the labor force. Many older workers may hold back on reentering the labor market or may opt

for early retirement, if jobs remain scarce. In this case, the employment-population ratio, which sank to a record low 51.3% last month, will rebound from that trough but will remain subdued. **This supports our expectation that the economic recovery will be slow, possibly square root- or U-shaped.**

Above excerpted from: “Labor market trends slump” by Veneta Dimitrova, May 11, 2020 (available through NDR’s Institutional product offerings)

Massive drop in ETI suggests further contraction in GDP in Q2

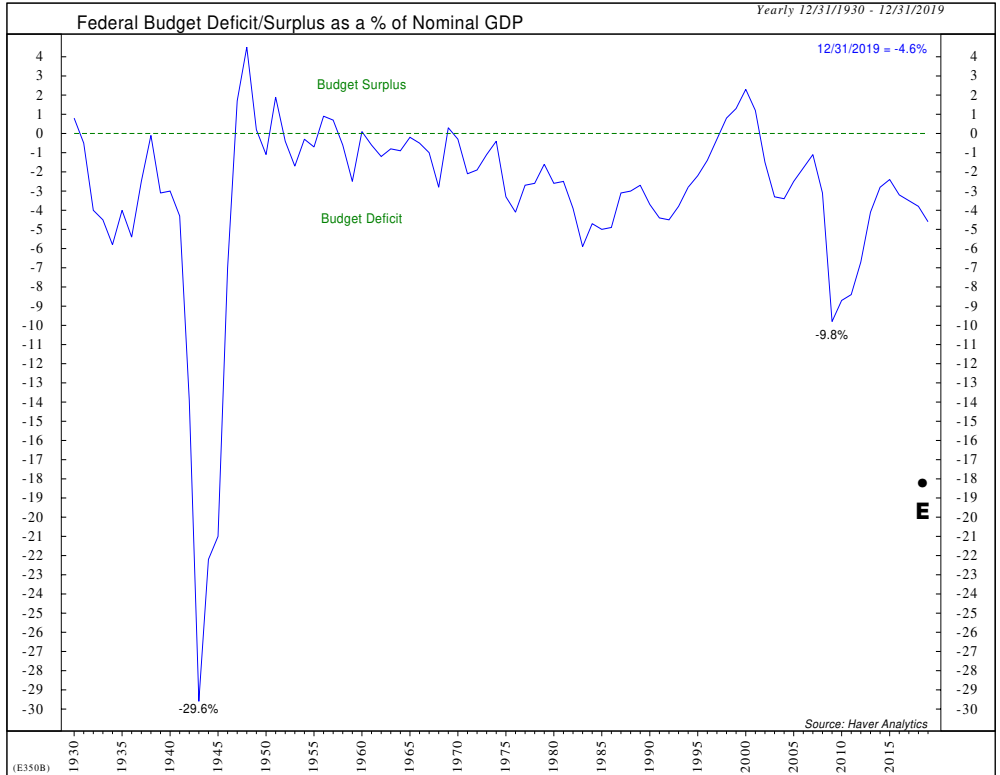


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Don't worry about the deficit now!

The unprecedented shutdown of the U.S. economy over COVID-19 has necessitated a swift and broad action by both Congress and the Fed to support households, businesses, and financial markets. To date, Congress has enacted fiscal relief of about \$2.7 trillion, nearly all of which is being distributed this year. The majority comes from the CARES Act (~\$2.0 trillion) and the recent replenishment of the small business PPP (~\$485 billion). The budget deficit is expected to hit \$3.7 trillion in fiscal 2020 and \$2.1 trillion in fiscal 2021. The deficit-to-GDP ratio is expected to swell to 17.9% in 2020 **(chart right)**, which will be the highest since WWII, far exceeding the 9.8% gap reached in 2009, during the Great Recession. It will narrow to 9.8% in 2021, but will still be more than double the level in 2019.

Highest deficit-to-GDP since 1945



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Partial economic recovery in 2H 2020 and 2021

CBO's Economic Projections for 2020 and 2021

	2020				Annual	
	Q1	Q2	Q3	Q4	2020	2021
Real GDP (% change from preceding quarter) ^a	-0.9	-11.8	5.4	2.5	n.a.	n.a.
Real GDP (% change, annual rate)^a	-3.5	-39.6	23.5	10.5	-5.6^b	2.8^b
GDP (\$ Trillions)	21.6	19.1	20.1	20.7	20.4	21.3
Unemployment Rate (%)	3.8	14	16	11.7	11.4	10.1
Interest Rate on Three-Month Treasury Bills (%)	1.1	0.1	0.1	0.1	0.4	0.1
Interest Rate on Ten-Year Treasury Notes (%)	1.4	0.6	0.7	0.7	0.8	0.7

Notes: a. Real values are nominal values that have been adjusted to remove the effects of changes in prices. b. Data are shown on a Q4/Q4 basis.

