

COVID-19 Statistical Review

Our Daily Update on the Data and the Trends

Today's Analysis: Data from August 16, 2020

Cases were well down WOW while deaths were basically unchanged. With cases down significantly over the last two weeks, we should be getting the lagged reduction in deaths this week. Group Two, the collection of states that were of such concern a month ago, is now down 58% from its peak day of new cases.

A comment about death measurements: The U.S. averages about 255,000 deaths per month from all causes. Since March that number has risen by 10,000. Over five months, then, deaths are up by 50,000 people, one assumes most from COVID. During that time, the official COVID death count is about 165,000. These numbers indicate that something like two-thirds of the reported COVID deaths either would have happened anyway or were not from COVID problems. Put differently, the 5.5 million COVID cases people are so worried about have produced 50,000 deaths, a mortality rate of .9%. Since we also know that the mortality rate had fallen, the 'corrected' fatality rate is now about .6%. Finally, we also suspect that the case reporting substantially underreports cases. That means the true fatality rate for this thing is somewhere around .1%. .1% translates to one death per thousand cases or perhaps one death per ten thousand Americans.



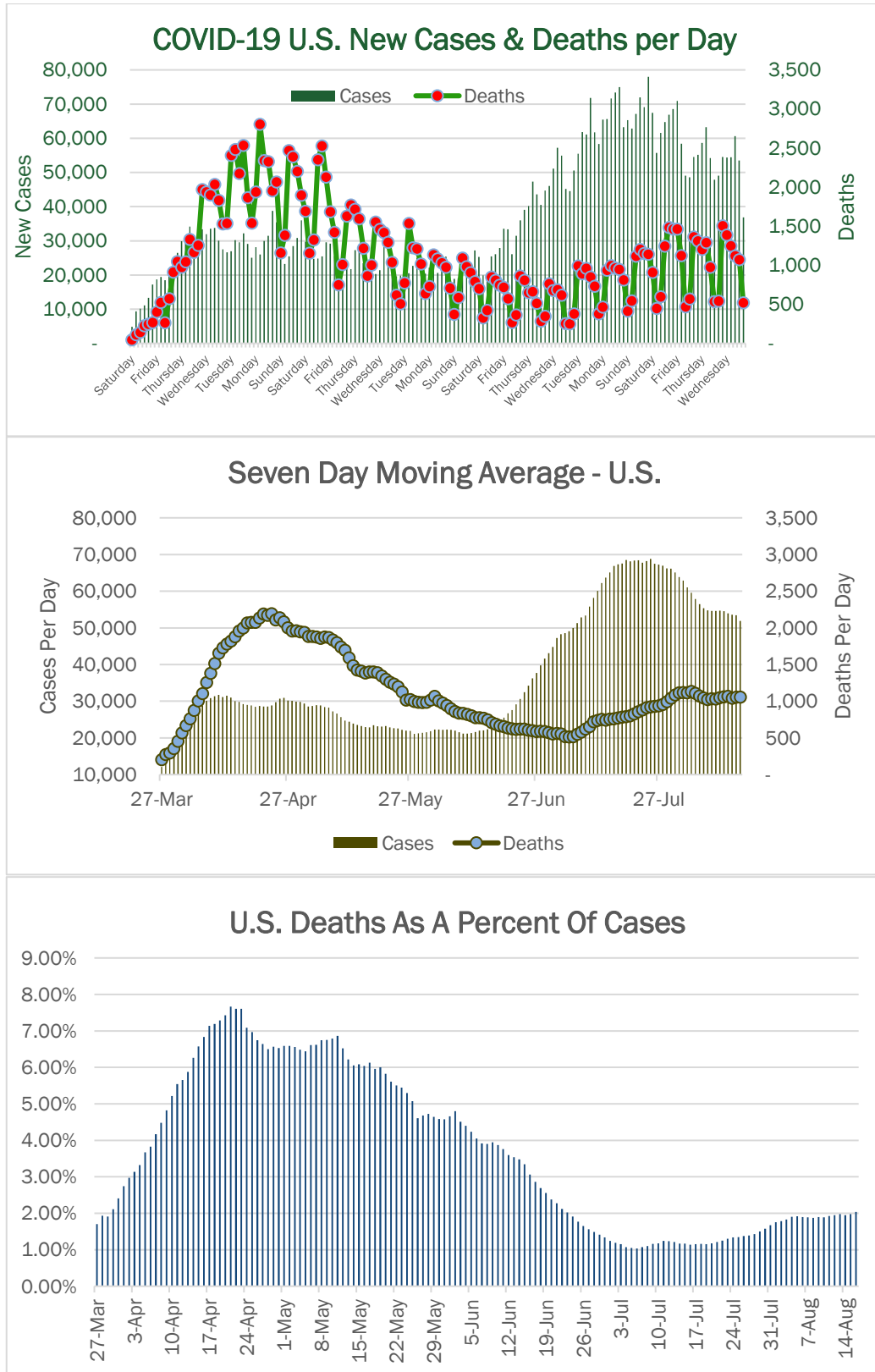
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Industrials Research Analysis

