COVID-19 Statistical Review

Our Daily Update on the Data and the Trends

Today's Analysis: Data from August 24, 2020

On Monday the reduction in new cases took a pause due to the combination of only a modest decline in Croup Two and a significant increase in Group 4, driven by a big number in Indiana. Such a result is to be expected when Group Two reductions are small and Groups Three and Four have case counts below herd immunity.

Fortunately the all-important death number was down.

BROUGHTON CAPITAL, LLC
THE INDEPENDENT VARIABLE

Industrials Research Analysis

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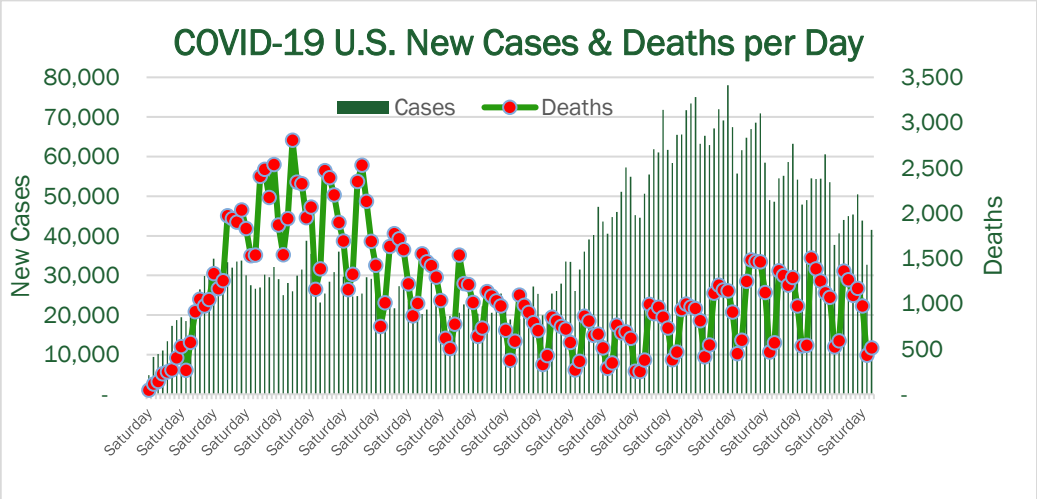
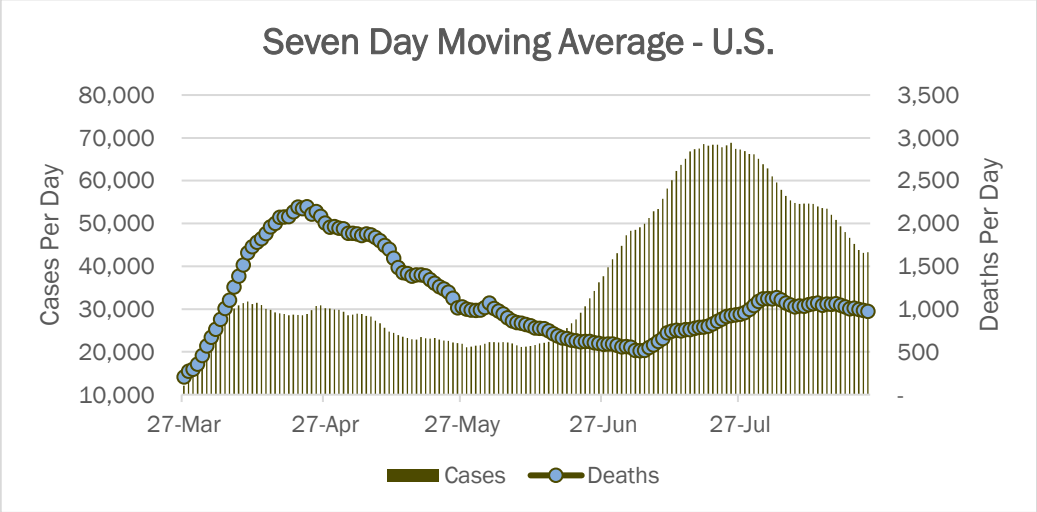
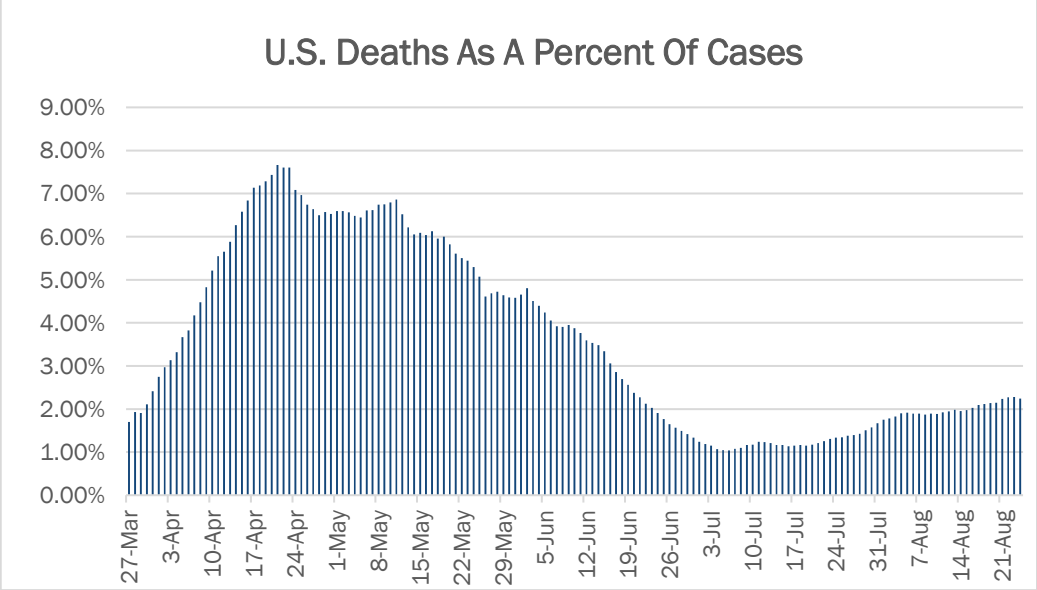
Exhibit 1