Source: Congressional Budget Office

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In the near-term, the countercyclical nature of fiscal policy should limit the economic damage from the recession **(table left)**, which is why the increase in spending is justified and politically palatable to policy makers on both sides of the aisle. In the long-term, debt needs to be repaid, whether interest rates are low or not. More interest outlays leave less room for other types of government spending. As a result, the share of discretionary outlays is projected to continue to diminish over the coming decade. This may indirectly lead to slower productivity growth and slower potential output growth, if government spending is directed toward more consumption and less investment.

Above excerpted from: "Don't worry about the deficit now!" by Veneta Dimitrova, April 28, 2020 (available through NDR's Institutional product offerings)



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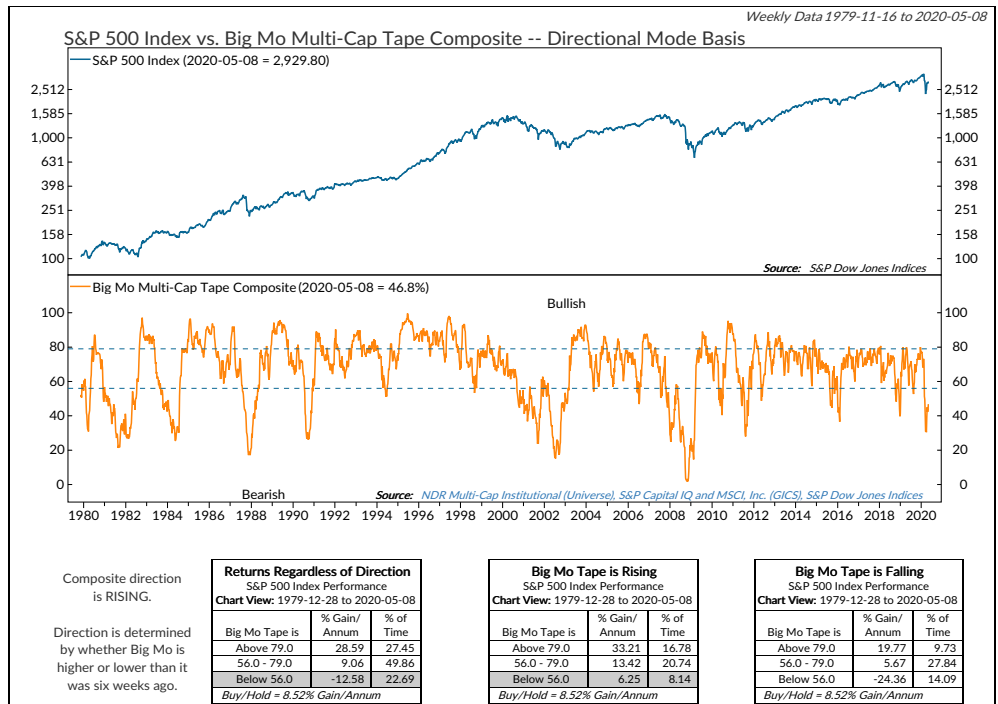
MAY 15, 2020

Not all breadth measures are confirming

Key Takeaways

- The March 26 breadth thrust buy from over 90% of stocks above their 10-day moving average starts off strongly positive.
- But, Big Mo Tape has not yet confirmed, leaving trend evidence neutral.
- COVID-19 clearly levels off, but will there be more waves?

Big Mo Tape has not confirmed breadth thrusts



Earlier breadth thrust buys

Breadth thrust buys are among our most valuable technical tools. One breadth thrust measure gave a clear-cut buy signal on March 26 when over 91% of the institutional grade multi-cap common stocks in our database went above their 10-day moving averages of price.

Two other breadth thrusts also occurred around that time — a three-day price thrust and two 10-to-1 up volume days. Other reliable breadth thrusts from Marty Zweig and DeGraff were given, or just missed, depending on how strict the rules are. Also supporting the buy signals was a sharp drop in the number of weekly new lows, which is featured in our High Low Logic Index.