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Exhibit 1



Source: Worldometer.com, Transport Futures, & Broughton Capital

Exhibit 2

Country	Status	Cases	Deaths	Death Rate	Pop per case	Pop per death	Daly Max Cases	New Cases Latest Day	Daily Max Deaths	New Deaths Latest Day	Change In New Case Count Latest Day	Change In New Case Count From Week Before	Change in New Death Count Latest Day	Change in New Death Count From Week Ago
China	Recovery	84,827	4,634	5.5%	16,949	333,333	6,000	19	150	-	(3)	(4)	0	0
S. Korea	Recovery	15,318	305	2.0%	3,344	166,667	851	279	9	-	113	243	0	-1
Italy	Recovery	253,915	35,396	13.9%	238	1,706	6,557	479	919	4	(150)	16	0	2
Iran	Falling	343,203	19,639	5.7%	245	4,292	3,186	2,133	235	147	(112)	113	-14	-16
Germany	Recovery	224,997	9,290	4.1%	373	9,009	6,933	519	333	-	(185)	134	-1	0
France	Recovery?	218,536	30,410	13.9%	299	2,146	9,678	3,015	1,809	1	(295)	3,015	-3	1
UK	Recovery	318,484	41,366	13.0%	213	1,642	8,681	1,040	980	5	28	(22)	2	-3
Norway	Recovery	10,005	261	2.6%	542	20,833	399	40	16	-	(17)	1	0	0
Netherlands	Recovery?	63,002	6,172	9.8%	272	2,778	1,316	507	234	3	(148)	(70)	1	3
Sweden	Recovery?	84,294	5,783	6.9%	120	1,748	2,214	-	185	-	-	-	0	0
USA	Falling	5,566,632	173,128	3.1%	60	1,912	61,690	36,843	2,804	522	(16,676)	(11,006)	-549	-12
Spain	Recovery	358,843	28,617	8.0%	130	1,634	8,271	-	961	-	-	-	0	0
Switzerland	Recovery	38,124	1,991	5.2%	227	4,348	1,321	200	75	-	(53)	48	0	0
Belgium	Recovery?	77,869	9,935	12.8%	149	1,167	2,454	756	496	11	(166)	139	3	7
Denmark	Recovery?	15,617	621	4.0%	371	9,346	390	134	15	-	30	134	0	0
Austria	Recovery	23,370	728	3.1%	386	12,346	1,321	191	30	-	(112)	77	-3	0
Canada	Recovery	122,087	9,026	7.4%	310	4,184	1,920	198	207	2	(39)	(32)	-2	-3
Ireland	Recovery	27,257	1,774	6.5%	-	2,786	1,515	66	57	-	(130)	(2)	0	0
Portugal	Recovery	54,102	1,778	3.3%	188	5,747	1,516	121	37	3	(77)	(10)	0	-3
Australia	Recovery	23,287	396	1.7%	1,096	62,500	534	252	22	17	(40)	(134)	13	0
Brazil	Falling	3,340,197	107,879	3.2%	64	1,972	70,869	22,365	1,554	582	(16,572)	152	-144	-11
Malaysia	Recovery	9,200	125	1.4%	3,521	250,000	235	25	8	-	(1)	12	0	0
Mexico	Falling	517,714	56,543	10.9%	249	2,283	8,458	6,345	60	635	727	(150)	20	-60
Singapore	Recovery	55,747	27	0.0%	105	200,000	1,426	86	2	-	5	(89)	0	0
North America	Falling	6,206,433	238,697	3.8%	80	2,087	86,966	43,386	2,974	1,159	(15,988)	(11,188)	(531)	(75)
Western Europe	Recovery	1,768,415	174,122	9.8%	227	2,310	35,453	7,068	4,442	27	(1,275)	3,460	(1)	7
Other	Falling	13,843,268	359,940	2.6%	497	19,097	203,346	162,175	3,155	3,347	(17,520)	772	(75)	(197)
World	Falling	21,818,116	772,759	3.5%	357	10,091	288,363	212,629	7,960	4,533	(34,783)	(6,956)	(607)	(265)

