



COVID-19 UPDATE: USA daily cases plunge to new low 16,853 (-2,029 1D chg) but on 35% fewer tests. As US bottoms, Latam sustaining status as "global epicenter" -- time to shrink "barbell" and favor "epicenter"

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The "half-full" perspective gained quite a bit of traction yesterday. The S&P 500 made a decisive close well above the key 62% retrace (2,934) and there was mostly good news on the economic front (consumer confidence, new home sales, Dallas Fed) and a new low in daily COVID-19 cases in the US as well (somewhat discounted by the 35% drop in tests).

To appreciate the improvements in overall visibility (and thus, more "half-full"), it is helpful to compare what we know today compared to a month ago:

A month ago (mid-April):

- NYC was burning (case growth)
- NY tristate is epicenter crisis + nursing homes
- Risk of re-infection (Korea >450 cases) aka "no immunity"
- Vaccine 12-18 months away
- Second wave risk high, do not re-open
- S&P 500 struggling at 50% retrace (2,794)

Today:

- NYC/ NY tristate cases down 90% from highs
- US no longer epicenter
- Korea CDC says ZERO cases of re-infection. Looks like recovered patients are immune.
- 10 vaccine candidates in clinical evaluations + 114 in pre-clinical evaluation
- States open >3 weeks are not seeing a rise in cases. Europe is not seeing second wave. No second wave in Asia
- S&P 500 blasted past 62% retrace (2,934) and looks to make "new highs" before year-end

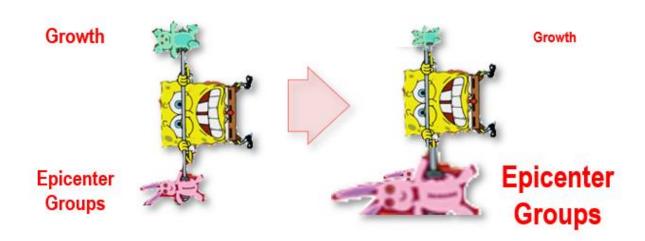
As you can see, on many fronts, visibility has improved considerably. And factoring in the record cash on sidelines (money market cash) plus extreme risk aversion by investors (BofA fund manager survey + AAII), and we have the juxtaposition of improving fundamentals with lots of dry powder on the sidelines. Hence, this is why the market risk/reward is positive and affirms our view that the market is now in the hands of buyers.

The decisive close above the 62% retracement also solidifies we are in a new bull



market. Since 1929, there is no instance of a 35% bear market, then a 62% retrace, that ever fell to new lows. In fact, the 50% retrace in those precedent instances acted as support. Thus, 2,794 is really the key level on the downside. And we also think it is time to reduce the "barbell" and take less exposure on secular growth and add this to "epicenter" exposure.

Shrink the Barbell...



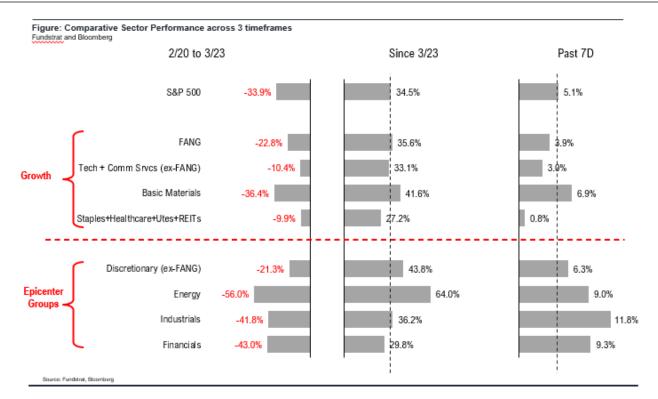
Epi-center groups (Discretionary, Financials, Energy and Industrials) have already asserted leadership. As of yesterday's, close, they are now outperforming the S&P 500 from the 3/23 lows AND in the past week. Yup. The epicenter is now the pivot driving overall market gains.

There is a lot of upside if this is the case.

- Epicenter are only 26% of the market cap (hence, why indices did not crash further)
- But they are 62% of the potential point gains if stocks retrace to Feb highs -- 234 points of the 400 total points.

Thus, with better incoming economic data, the risk/reward is much better for "epicenter" stocks.





But the world has not defeated COVID-19, by any stretch. The direction is good, but we are still in the midst of an economic depression and major pandemic. And the worst possible thing that could happen (not expecting) is a "super spreader" event, resulting from the easing of restrictions and especially over a holiday weekend. Thus, we affirm this reality -- the future is VERY UNCERTAIN.