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	84,967	4,634	5.5%	16,949	333,333	6,000	16	150	-	4	(6)	0	0
S. Korea	Recovery	17,665	309	1.7%	2,899	166,667	851	266	9	-	(131)	69	0	0
Italy	Recovery	260,298	35,441	13.6%	232	1,706	6,557	953	919	4	(256)	633	-3	0
Iran	Falling	361,150	20,776	5.8%	233	4,049	3,186	2,245	235	133	132	(2)	-8	-32
Germany	Recovery	236,117	9,336	4.0%	355	9,009	6,933	1,628	333	4	996	(61)	3	-2
France	Recovery?	244,854	30,528	12.5%	267	2,137	9,678	1,955	1,809	15	(2,942)	1,462	14	-4
UK	Recovery	326,614	41,433	12.7%	208	1,639	8,681	853	980	4	(188)	140	-2	1
Norway	Recovery	10,395	264	2.5%	522	20,408	399	72	16	-	48	17	0	0
Netherlands	Recovery?	67,128	6,202	9.2%	255	2,762	1,316	574	234	2	117	92	2	2
Sweden	Recovery?	86,721	5,813	6.7%	117	1,739	2,214	-	185	6	-	-	6	-2
USA	Falling	**5,915,630**	**181,114**	**3.1%**	**56**	**1,828**	**61,690**	**41,484**	**2,804**	**510**	8,766	**888**	80	**-79**
Spain	Recovery	420,809	28,872	6.9%	111	1,621	8,271	2,080	961	12	2,080	247	12	10
Switzerland	Recovery	40,060	2,001	5.0%	216	4,329	1,321	157	75	-	(119)	29	-1	0
Belgium	Recovery?	81,936	9,992	12.2%	142	1,160	2,454	468	496	4	(106)	14	1	0
Denmark	Recovery?	16,397	623	3.8%	353	9,259	390	80	15	1	2	(43)	1	1
Austria	Recovery	25,495	733	2.9%	354	12,346	1,321	242	30	1	51	78	1	0
Canada	Recovery	125,647	9,083	7.2%	301	4,167	1,920	751	207	10	484	(34)	8	4
Ireland	Recovery	28,116	1,777	6.3%	-	2,786	1,515	147	57	-	86	91	0	0
Portugal	Recovery	55,720	1,801	3.2%	183	5,650	1,516	123	37	5	(22)	(9)	3	4
Australia	Recovery	24,916	517	2.1%	1,026	50,000	534	104	8	15	(106)	(167)	-2	-10
Brazil	Falling	3,627,217	115,451	3.2%	59	1,842	70,869	21,434	1,554	679	(1,651)	(1,604)	184	-96
Malaysia	Recovery	9,274	125	1.3%	3,497	250,000	235	7	8	-	(3)	(5)	0	0
Mexico	Falling	560,164	60,480	10.8%	231	2,137	8,458	3,948	60	226	(2,534)	(500)	-418	12
Singapore	Recovery	56,404	27	0.0%	104	200,000	1,426	51	2	-	(36)	(40)	0	0
North America	Falling	6,601,441	250,677	3.8%	75	1,987	86,966	46,183	2,974	746	6,716	354	(330)	(63)
Western Europe	Rising	1,900,660	174,816	9.2%	212	2,301	35,453	9,332	4,442	58	(253)	2,690	37	10
Other	Rising	15,299,628	391,059	2.6%	449	17,577	203,346	156,951	3,155	3,524	(506)	17,917	386	298
World	Rising	23,801,729	816,552	3.4%	327	9,542	288,363	212,466	7,960	4,328	5,957	20,961	93	245

