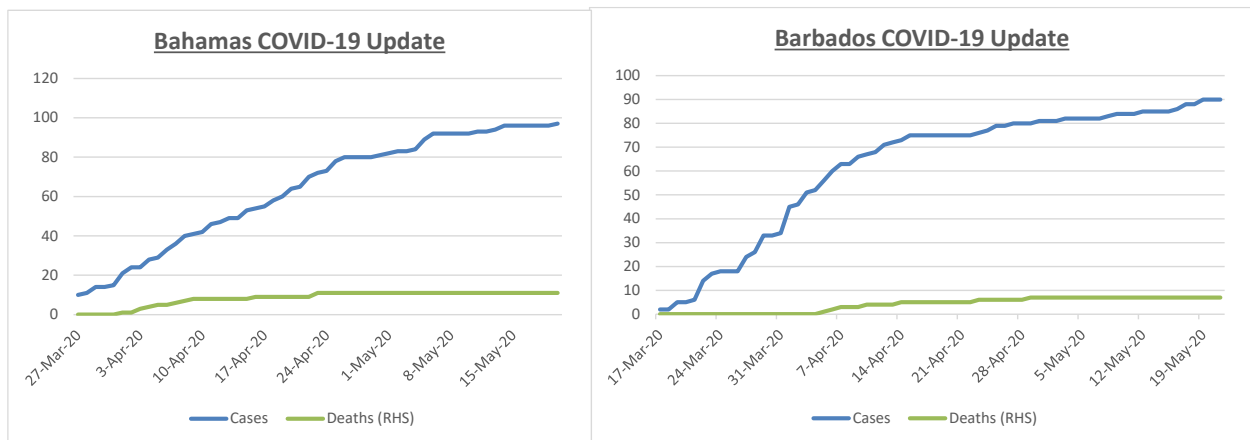




COVID-19 Update: 22nd May 2020

RF aims to keep you informed and below are some of the key developments locally, regionally and globally. The sooner the economies of the US, Canada and Europe recover the sooner our markets will recover.

The charts below show that both The Bahamas and Barbados are making good progress. The growth in new cases has slowed significantly and fortunately there were no additional deaths in either country since April 23rd or April 29th, respectively.



Source: Johns Hopkins University & Medicine – Coronavirus Resource Center; Bahamas Ministry of Health COVID-19 Dashboard; Barbados Government Information Centre.

The table below shows that the Dominican Republic (DR) remains the hot spot in the Caribbean with 2,337 new cases over the last week. Previously we noted that the numbers in Haiti seemed low given developments in the DR. Last week Haiti had 461 new cases bringing the total 734 and ahead of Jamaica. The Cayman Islands saw a sharp increase of 28 cases this week, but to date they have tested 7,959 people, or 12.1% of the population which is one of the highest testing rates globally. The Bahamas and Barbados saw increases of 1 and 5 respectively last week.

COVID-19 Status Update¹

Caribbean Counties by Cases

Country	Cases	Change Last 7 Days	Active	Deaths	Recoveries	Fatality Ratio ²	Recovery Ratio ²	Population ³	Active Cases per Capita	Active Cases per 1000
Dominican Republic	13,657	2,337	5,843	448	7,366	3.3%	53.9%	10,847,910	0.05%	0.54
Cuba	1,908	68	225	80	1,603	4.2%	84.0%	11,326,616	0.00%	0.02
Haiti	734	461	688	25	21	3.4%	2.9%	11,402,528	0.01%	0.06
Jamaica	534	25	344	9	181	1.7%	33.9%	2,961,167	0.01%	0.12
Trinidad & Tobago	116	-	1	8	107	6.9%	92.2%	1,399,488	0.00%	0.00
Bahamas	97	1	42	11	44	11.3%	45.4%	393,482	0.01%	0.11
Barbados	90	5	13	7	70	7.8%	77.8%	287,375	0.00%	0.05
Cayman Islands	121	28	n/a	1	n/a	0.8%	n/a	65,722	n/a	n/a
Antigua & Barbuda	25	-	3	3	19	12.0%	76.0%	97,929	0.00%	0.03
Saint Lucia	18	-	-	-	18	0.0%	100.0%	183,627	0.00%	-
St Vincent & Grenadines	18	1	4	-	14	0.0%	77.8%	110,940	0.00%	0.04
Dominica	16	-	-	-	16	0.0%	100.0%	71,986	0.00%	-
St. Kitts & Nevis	15	-	-	-	15	0.0%	100.0%	53,199	0.00%	-