In the commentary below, we highlight some Yale research shared to us by Dr Brennan Spiegel, the director of Cedars-Sinai Health Services Research. Their study, discussed below, shows that analyzing raw sewage for viral RNA has a pre-cog capability to predict cases and hospitalizations by 7D and 3D. If the study proves correct, this will be a major surveillance advantage and could allow states/governments to focus resources appropriately. And with less intrusion than massive testing and contact tracing alone.

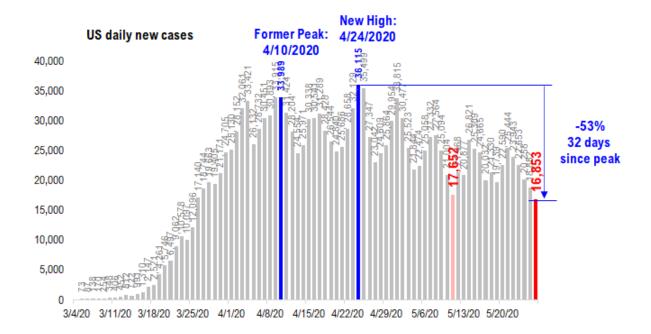
POINT #1: Total USA daily reported cases plunge to NEW LOW 16,853 (-11%) vs 18,882 1D ago, but total tests fall 35% to 322,817.

Total USA cases plunged to a new low of 16,853 below the previous low of 17,652 on 5/11/2020. And is -2,029 lower than a day ago. But there is some reason to discount some of this improvement.

- total tests were down -35% to 322,817 from 496,917 1D ago and thus, with 35% fewer tests, there are fewer cases
- it is early in the week, particularly after a holiday weekend, so we should expect larger testing



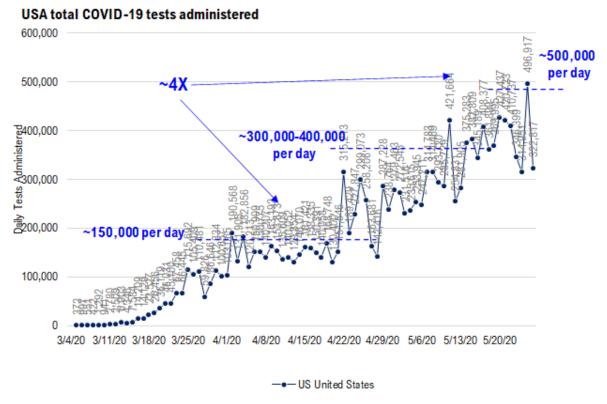
lags.



Source: COVID-19 Tracking Project

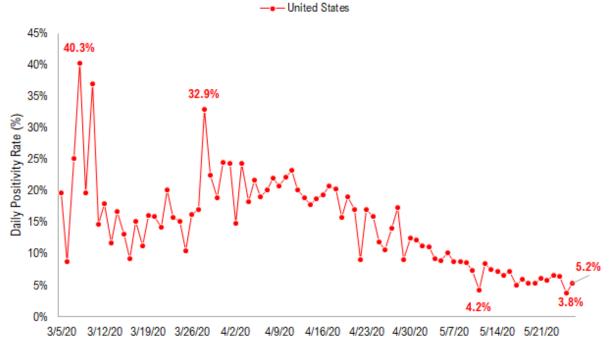
And as shown below, the total reported daily tests were a sizable 35% drop from 1D ago but actually about flat with 2D ago. The trend in tests has been rising so daily tests of 322,000 is taking figures to levels seen more than a week ago.





Source: COVID-19 Tracking Project

And the percent tests %, or positivity, was up to 5% from Monday's new low of 3.8%. But as far as the trend looks, positivity has been falling. So, this is a good thing.



Source: COVID-19 Tracking Project



The usual churn... 5 states report sizable increases and 6 states sizable declines...

The cadence of churn remains the same. Because of testing lags, some states report jumps, and others similarly declines.

5 states saw jumps, including some worrying about the rise in Alabama. We will monitor this, but it is still too early to judge any state as having a second wave:

California	2,175 vs	1,848 ((1D) +327	
Alabama	666 vs	403	+263 <-flagg	ed by media
Colorado	296 vs	95	+201	
South Carolina	238 vs	82	+156	
Virginia	1,615 vs	1,483	+132	
Total 5 states			+1,079	

Conversely, 6 states reported sizable declines (full state list is below):

North Carolina	176 vs	742 (1D) -566
Illinois	1,178 vs 1	1,713	-535
Louisiana	245 vs	640	-395
Florida	509 vs	879	-370
Maryland	535 vs	839	-304
New Jersey	672 vs	938	<u>-266</u>
Total 6 states			-2,436

It bears watching to monitor daily state data. This was a big holiday weekend and many crowds and movement. But it will be a week or so before we see a risk of accelerating reported cases (97% are symptomatic within 5 days). Of course, the biggest risk to the USA recovery path is a "super spreader" event leading to a renewed outbreak.