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

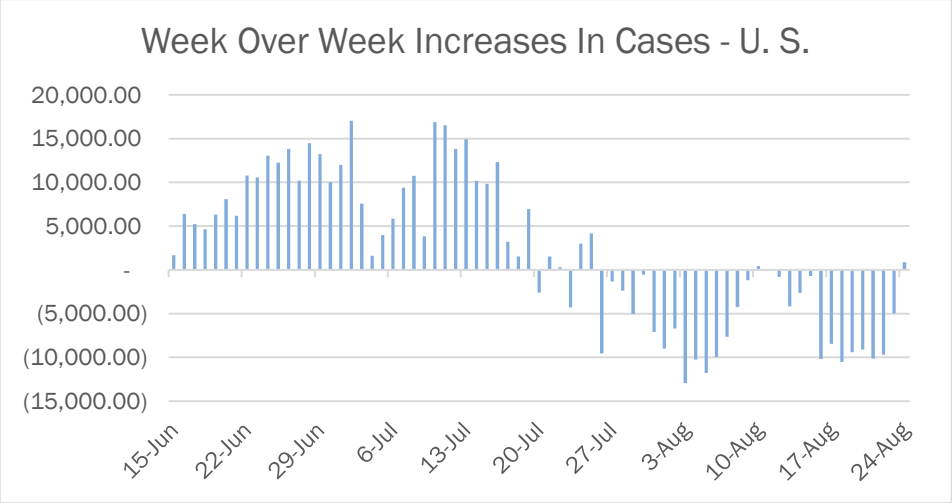
Exhibit 3A

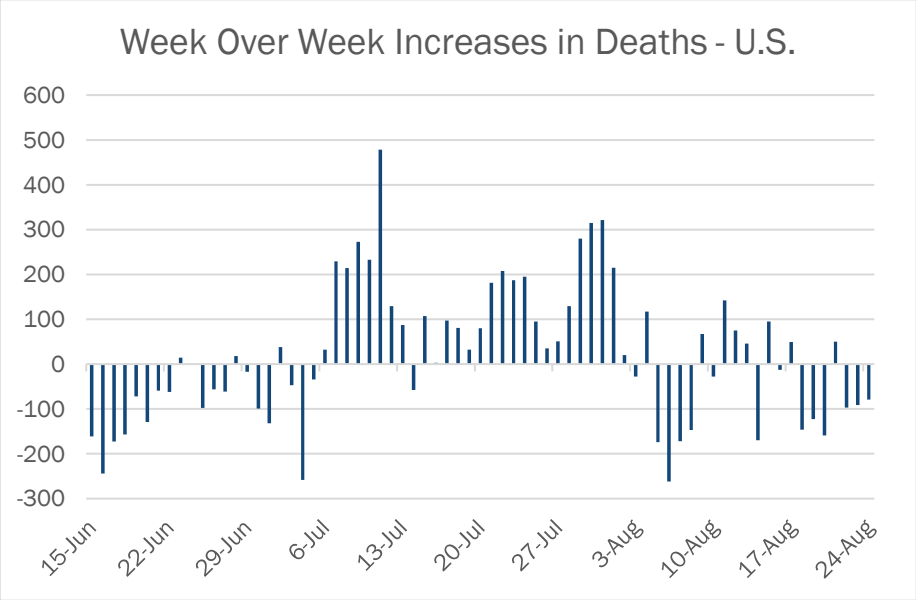
	Hot Spot Group	Total Cases	Max New Cases/Day Since 21 April	New Cases Latest Day	Change in New Cases/Day	Change In Cases/Day Since Week Ago	Change In Cases/Day Since Max	Total Deaths	Max New Deaths/Day Since 21 April	New Deaths Latest Day	Change In New Deaths/ Day	Change In Deaths/Day Since Week Ago	Change In Deaths/Day Since Max	Cases/M	Deaths/ Million	Population
USA Total	**NA**	**5,915,630**	**78,009**	**41,484**	8,766	888	**-47%**	**181,114**	**2,804**	**510**	80	(79)	**-82%**	**17,872**	**547**	**331,004,361**
Hot-Spot Group 1	1	1,268,929	21,922	4,121	811	502	-81%	80,805	1,830	68	(16)	(6)	-96%	19,410	1,074	67,002,431
Hot-Spot Group 2	2	2,939,617	50,036	20,937	2,923	(546)	-58%	54,351	1,063	318	80	(79)	-70%	22,083	411	131,632,800
Hot-Spot Group 3	3	1,010,124	13,735	9,413	3,514	(508)	-31%	30,269	477	71	22	(7)	-85%	15,109	399	67,059,786
Rest of States	4	696,960	9,357	7,013	1,518	1,440	-25%	15,689	272	53	(6)	13	-81%	9,997	196	71,140,342
New York	1	460,991	10,868	531	(132)	11	-95%	32,972	764	5	(12)	(5)	-99%	23,697	1,695	19,453,968
New Jersey	1	195,541	4,160	303	100	(122)	-93%	16,051	458	2	-	(29)	-100%	22,015	1,807	8,882,395
Massachusetts	1	126,022	4,946	662	662	414	-87%	8,949	252	28	28	24	-89%	18,284	1,298	6,892,405
California	2	676,223	12,137	6,168	1,072	(742)	-49%	12,257	197	105	87	6	-47%	17,114	310	39,511,060
Pennsylvania	1	134,246	3,096	567	48	(44)	-82%	7,672	294	3	3	-	-99%	10,486	599	12,801,381
Illinois	3	223,207	4,014	1,612	(281)	(161)	-60%	8,097	191	8	2	(4)	-96%	17,614	639	12,671,873