1.Sourced from Johns Hopkins University & Medicine - Coronavirus Resource Center, As at 5/22/2020, 8:32:39 AM

2. Observed cases

3. www.worldpopulationreview.com

Globally the numbers continue to rise and over the last week total cases increased by 644,628 versus 612,146 last week. The US, Brazil, and Russia had weekly increase of 157,459, 103,580 and 63,605, respectively. Brazil moved up from the sixth most infected to the third most infected country and is expected to surpass Russia in a matter of days.

COVID-19 Status Update¹

Top 10 Countries by Cases

Country	Cases	Change Last 7 Days	Active	Deaths	Recoveries	Fatality Ratio ²	Recovery Ratio ²	Population ³	Active Cases per Capita	Active Cases per 1000
Global	5,128,492	644,628	2,828,868	333,489	1,966,135	6.5%	38.3%	7,577,130,400	0.04%	0.37
U.S.A.	1,577,758	157,459	1,184,611	94,729	298,418	6.0%	18.9%	331,002,651	0.36%	3.58
Russia	326,448	63,605	223,374	3,249	99,825	1.0%	30.6%	145,934,462	0.15%	1.53
Brazil	310,087	103,580	164,080	20,047	125,960	6.5%	40.6%	212,559,417	0.08%	0.77
United Kingdom	252,246	14,245	214,988	36,124	1,134	14.3%	0.4%	67,886,011	0.32%	3.17
Spain	233,037	2,854	54,721	27,940	150,376	12.0%	64.5%	46,754,778	0.12%	1.17
Italy	228,006	4,910	60,960	32,486	134,560	14.2%	59.0%	60,461,826	0.10%	1.01
France	181,951	2,957	89,757	28,218	63,976	15.5%	35.2%	65,273,511	0.14%	1.38
Germany	179,150	4,672	11,906	8,219	159,025	4.6%	88.8%	83,783,942	0.01%	0.14
Turkey	153,548	8,799	34,309	4,249	114,990	2.8%	74.9%	84,339,067	0.04%	0.41
Iran	131,652	15,017	22,076	7,300	102,276	5.5%	77.7%	83,992,949	0.03%	0.26
Other	1,554,609	266,530	768,086	70,928	715,595	4.6%	46.0%	6,395,141,786	0.01%	0.12

1.Sourced from Johns Hopkins University & Medicine - Coronavirus Resource Center, As at 5/22/2020, 8:32:39 AM
2. Observed cases
3. www.worldpopulationreview.com

Regional Updates

Bahamas

- The Bahamas has started to transition to Phase 2 of the five-phase re-opening plan.
- The Prime Minister noted that in the aftermath of COVID-19 and Hurricane Dorian, The Bahamas must embark on broad, deep, and far-reaching structural changes to the economy. The fiscal budget is expected before the end of May and should include details around these changes.
- The government allowed commercial activity to resume on the islands of Cat Island, Long Island, Abaco, Andros, Mayaguana, Inagua, Crooked Island, Acklins, Long Cay, Rum Cay, and Ragged Island.

Barbados

- The Grantley Adams International Airport remains closed until June 30, but data not date will determine the reopening.
- The Government issues detailed workplace cleaning and disinfecting COVID-19 protocols for the public sector.
- To date Barbados has tested 4,438 (1.54% of the population) people. (Source: www.gisbarbados.gov.bb)