Daily Case Increases (by State) (05/26)

% total new cases (state cases/ total US cases)

% total US pop (state population/ total US population)

KY didn't report stats on Sunday and Monday..

KS only reports stats on M/W/F... Sorted

Last 3-day trend growth rates

		5/24/20	5/25/20	5/26/20	
	United States	20,258	18,882	16,853	
	States:				
1	California	2,079	1,848	2,175	
2	Virginia	495	1,483	1,615	
3	Illinois	2,508	1,713	1,178	
4	New York	1,589	1,249	1,072	
5	New Jersey	1,050	938	672	
6	Alabama	389	403	666	<higher< td=""></higher<>
7	Minnesota	728	742	645	
8	Texas	839	623	589	
9	Maryland	818	839	535	
10	Ohio	503	566	529	
11	Florida	740	879	509	
12	Pennsylvania	730	473	451	
13	Connecticut	446	405	430	
14	Massachusetts	1,013	596	422	
15	Georgia	706	506	386	
16	Kentucky	0	0	380	
17	Indiana	475	339	363	
18	Tennessee	356	462	358	
19	Colorado	210	95	296	<higher< td=""></higher<>
20	Wisconsin	400	307	279	
21	Mississippi	247	206	273	
22	Nebraska	145	221	264	
23	Louisiana	129	640	245	
24	South Carolina	201	82	238	
25	Washington	320	243	237	
26	Michigan	314	202	223	
27	Arizona	300	222	222	
28	North Carolina	497	742	176	
29	Arkansas	147	107	151	
30	lowa	353	326	126	
31	Missouri	236	179	124	
32	Nevada	74	109	118	
33	District of Columbia	144	115	109	
34	New Mexico	148	83	104	
35	Delaware	119	156	101	
36	Utah	132	129	99	
37	West Virginia	42	15	80	
38	Rhode Island	113	72	73	
39	South Dakota	95	23	67	
40	Puerto Rico	89	71	64	
41	Oklahoma	77	53	47	
42	North Dakota	54	40	43	
43	Maine	42	19	35	
44	New Hampshire	60	48	34	
45	Oregon	39	22	18	
46	Idaho	39	19	15	
47	Wyoming	25	5	7	
48	Vermont	20	6	5	
49	Guam	1	0	3	
50	Alaska	0	1	2	
51	U.S. Virgin Islands	0	0	0	
52	U.S. Virgin islands Montana	0	0	0	
53	Northern Mariana Islands	0	0	0	
53 54	Kansas	0	260	0	
55	Kansas Hawaii	0	260	0	
56	American Samoa	0	0	0	
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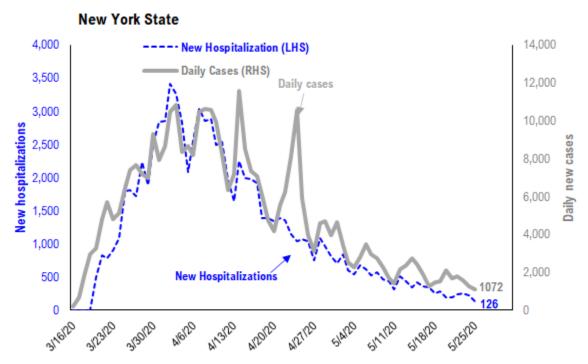
Source: COVID-19 Tracking Project

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As for NY state, the original epicenter, the data remains encouraging. Daily cases are trending lower, as is new hospitalizations.

- daily reported deaths fell to 73, the lowest since 3/24/2020 and the second consecutive day below 100.



Source: NY state

The first NYC area region is set to open, Long Island...

And Long Island looks like it is set to open on Wednesday. A major milestone as it is the first region in the NYC area to meet the 7 required criteria to open. It is also only a matter of time before NYC itself is ready to open. Last week, NYC Mayor Bill DeBlasio said it would be sometime between June 1 and June 15.

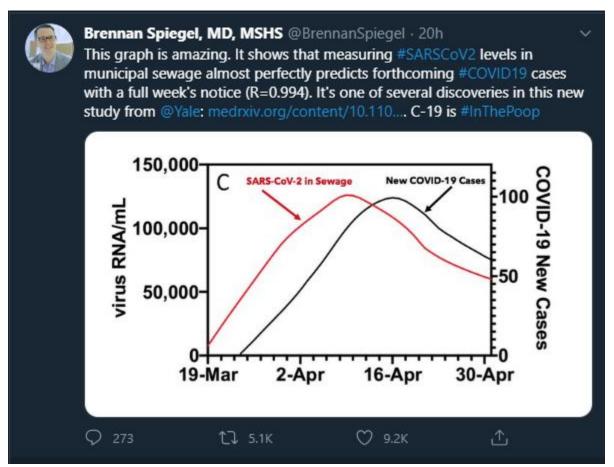


Source: NY State



POINT #2: Yale Study points to new way to detect COVID-19 cases with a 7-day lead time, testing "raw sewage" for viral RNA. The sentinel approach could act as a "pre-cog" monitoring for potential new outbreaks...