Source: Worldometer.com, Transport Futures, & Broughton Capital

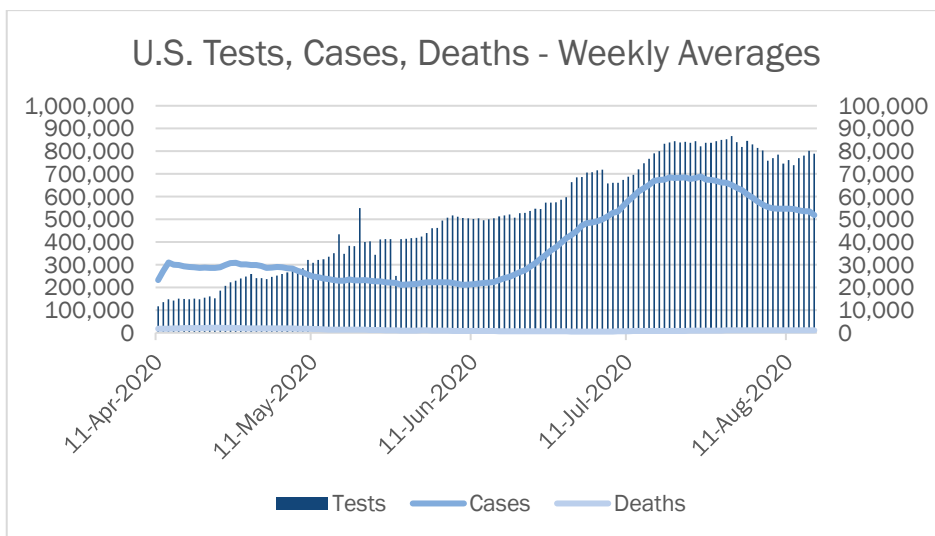