Big Mo has not confirmed

Nevertheless, with broad based ETFs and algorithmic trading, it is possible that it is easier to get breadth thrust buy signals these days. So, I like to say, “trust the trust, but verify.” I usually use Big Mo Tape — a measure of breadth which uses the percent of industries in uptrends — to verify any breadth thrusts. It has not done so (**chart above**). The wave of daily COVID-19 cases, both in the U.S. and globally, seem to have clearly peaked and rolled over slightly. That’s good news and has helped the bulls.

Nevertheless, if one goes through NDR’s Markets in Motion book, one sees that there were three waves in the last big pandemic from around March of 1918 to August 1919. If history were to rhyme this year, that may not hurt stocks that much, but it could slow any economic recovery. So, I will be watching the two COVID-19 charts closely and alert clients of any trend changes.

Above excerpted from: “Breadth thrust, Big Mo Tape, and COVID-19” by Ned Davis, May 11, 2020 (Ned’s Insights is available through NDR’s Advisory add-on product offerings)

Glossary of terms

Asset Allocation: Ned Davis Research, Inc. constrains the recommended equity weighting (which can theoretically range from zero to 100%) to be limited to a minimum of 40% stocks and a maximum of 70% stocks. Due to the constraint on equity weighting, the combination of bonds and cash can be weighted no greater than 60% and no less than 30% in NDR's recommendations. The benchmark for bond allocation is 35% and for cash is 10%.

Benchmark Duration: The most commonly used measure of bond risk, quantifies the effect of changes in interest rates on the price of a bond or bond portfolio. The longer the duration, the more sensitive the bond or portfolio should be to changes in interest rates. Point of reference for a measurement.

Beta: A number describing the relation of an investment return with that of the financial market as a whole. Numbers greater than one suggest an investment will increase more than the broad market when it is rising, and have greater declines when the market is falling.

Breadth: A technical term used to demonstrate how broadly a market is moving.

Capital Market: Is a market for securities (debt or equity), where business enterprises (companies) and governments can raise long-term funds.

Commercial Mortgage-Backed Securities (CMBS): A type of mortgage-backed security backed by commercial mortgages rather than residential mortgages. When compared to a residential mortgage-backed security, a CMBS provides a lower degree of prepayment risk because commercial mortgages are most often set for a fixed term.

Core Inflation: Is a measure of inflation which excludes certain items that face volatile price movements, notably: food and energy.

Cyclical Bear: Cyclical swings in the market can last from several months to a few years, and are designed to be in line with the primary trend. A cyclical bear market is a cyclical swing when the market is in a downtrend.

Cyclical Bull: Cyclical swings in the market can last from several months to a few years, and are designed to be in line with the primary trend. A cyclical bull market is a cyclical swing when the market is in an uptrend.

Deflation: Is a slight decrease in the general price level of goods and services. Deflation occurs when the annual inflation rate falls but stays above 0%.

Demographics: Studies of population based on factors such as age, race, sex, economic status, level of education, income level, and employment.

Echo Bull/Bear: An echo bear market is a shallower correction which occurs in the equity market that does not coincide with an economic recession. An echo bull market is one that follows and echo bear market.

European Central Bank (ECB): Is the institution of the European Union (EU) which administers the monetary policy of the EU Eurozone member states. It is thus one of the world's most important central banks. The bank was established by the Treaty of Amsterdam in 1998, and is headquartered in Frankfurt, Germany.

Glossary of terms

Eurozone/European Union: Is an economic and monetary union (EMU) of the European Union (EU) member states which have adopted the euro currency as their sole legal tender. It currently consists of Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Federal Open Market Committee (FOMC): A component of the Federal Reserve System, is charged under United States law with overseeing the nation's open market operations. It is the Federal Reserve committee that makes key decisions about interest rates and the growth of the United States money supply.

Gross Domestic Product (GDP): The total output of goods and services produced in a given country during a given period.

Lagging Indicator: An economic factor that changes after the economy has already begun to follow a particular pattern or trend; used to confirm long-term trends.

Leading Indicator: An economic factor that changes before the economy starts to follow a particular pattern or trend; used to predict changes in the economy.

Median P/E: Numeric value separating the higher half of a sample, a population, or a probability distribution, from the lower half. This is the middle price-to-earnings ratio of a series.