A recent study was shared with me from Dr Brennan Spiegel, the director of Cedars-Sinai Health Services Research (https://bio.cedars-sinai.org/spiegelbm/index.html). He was flagging the Yale Study (published on MedRxiv on 5/22) and highlighted how analyzing raw sewage could provide as much as a 7-day lead time to case detection. Dr Spiegel's tweet is below and it has been shared 9,200 times on twitter.



https://twitter.com/BrennanSpiegel/status/1265119535901732865?s=20

The study's conclusion is that by monitoring raw sewage, they were able to correlate subsequent case recognition with a 99%-r-squared and with a 7-day lead time. The study involved taking raw sewage samples (see summary below). And the authors suggest this process could act as a sentinel to detect when potential areas could be seeing a renewed outbreak.

- this is particularly relevant now, as healthcare experts worry about a second wave in the Fall (as flu season arrives) and this detection method might prove to be quite useful.











Comment on this paper

SARS-CoV-2 RNA concentrations in primary municipal sewage sludge as a leading indicator of COVID-19 outbreak dynamics

Jordan Peccia, Alessandro Zulli, Doug E. Brackney, Nathan D. Grubaugh, Edward H. Kaplan, Arnau Casanovas-Massana, Albert I. Ko, Amyn A. Malik, Dennis Wang, Mike Wang, Daniel M. Weinberger, Saad B. Omer

doi: https://doi.org/10.1101/2020.05.19.20105999

This article is a preprint and has not been certified by peer review [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

Abstract Info/History Metrics Preview PDF

Abstract

We report a time course of SARS-CoV-2 RNA concentrations in primary sewage sludge during the Spring COVID-19 outbreak in a northeastern U.S. metropolitan area. SARS-CoV-2 RNA was detected in all environmental samples and, when adjusted for the time lag, the virus RNA concentrations were highly correlated with the COVID-19 epidemiological curve (R²=0.99) and local hospital admissions (R²=0.99). SARS-CoV-2 RNA concentrations were a seven-day leading indicator ahead of compiled COVID-19 testing data and led local hospital admissions data by three days. Decisions to implement or relax public health measures and restrictions require timely information on outbreak dynamics in a community.

Competing Interest Statement

The authors have declared no competing interest.

https://www.medrxiv.org/content/10.1101/2020.05.19.20105999v1

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Sewage is the new "pre-cog" for COVID-19...

In fact, this early warning analytic reminds us of the movie "Minority Report" with Tom Cruise. If you have not seen the movie, it is quite a good work of science fiction. In the future, crime is eliminated, because "pre-cogs" (entities with pre-cognition capabilities) can predict ahead of time when someone commits a crime. So, in the current context, the Yale researchers are suggesting that this method could lead to "pre-cog" of COVID-19.

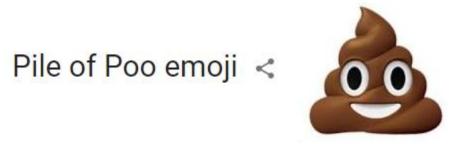


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Except, instead of keeping clairvoyant individuals in flotation tanks, the 2020 "pre-cogs" is raw sewage. We chose a photo of raw sewage, but we realized, many of you might be thinking of an emoji. So we added that below as well.





Source: Fundstrat

and https://www.google.com/search?q=poo+emoji&oq=poo+emoji&aqs=chrome..69i57j0l7.310
9j0j4&sourceid=chrome&ie=UTF-8

As for the specifics of this study, the authors took daily sludge samples in New Haven, for a roughly 6 week period (3/19/2020 to 5/1/2020), collected from a wastewater treatment facility. This covered about 200,000 residents. And they analyzed these samples for viral RNA concentrations.

Results

During the COVID-19 outbreak from March 19, 2020 to May 1, 2020 in the New Haven, Connecticut (CT), USA metropolitan area (Figure 1A), daily primary sludge samples were collected from the wastewater treatment facility which serves approximately 200,000 residents.

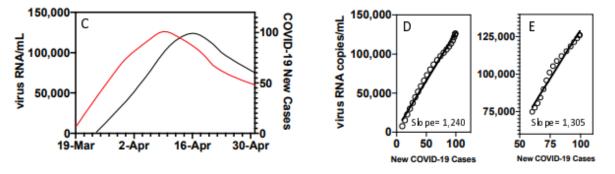
https://www.medrxiv.org/content/10.1101/2020.05.19.20105999v1.full.pdf



The interesting takeaway is that their data led cases by 7D and hospitalizations by 3D. So, it is a "pre-cog"

This method has a solid lead time to detect new cases (7D) and hospital admissions. It is very promising and hopefully will be adopted into the framework for surveillance around COVID-19 across the US and the rest of the world.