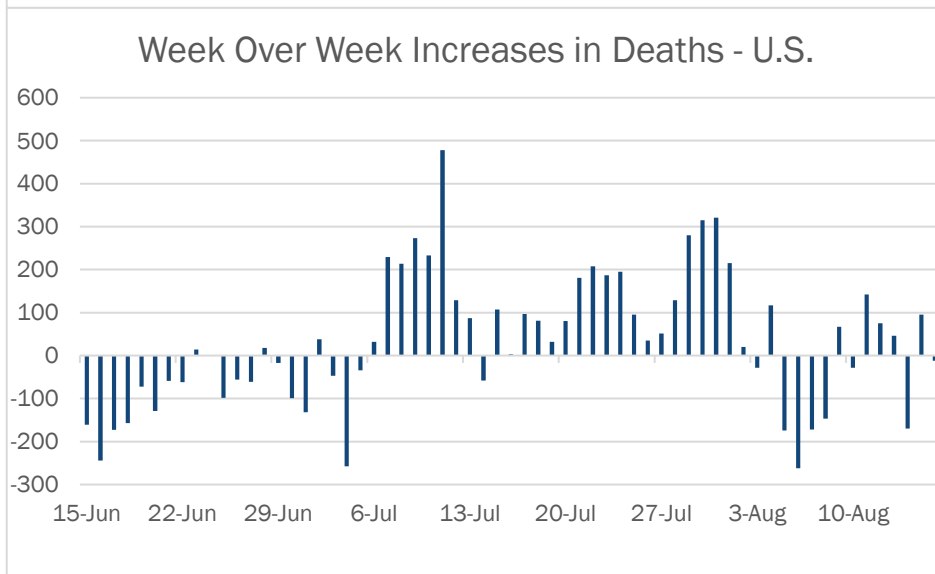
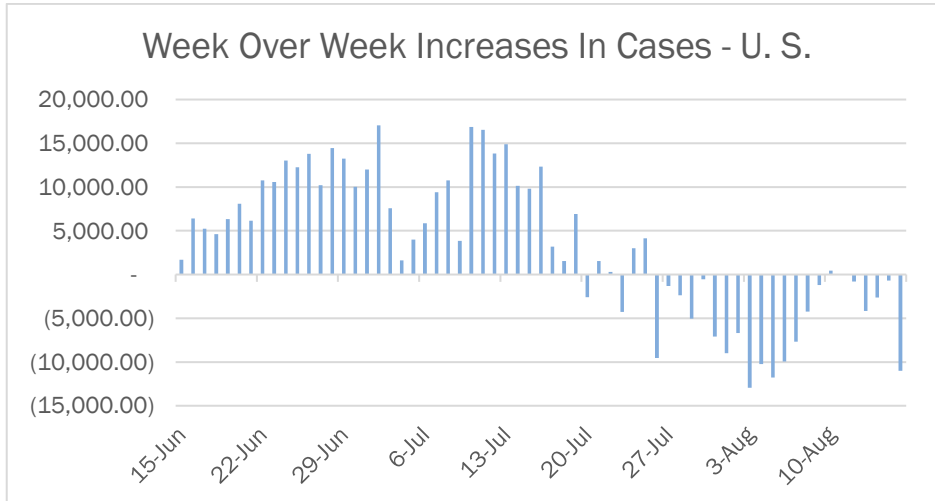
Exhibit 3A