Michigan	3	107,686	1,426	878	114	388	-38%	6,663	232	4	-	4	-98%	10,783	667	9,987,209
Florida	2	602,829	15,300	2,258	(716)	(420)	-85%	10,399	276	66	15	(17)	-76%	28,068	484	21,477,832
Louisiana	1	143,566	3,840	623	(600)	56	-84%	4,764	126	18	(41)	(1)	-86%	30,882	1,025	4,648,783
Texas	2	608,817	12,235	4,514	1,179	(1,932)	-63%	11,871	322	59	(31)	(58)	-82%	20,997	409	28,995,746
Connecticut	1	52,011	2,109	492	492	122	-77%	4,460	125	-	-	(3)	-100%	14,588	1,251	3,565,242
Georgia	2	256,253	4,813	2,304	577	473	-52%	5,156	122	24	(16)	(1)	-80%	24,135	486	10,617,138
Maryland	1	104,669	1,730	567	(12)	64	-67%	3,694	77	3	(3)	1	-96%	17,313	611	6,045,713
Ohio	3	115,768	1,720	811	213	48	-53%	3,999	138	8	5	2	-94%	9,904	342	11,689,615
Washington	3	73,357	1,209	606	241	(46)	-50%	1,867	32	4	(2)	-	-88%	9,633	245	7,615,063
Indiana	4	87,592	1,660	1,660	1,045	1,069	0%	3,225	119	5	3	3	-96%	13,011	479	6,732,546
Colorado	4	55,341	994	198	(62)	4	-80%	1,919	122	1	1	1	-99%	9,610	333	5,758,981
Virginia	4	113,630	2,015	664	(230)	(70)	-67%	2,471	43	4	(20)	-	-91%	13,313	289	8,535,562
Tennessee	2	144,604	3,140	667	(1,187)	(369)	-79%	1,588	42	21	17	-	-50%	21,174	233	6,829,015
North Carolina	2	157,206	2,588	2,093	1,026	1,668	-19%	2,574	63	22	15	21	-65%	14,989	245	10,487,897
Missouri	3	76,839	1,903	1,458	1,458	(445)	-23%	1,544	31	4	4	(24)	-87%	12,520	252	6,137,553
Rhode Island	1	21,302	443	280	280	43	-37%	1,035	27	5	5	3	-81%	20,108	977	1,059,367
Alabama	2	116,710	2,143	1,650	1,122	1,079	-23%	2,024	47	11	9	(16)	-77%	23,803	413	4,903,192
Arizona	2	198,414	4,877	311	103	(157)	-94%	4,771	172	-	(15)	-	-100%	27,259	655	7,278,621
Mississippi	3	78,405	1,775	511	(115)	235	-71%	2,248	52	8	5	(3)	-85%	26,344	755	2,976,189