SARS-CoV-2 RNA concentrations in sewage sludge were a leading indicator of community outbreak dynamics over hospitalization and compiled COVID-19 testing data. SARS-CoV-2 RNA concentrations led hospital admissions by 3 days and COVID-19 cases by 7 days. Hospital



https://www.medrxiv.org/content/10.1101/2020.05.19.20105999v1.full.pdf

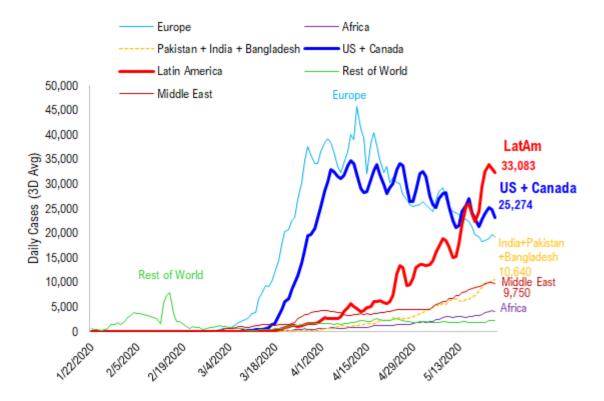
The Yale Study is not the first to posit this relationship. Biobot (https://www.biobot.io/), a Boston-based company, is working with 330 facilities in 40 states and partnered with MIT, Harvard and other Universities. And their work already suggested that the prevalence of COVID-19 is much greater than official testing (their study is on MedRxiv -- https://www.medrxiv.org/content/10.1101/2020.04.05.20051540v1).

POINT #3: Reiterating inflection: Latin America is new "global epicenter" for COVID-19, fading USA

Sometime in the past week, Latin America became the epicenter of the COVID-19 crisis, surpassing the US (+Canada) for the highest number of daily reported cases. The latest figure shows Latin America reported ~33,000 daily cases compared to ~25,000 for the US+Canada.

And as one can see on the chart below, once that crossover took place last week, we see a sustained surge in Latin America. The bulk of the 33,000 cases per day is Brazil (~18k), followed by Chile, Peru and Mexico. These 4 nations account for ~85%-90% of the reported cases. So when looking at the spread of COVID-19 across Latin America, it makes sense to focus on those 4 nations.





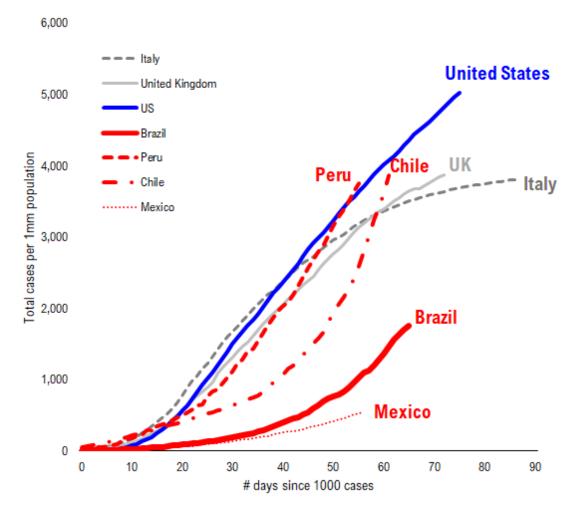
Source: Johns Hopkins

Peru and Chile seeing case prevalence that is set to exceed the USA and UK...

Of the 4 countries in Latam, Peru and Chile are seeing case prevalence exceed that of the US and UK. The chart below rebases each nation with day 0 = day the country had 1,000 cases. The value shown is total cases per 1mm residents (y-axis).

- Both Peru and Chile have seen much steeper curves recently and Peru is already overtaking the US (at the same point in time).
- In value terms, Peru has 3,760 cases per 1mm residents and Chile has 3,871 cases per 1mm residents. US is currently 5,022.





Source: Johns Hopkins

As to why Chile and Peru are doing so much worse, we have not looked into this closely yet. But we will have some commentary in coming days. Below, we have also highlighted the official case fatality rate (deaths/ case) and the figures are quite low in Latam.

- Brazil has 6.3% (highish)
- Peru and Chile are 2.9% and 1.0%, respectively.