Mortgage-Backed Securities (MBS): A type of asset-backed security that is secured by a mortgage or collection of mortgages. These securities must also be grouped in one of the top two ratings as determined by an accredited credit rating agency.

MSCI Emerging Market Index: An index developed by Morgan Stanley Capital International, Inc. (MSCI) as an equity benchmark for emerging market stock performance. It is a capitalization-weighted index that aims to capture 85% of publicly available total market capitalization. Component companies are adjusted for available float.



NDR recommends an underweight allocation to equities. We are overweight bonds and marketweight cash. When coronavirus worries start to subside and global economic activity starts returning to normal, we will likely see stock prices moving higher with rising bond yields. But there's not yet any evidence that such a recovery is at hand.

Equity Allocation

U.S. | We are marketweight the U.S. relative to other regions and neutral on an absolute basis. The rebound after the waterfall decline has been broader than the typical bear market rally. We favor large-caps over small-caps and favor Growth over Value.

INTERNATIONAL | We are marketweight all seven regions within our seven-way regional allocation framework.

Macro

ECONOMY | The global economy is in a sustained slowdown. Recession probability in the U.S. has increased, due to the spread of COVID-19. Other major risks include heightened trade war tensions, a sharp slowdown in China, and political dysfunction in the U.S. and Europe.

FIXED INCOME | We are at 110% of benchmark duration. We are neutral on the yield curve. We are marketweight Treasuries, IG corporates, agencies, agency MBS, CMBS, and ABS. We are underweight high yield.

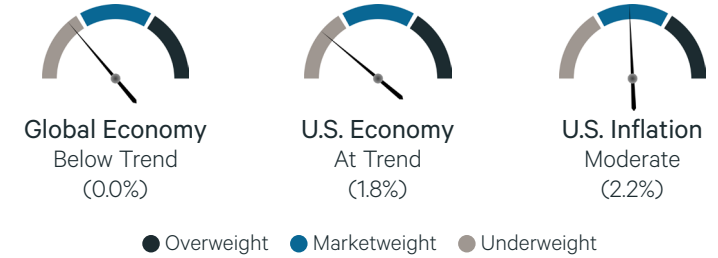
ENERGY | The combination of a demand shock (coronavirus) and an OPEC price war necessitate a bearish oil position.

GOLD | Long-term uptrend intact. We are bullish.

DOLLAR | Models are bullish. We see limited upside potential.

Economic Summary

May 11, 2020



GLOBAL ASSET ALLOCATION

- Bonds (50%)
- Cash (10%)
- Stocks (40%)

Benchmark: Stocks (55%), Bonds (35%), Cash (10%)

Equities — Regional Relative Allocation

- U.S. (55%) | Europe ex. U.K. (15%) | Emerging Markets (11%)
- Japan (7%) | U.K. (5%) | Canada (3%) | Pacific ex. Japan (4%)
-

Benchmark – U.S. (55.9%), Europe ex. U.K. (13.7%), Emerging Markets (11.8%), Japan (7%), U.K. (4.8%), Pacific ex. Japan (3.6%), Canada (3%)

Global Bond Allocation

- U.S. (55%) | U.K. (8%)
- Europe (27%)
- Japan (10%)

Benchmark: U.S. (51%), Europe (26%), Japan (18%), U.K. (5%)

U.S. ALLOCATION

- Bonds (50%) | Large-Cap | Growth
- Mid-Cap | Cash (10%)
- Stocks (40%) | Small-Cap | Value

Benchmark: Stocks (55%), Bonds (35%), Cash (10%)

Sectors

- Health Care | Consumer Staples
- Energy | Industrials | Financials

Those sectors with a benchmark weight > 9%, an overweight/underweight is more than +/- 300 basis points from the S&P 500 benchmark. For smaller sectors, the active bet is +/- 100 basis points.

U.S. Bonds — 110% of Benchmark Duration

NED DAVIS RESEARCH

advisorysales@ndr.com
www.ndr.com/wealth-managers
(617) 279-4860

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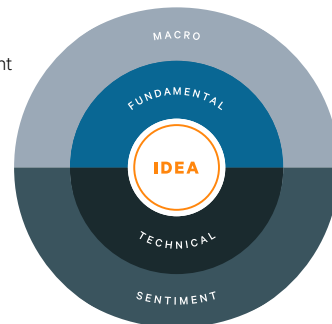
600 Bird Bay Drive West
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See the signals. Avoid mistakes.

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