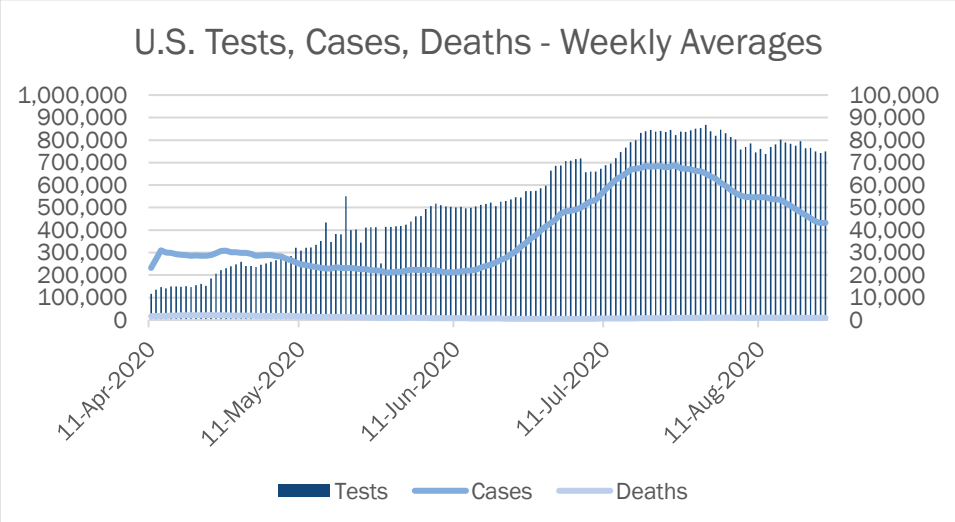
Exhibit 3B.