	Hot Spot Group	Total Cases	Max New Cases/Day Since 21 April	New Cases Latest Day	Change in New Cases/Day	Change In Cases/Day Since Week Ago	Change In Cases/Day Since Max	Total Deaths	Max New Deaths/Day Since 21 April	New Deaths Latest Day	Change In New Deaths/Day	Change In Deaths/Day Since Week Ago	Change In Deaths/Day Since Max	Cases/M	Deaths/ Million	Population
USA Total	NA	5,566,632	78,009	36,843	(16,676)	(11,006)	-53%	173,128	2,804	522	(549)	(13)	-81%	16,817	523	331,004,361
Hot-Spot Group 1	1	1,240,519	21,922	3,820	470	(1,699)	-83%	80,102	1,830	107	50	13	-94%	18,853	1,060	67,002,431
Hot-Spot Group 2	2	2,747,450	50,036	20,938	(13,235)	(8,155)	-58%	48,894	1,063	315	(448)	(20)	-70%	20,698	374	131,632,800
Hot-Spot Group 3	3	935,704	13,735	6,152	(2,338)	(757)	-55%	29,156	477	67	(98)	2	-86%	14,047	380	67,059,786
Rest of States	4	642,959	9,357	5,933	(1,573)	(395)	-37%	14,976	272	33	(53)	(8)	-88%	9,149	185	71,140,342
New York	1	455,598	10,868	659	(132)	55	-94%	32,910	764	9	3	-	-99%	23,420	1,692	19,453,968
New Jersey	1	193,220	4,160	407	(9)	215	-90%	15,990	458	2	(13)	(1)	-100%	21,754	1,800	8,882,395
Massachusetts	1	123,593	4,946	394	(77)	65	-92%	8,838	252	12	(4)	(2)	-95%	17,932	1,282	6,892,405
California	2	628,145	12,137	6,520	(2,105)	(316)	-46%	11,244	197	19	(58)	(48)	-90%	15,897	285	39,511,060
Pennsylvania	1	129,075	3,096	544	(213)	(102)	-82%	7,554	294	7	(5)	5	-98%	10,082	590	12,801,381
Illinois	3	207,413	4,014	1,562	(266)	180	-61%	7,955	191	18	13	13	-91%	16,368	628	12,671,873
Michigan	3	102,259	1,350	477	(581)	(58)	-65%	6,592	232	6	(14)	6	-97%	10,239	660	9,987,209
Florida	2	573,416	15,300	3,779	(2,573)	(2,450)	-75%	9,458	276	107	(98)	30	-61%	26,698	440	21,477,832
Louisiana	1	137,918	3,840	1,181	1,181	(1,472)	-69%	4,507	126	74	74	18	-41%	29,667	969	4,648,783
Texas	2	559,810	12,235	2,841	(5,217)	(2,962)	-77%	10,003	322	107	(53)	4	-67%	19,307	345	28,995,746
Connecticut	1	50,897	2,109	-	-	-	-100%	4,453	125	-	-	-	-100%	14,276	1,249	3,565,242
Georgia	2	237,030	4,813	1,862	(1,411)	(1,307)	-61%	4,702	122	33	(63)	20	-73%	22,325	443	10,617,138
Maryland	1	100,212	1,730	519	(299)	(403)	-70%	3,639	77	3	(2)	(5)	-96%	16,576	602	6,045,713
Ohio	3	108,318	1,720	616	(497)	(253)	-64%	3,831	138	3	(35)	2	-98%	9,267	328	11,689,615
Washington	3	68,999	1,209	522	63	49	-57%	1,781	32	15	6	15	-53%	9,061	234	7,615,063
Indiana	4	80,415	1,239	739	(305)	(302)	-40%	3,133	119	5	(10)	-	-96%	11,945	465	6,732,546
Colorado	4	53,176	994	338	38	2	-66%	1,896	122	-	(8)	(1)	-100%	9,234	329	5,758,981
Virginia	4	106,687	2,015	937	25	40	-53%	2,381	43	-	(11)	(4)	-100%	12,499	279	8,535,562
Tennessee	2	133,708	3,140	1,961	672	(166)	-38%	1,366	42	21	2	13	-50%	19,579	200	6,829,015
North Carolina	2	145,569	2,588	927	(1,545)	(239)	-64%	2,376	63	-	(55)	(9)	-100%	13,879	227	10,487,897
Missouri	3	67,475	1,712	1,078	758	410	-37%	1,452	31	9	9	(1)	-71%	10,994	237	6,137,553
Rhode Island	1	20,335	443	-	-	-	-100%	1,021	27	-	-	-	-100%	19,196	964	1,059,367
Alabama	2	108,433	2,143	853	(418)	(308)	-60%	1,898	47	2	-	(11)	-96%	22,115	387	4,903,192
Arizona	2	193,537	4,877	883	(50)	67	-82%	4,506	172	14	(55)	1	-92%	26,589	619	7,278,621
Mississippi	3	72,136	1,775	381	(444)	(146)	-79%	2,084	52	4	(33)	(18)	-92%	24,238	700	2,976,189