				#Cases			New Cases New Tests		New Tests	#Death per		
			Total	per 1mm	New	New Cases	per 1mm D	per 1 mm Daily News per 1 mm			1mm	Mortality
	Country	Population	Cases	Residents	Cases	(3D Avg)	(3D Avg)	Tests	Residents	#De ath	Residents	Rate
1	Brazil	212,559,417	374,898	1,764	11,687	14,669	69	-	-	23,473	110.4	6.3%
2	Peru	32,971,854	123,979	3,760	4,020	4,094	124	800	24	3,629	110.1	2.9%
3	Chile	19,116,201	73,997	3,871	4,895	4,047	212	16,283	852	761	39.8	1.0%
4	Mexico	128,932,753	71,105	551	2,485	2,859	22	-	-	7,633	59.2	10.7%
5	Colombia	50,882,891	21,981	432	806	950	19	_	-	750	14.7	3.4%
6	Argentina	45,195,774	12,628	279	552	660	15	-	-	467	10.3	3.7%
7	Ecuador	17,643,054	37,355	2,117	599	509	29	-	-	3,203	181.5	8.6%
8	Dominican Republic	10,847,910	15,073	1,389	272	361	33	-	-	460	42.4	3.1%
9	Bolivia	11,673,021	6,660	571	397	360	31	-	-	261	22.4	3.9%
10	Guatemala	17,915,568	3,760	210	336	339	19	-	-	59	3.3	1.6%
11	Panama	4,314,767	11,183	2,592	257	305	71	-	-	310	71.8	2.8%
12	Honduras	9,904,607	4,189	423	239	237	24	-	-	182	18.4	4.3%
13	El Salvador	6,486,205	1,983	306	68	86	13	-	-	35	5.4	1.8%
14	Venezuela	28,435,940	1,177	41	56	78	3	-	-	10	0.4	0.8%
15	Haiti	11,402,528	958	84	93	49	4	-	-	27	2.4	2.8%
16	Costa Rica	5,094,118	951	187	21	13	3	-	-	10	2.0	1.1%
17	Uruguay	3,473,730	787	227	18	11	3	968	279	22	6.3	2.8%
18	Cuba	11,326,616	1,947	172	6	10	1	-	-	82	7.2	4.2%
19	Paraguay	7,132,538	865	121	3	9	1	-	-	11	1.5	1.3%
20	Jamaica	2,961,167	556	188	4	4	1	-	-	9	3.0	1.6%
21	Guyana	786,552	137	174	2	3	4	-	-	11	14.0	8.0%
22	Bahamas	393,244	100	254	0	1	3	-	-	11	28.0	11.0%
23	Barbados	287,375	92	320	0	1	2	-	-	7	24.4	7.6%
24	Grenada	112,523	23	204	1	0	3	-	-	0	0.0	0.0%
25	Saint Kitts and Nevis	53,199	15	282	0	0	0	-	-	0	0.0	0.0%
26	Belize	397,628	18	45	0	0	0	-	-	2	5.0	11.1%
27	Dominica	71,986	16	222	0	0	0	-	-	0	0.0	0.0%
28	Trinidad and Tobago	1,399,488	116	83	0	0	0	-	-	8	5.7	6.9%
29	Suriname	586,632	11	19	0	0	0	-	-	1	1.7	9.1%
30	Saint Vincent and the (110,940	18	162	0	0	0	-	-	0	0.0	0.0%
31	Saint Lucia	183,627	18	98	0	0	0	-	-	0	0.0	0.0%
32	Nicaragua	6,624,554	279	42	0	0	0	-	-	17	2.6	6.1%
33	Antigua and Barbuda	97,929	25	255	0	0	0	-	-	3	30.6	12.0%
	Average	19,678,071	23,239	650	813	899	21			1,256	25.0	4.3%
	Median	6,486,205	951	227	18	11	3			17	6.3	3.1%

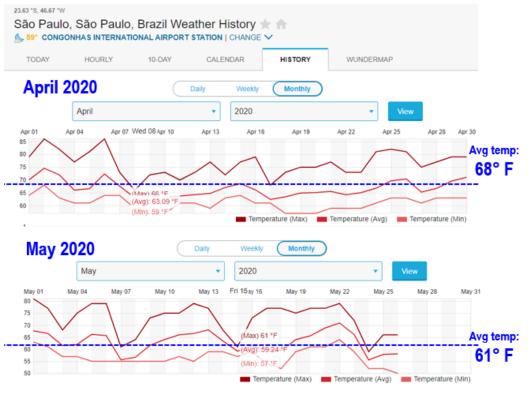
Source: Johns Hopkins

Weather has cooled in Brazil, as their season changes to Winter...

South of the Equator, seasons are essentially reversed. The Summer in Latin America is during the Oct to Feb timeframe, while Winter is May to July (roughly). For those living in the North, this is exactly the opposite.