	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	70,854	1,165	392	(61)	(63)	-66%	1,081	20	-	-	-	-100%	12,169	186	5,822,701
South Carolina	2	112,551	2,374	563	(130)	107	-76%	2,511	80	7	(4)	(12)	-91%	21,860	488	5,148,707
Nevada	2	66,010	1,447	409	(123)	(253)	-72%	1,200	38	3	3	(2)	-92%	21,431	390	3,080,195
Iowa	4	56,667	959	375	(182)	93	-61%	1,044	21	8	2	2	-62%	17,961	331	3,155,131
Utah	3	49,364	954	249	(52)	7	-74%	390	10	5	5	4	-50%	15,398	122	3,205,934
Kentucky	4	43,899	1,152	370	(93)	(6)	-68%	885	17	4	(5)	(1)	-76%	9,826	198	4,467,477
District Of Columbia	1	13,639	335	49	(7)	(4)	-85%	604	19	0	-	-	-100%	19,326	856	705,739
Delaware	1	16,942	458	47	(20)	(38)	-90%	604	69	4	4	4	-94%	17,398	620	973,792
Oklahoma	4	53,522	1,714	357	(209)	(12)	-79%	730	21	4	3	-	-81%	13,526	184	3,956,946
Minnesota	4	70,298	903	714	(3)	150	-21%	1,817	39	4	(2)	(2)	-90%	12,465	322	5,639,743
Kansas	4	38,806	1,192	1,317	1,317	189	10%	430	13	1	1	1	-92%	13,320	148	2,913,351
New Mexico	4	24,469	460	73	(21)	(19)	-84%	747	12	2	-	(2)	-83%	11,670	356	2,096,906
Oregon	4	25,155	429	218	(9)	29	-49%	420	14	3	3	3	-79%	5,964	100	4,218,066
Arkansas	3	56,894	1,061	320	(55)	(92)	-70%	696	20	9	(4)	5	-55%	18,853	231	3,017,747
Idaho	4	30,070	727	217	26	(65)	-70%	314	14	7	6	3	-50%	16,826	176	1,787,063
South Dakota	4	11,425	251	149	8	63	-41%	161	5	0	(1)	-	-100%	12,915	182	884,627
Nebraska	4	32,047	641	158	49	(33)	-75%	383	21	5	3	4	-76%	16,567	198	1,934,391
New Hampshire	4	7,134	164	27	12	11	-84%	429	19	0	-	-	-100%	5,247	316	1,359,843
West Virginia	4	9,312	262	40	(47)	(28)	-85%	179	8	1	(1)	1	-88%	5,196	100	1,792,229
Maine	4	4,356	76	21	3	(8)	-72%	131	5	0	(1)	-	-100%	3,241	97	1,344,330
Vermont	4	1,566	17	9	5	(3)	-47%	58	3	0	-	-	-100%	2,510	93	624,007
North Dakota	4	10,000	262	124	(16)	64	-53%	137	6	1	-	-	-83%	13,122	180	762,045
Hawaii	4	6,769	354	169	(75)	(4)	-52%	49	3	2	2	2	-33%	4,781	35	1,415,828
Wyoming	4	3,603	69	24	(12)	(21)	-65%	37	4	0	-	(3)	-100%	6,225	64	578,769
Montana	4	6,489	201	60	7	18	-70%	91	5	1	1	1	-80%	6,071	85	1,068,733
Alaska	4	4,810	112	69	5	19	-38%	32	2	0	(1)	-	-100%	6,575	44	731,588
Other	3	157,750	4,588	2,576	2,052	(379)	-44%	3,684	186	21	7	9	-89%	17,872	547	8,241,190

Exhibit 3C







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

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 quantimental 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.