Exhibit 3B.

	Hot Spot Group	Total Cases	Max New Cases/Day Since 21 April	New Cases Latest Day	Change in New Cases/Day	Change In Cases/Day Since Week Ago	Change In Cases/Day Since Max	Total Deaths	Max New Deaths/Day Since 21 April	New Deaths Latest Day	Change In New Deaths/Day	Change In Deaths/Day Since Week Ago	Change In Deaths/Day Since Max	Cases/M	Deaths/ Million	Population
Wisconsin	3	65,741	1,165	685	(144)	64	-41%	1,039	20	1	(12)	(1)	-95%	11,291	178	5,822,701
South Carolina	2	106,497	2,374	615	(426)	(360)	-74%	2,269	80	9	(47)	(15)	-89%	20,684	441	5,148,707
Nevada	2	61,305	1,447	697	(162)	(114)	-52%	1,072	34	3	(21)	(5)	-91%	19,903	348	3,080,195
Iowa	4	52,447	894	621	(262)	68	-31%	975	21	2	(4)	(3)	-90%	16,623	309	3,155,131
Utah	3	46,652	954	331	(14)	(45)	-65%	363	10	0	(3)	(1)	-100%	14,552	113	3,205,934
Kentucky	4	39,315	1,152	385	(247)	(19)	-67%	813	17	3	(3)	2	-82%	8,800	182	4,467,477
District Of Columbia	1	13,220	335	61	20	(39)	-82%	597	19	0	(3)	(1)	-100%	18,732	846	705,739
Delaware	1	16,451	458	55	(1)	(18)	-88%	593	69	0	-	(1)	-100%	16,894	609	973,792
Oklahoma	4	48,342	1,714	544	(357)	58	-68%	661	21	4	(9)	4	-81%	12,217	167	3,956,946
Minnesota	4	65,152	903	739	49	(58)	-18%	1,752	39	7	1	(2)	-82%	11,553	311	5,639,743
Kansas	4	34,290	1,192	52	(9)	(65)	-96%	407	13	2	2	1	-85%	11,770	140	2,913,351
New Mexico	4	23,408	460	106	(36)	(94)	-77%	714	12	3	(5)	(1)	-75%	11,164	341	2,096,906
Oregon	4	23,262	429	244	(161)	(18)	-43%	388	14	2	1	1	-86%	5,515	92	4,218,066
Arkansas	3	53,243	1,061	-	(851)	(572)	-100%	600	20	0	(13)	(9)	-100%	17,643	199	3,017,747
Idaho	4	27,660	727	183	(121)	7	-75%	269	14	0	(4)	(2)	-100%	15,478	151	1,787,063
South Dakota	4	10,274	239	156	62	28	-35%	153	5	1	(1)	1	-80%	11,614	173	884,627
Nebraska	4	30,372	641	131	(122)	(197)	-80%	361	21	0	-	-	-100%	15,701	187	1,934,391
New Hampshire	4	6,988	164	8	(8)	(5)	-95%	423	19	0	-	-	-100%	5,139	311	1,359,843
West Virginia	4	8,564	262	107	(76)	(24)	-59%	160	8	0	(3)	(8)	-100%	4,779	89	1,792,229
Maine	4	4,168	76	24	(5)	8	-68%	127	5	0	(1)	-	-100%	3,101	94	1,344,330
Vermont	4	1,515	17	6	(2)	1	-65%	58	3	0	-	-	-100%	2,428	93	624,007
North Dakota	4	8,587	201	143	21	55	-29%	125	6	4	4	4	-33%	11,268	164	762,045
Hawaii	4	5,042	354	217	(65)	65	-39%	40	3	0	-	-	-100%	3,561	28	1,415,828
Wyoming	4	3,286	69	59	15	22	-14%	30	4	0	-	-	-100%	5,678	52	578,769
Montana	4	5,750	201	91	(27)	28	-55%	82	5	0	(1)	-	-100%	5,380	77	1,068,733
Alaska	4	4,259	112	103	20	5	-8%	28	2	0	(1)	-	-100%	5,822	38	731,588
Other	3	143,468	4,588	500	(362)	(386)	-89%	3,459	186	11	(16)	(4)	-94%	16,817	523	8,241,190

Exhibit 3C



A note about data and our approach:

As we have noted before, the 'new case' numbers are influenced by the number of tests. Since the rate of testing varies between entities, varies over time, and is dependent on the completeness of collection, the data on new cases can be misleading at times. However, counting them is simple. Does the test show positive? It is not so simple with deaths, where there is considerable interpretation as to whether COVID-19 was the causal factor. Take the case of a desperately ill person already in hospice care. When that person dies, if he or she has contracted COVID-19, that death is attributed to the contagion, even though death was near anyway. Moreover, some jurisdictions are counting a person dying with 'possible' COVID-19 infection as a COVID-19 death. In addition, there is also the same problem with completeness of counting as with the case statistics.