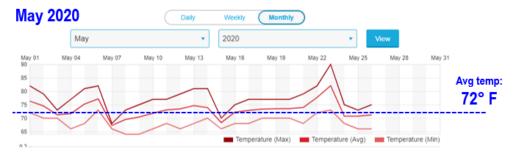
We have plotted the April and May 2020 daily weather for two cities in Brazil, Sao Paolo and Rio de Janeiro. And the daily average temperatures have fallen, in the past month, about 5-7 degrees (Fahrenheit) in both cities. So, May was considerably colder than April. And as Winter arrives, so does flu season for that region.





Source: https://www.wunderground.com/history/monthly/br/s%C3%A3o-paulo/SBSP/date/2020-4





 $\textbf{Source:} \ \underline{\text{https://www.wunderground.com/history/monthly/br/rio-de-janeiro/SBRJ/date/2020-4}}$

Daily Cases per 1mm residents are still below the US level, but as Latin America is

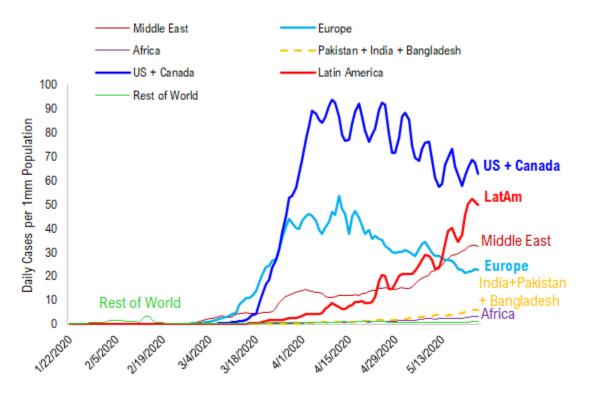
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rapidly rising...

Daily cases per 1mm residents (this adjustment makes it easier to compare geographies and regions) shows that the US + Canada are still reporting more daily cases per 1mm residents than Latam. But the two regions are rapidly converging, as the US figures fall and Latam is soaring.

Given Latam is entering the seasonally cold period, the vulnerability of the region to flu viruses and COVID-19 is expected to rise. Hence, it is probably just a matter of time before Latam sees daily cases per 1mm residents surpass that of the US.



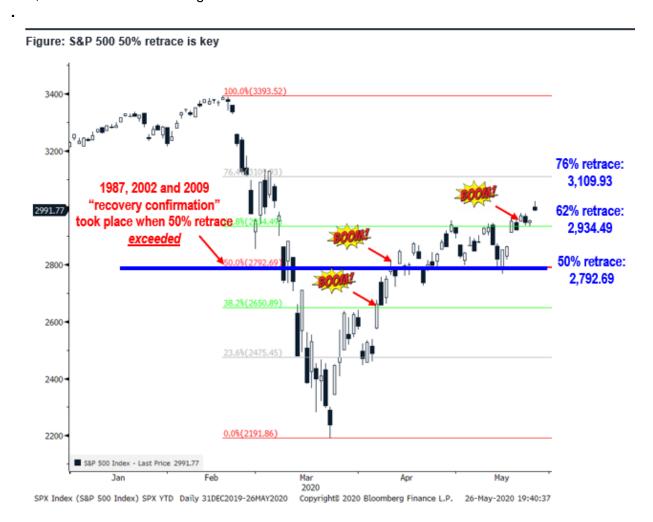
Source: Johns Hopkins data

STRATEGY: Time to shrink the "barbell" as the S&P 500 has decisively retraced 62% of its losses (>2,934), solidifying a new bull market underway

The S&P 500 yesterday blasted through and decisively closed above a key level --> 2,934. This



is above the 62% retracement (see the lines below) and the next key level is 3,110. And after that, the next level is "new highs"



A checklist of items is supportive of stocks to continue to rise:

- High-yield market is functioning with both strong issuance and new inflows CHECK
- Monetary policy is favorable to risky assets CHECK
- Fiscal policy favorable to risky assets CHECK
- Economic data has troughed CHECK
- Tons of cash on sidelines CHECK
- Investor uncertain/bearish CHECK

As one can see, there are a lot of reasons to expect stocks to continue to rise.

Since 1929, not a single instance of a >35% bear market, with a 62% retrace led to new lows... and now the 50% retracement became support

Our data scientist, tireless Ken, plotted the path of the S&P 500 in the 6 precedent instances of

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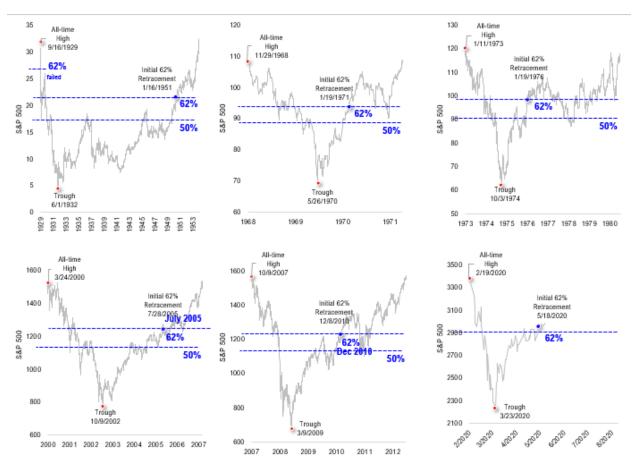


- a >35% market decline from "all-time highs" (which is why it is 6 instances, not 10). And he also labeled the 62% retracement on these charts.
- Notably, once the equity market recovers 62% of the losses, it is already deep into a bull market.
- This did not happen until July 2005 and December 2010, for instance. In both cases, deep into a new bull.

50% retracement is new support, or 2,794...

Interestingly, there was not an instance of equities subsequently falling below a 50% retracement. As evidenced below, this 50% retracement acted as support for equities.

- In the current context, this suggests the downside is limited roughly to 2,794. IF THIS IS A NEW BULL. (which is our view)



Source: Fundstrat

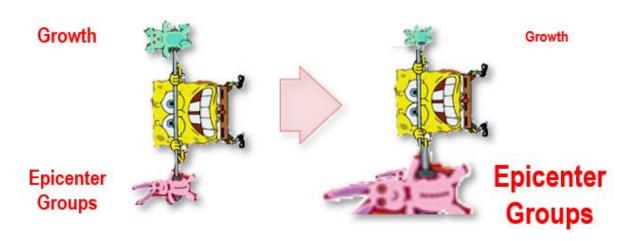
Time to "shrink the barbell" and go bigger on "epicenter" stocks...

As we move further away from the nadir of the crisis, we also think it is appropriate to re-think the "barbell" strategy (consensus) of being long both Growth and "epicenter" stocks. The



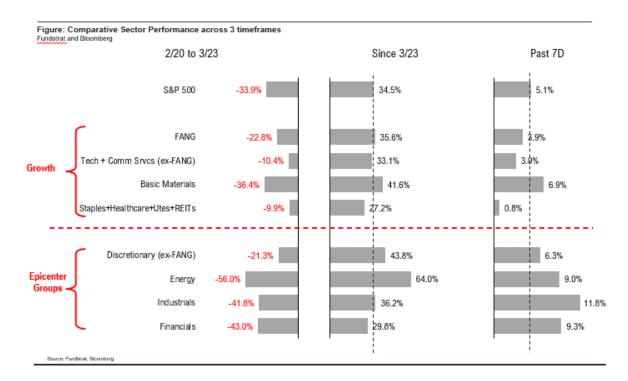
reason for the shift is there is improved visibility of the economic recovery, and hence, better risk/reward in the beaten up "epicenter" stocks.

Shrink the Barbell...



Already, the "epicenter" is outperforming the S&P 500 both since 3/23 and also in the past week...

The epicenter stocks (Discretionary, Financials, and also Energy and Industrials) have outperformed since 3/23 (bottom) and even in the past week (see below). Thus, the FANG + Growth, could act as "drags" at the economic visibility improves.



And as shown below, the incoming economic data this week has already seen some "beats"

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with Consumer Confidence above a month ago (revised) and expectations for new home sales was a big beat, as well as Dallas Fed PMI. Chicago missed though.



Source: Bloomberg

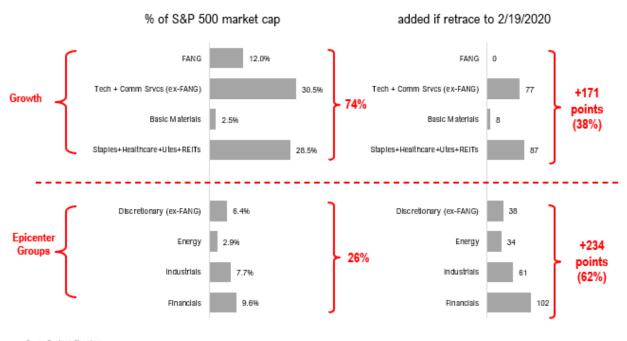
Epicenter is only 26% of market cap but is 62% of the points upside... its small weight is the reason indices did not crash further...

We are posting again this chart below. It shows that the epicenter groups are only 26% of the overall market cap. But if stocks retrace to their Feb 2020 highs, this would lead to 234 S&P 500 points coming from the epicenter vs 171 from the "Growth"

- the epicenter is only 26% of market cap, but is 62% of the potential point gains.
- hence, the better risk/reward is with "epicenter" stocks currently.



Figure: Market cap vs potential points contribution, if groups retrace 100% of losses since Feb 2020 Bloomberg



Source: Fundstree, Bloomberg

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