Recent revisions have slightly increased the number of new cases reported and widened the gap between our projection and the actual data. This process has lowered our confidence in our prediction of the quarantines being lifted quickly. In all of our analysis, we try to point out other factors that may bias the data or those who are reporting the data; and, in the interest of transparency, we strive to admit any bias we harbor. We acknowledge one of our biases - we suspect that there are deaths, classified as caused by Covid-19, in which Covid-19 was only coincidental. Call it our bias about someone else's bias - the potential of increased government and insurance funding, as well as other resources, may incentivize hospitals to report more of the deaths experienced in their facilities as Covid-19 caused.

We continue to find the scarcity of factual data being reported about the Covid-19 Virus alarming. Even more distressing is the scarcity of statistically-based trend analysis. There are many models based largely on assumption, with little of the kind of evidence-based analysis you will find in this report.

1. From within the health care industry, those with intimate working knowledge of patients and the evolution of the cases overall, are for some reason, not producing any statistical forecasts or even conducting simple mathematical trend analysis. We will give the benefit of the doubt, since we know they are busy treating patients, and perhaps the kind of work we love to do, just isn't on their priority list.
2. We claim no special insights into the virology or contagion or appropriate medical treatment protocols. We do, however, understand the basic principles of applying critical thinking, conducting a bit of evidence scrutiny, and then using some old-fashioned mathematical reasoning. We use data science techniques to produce trend analysis that is free from emotion, as well as to construct forecasts which have statistical significance. This analysis should allow our readers a chance to improve their awareness, embolden their patience (and we could all use a little more patience, right now), and set realistic expectations for the coming days, weeks, and months.

Important Disclosures

Broughton Capital, LLC is an independent, privately held, deep-data driven quantamental economics balanced with fundamental equity research, firm. Headquartered in St. Louis, with personnel in Boston, Dallas, Chicago, Nashville and Philadelphia, we travel the globe to meet with companies, their customers and vendors, and clients, as we strive to be the single best resource for transportation data and understanding the trends driving the future of the commercial transportation of goods. The material contained herein is based upon sources we believe to be reliable, but is not guaranteed to be accurate or complete. It is published for informational purposes only and should not be construed as an offer, or the solicitation of an offer to buy or sell any security. Opinions expressed are solely those of the author and subject to change as new data becomes available.

We are “The Independent Variable.” Why? Two reasons:

1. As is true in a mathematical equation, **the independent variable drives the value, changes the value of the dependent variables.** Knowing the independent variable, allows you to solve for the value of not only the dependent variables but the value of the overall equation. We know that through good fundamental research, high quality data, and years of industry experience, we can literally change the value of an equity, a company’s access to capital (debt and equity), ability to merge or acquire, and even a management team or their behavior. We know that if we do our job well, we become the ‘Independent Variable’ in a company’s future.
2. **We are Independent.** We do not work for a large commercial bank. We are not beholden to lending relationships, or our firm’s investment holdings, or even worse – our firm’s investment bankers. While we pride ourselves on being independent from emotion and influence, we are aware of, and guarded against falling victim to, the cognitive biases inherent in the human brain. We are dependent on math and the power of back tested multivariable analysis, especially when balanced with wisdom of experience from those who have made decades of mistakes. **We are Variable.** Over the last several decades, we have been everything from strongly positive about to strongly negative about almost every single equity in the transportation universe. We have built our reputation upon having an opinion, and being clear about that opinion (i.e., no one ever finishes a conversation with us and says, “I wonder what they really think?”). We know that our opinions and outlooks may be everything from slightly flawed to completely wrong. As a result, we consider it our professional duty to change our opinions and outlooks as the statistics, data, or evidence warrant.

Transportation stocks have the reputation for predicting the overall market #dowtransporttheory because the underlying goods flow is heartbeat of the economy. That goods flow becomes increased (or decreased) levels of asset utilization for asset intensive transportation companies, which becomes increased (or decreased) levels of financial returns, which becomes stock price. We believe that the stock price performance of transportation companies is only symptomatic of the underlying goods flow.