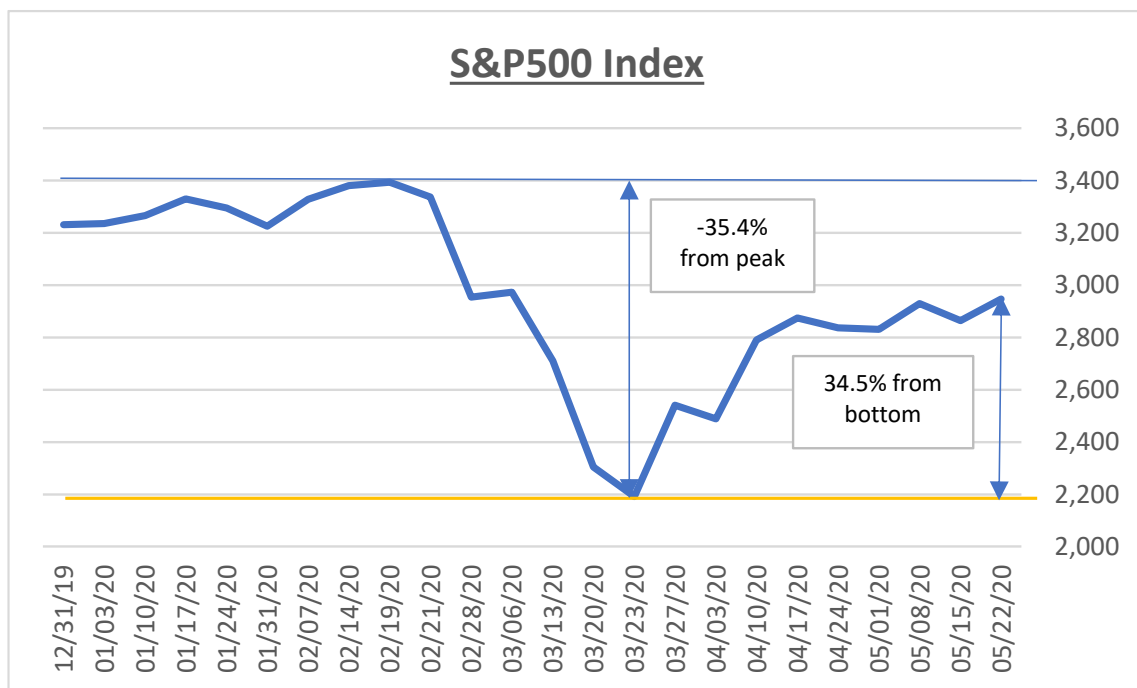
International

- The Cayman Islands have done 7,959 tests (12.1% of the population) to date of which 121 were positive and 7,838 were negative. To date they have had a single death. (Source: www.caymancompass.com)
- Has the curve flattened? According to Johns Hopkins, of the 10 of the most affected countries the 5-day moving average of new cases decreased in the UK, France, Spain, and Belgium, but increased in Switzerland, Netherlands, Sweden, Brazil, Italy and US*.
- The US Center for Disease Control (CDC) estimates that 35% of novel coronavirus infections are asymptomatic and that 40% of transmission occurs before people feel sick. This is the key reason for wearing a mask...to protect others from you if case you are infected and asymptomatic. The CDC also emphasized that SARS-CoV-2 spreads between people and not easily from a contaminated surface.

*Source: Johns Hopkins University Coronavirus Resource Center

US Equity Market Update

The S&P 500 Index is often used as a proxy for the US equity markets. The index stood at 3,230 at the end of 2019 and peaked at 3,393 on February 19th. By the second week of March the scale of the COVID-19 pandemic became apparent and by March 23 the index dropped by 35.4% to 2,191. Since then the market has recovered to 2,947 due to unprecedented peace time fiscal and monetary stimulus. Our view is that investors should be overweight US equities.



From Morgan Stanley

- **US** reported 26k new cases out of 408k tests (vs past three day average: 21k out of 382k test).
- **UK** reported 2.6k new cases out of 128k tests (vs past three day average: 1.5k out of 127k test).
- **Brazil and India** are accelerating (16.7k and 6.3k each) while Russia seems to stabilize (8.8k).
- **Singapore** had 448 new cases yesterday. And **Korea** had 20 cases. The new local cluster seems under control.
- [Matthew Harrison's Daily](#) (commenting on 21 May's data):
 - In the United States, the overall development of the virus remains in line with our models. However, as cases have remained at the peak longer than expected, our predicted total infections has risen somewhat to ~1.9-2.0M from ~1.8M last week.
 - We are watching states that have growing cases, but continue to see positive data in NY/NJ: We are watching states like AL, AR, KY, MN, NC, ND, SD, TX, WI where the number of new cases and/or hospitalizations are accelerating again. Notably, the testing positivity rate in NJ has increased to 12% (vs 5% on 5/19), while in NY it remains at low levels (~4%). We view this as a positive development and a strong signal toward reopening in the most impacted areas on the US. We also underscore that the downward trend of the new cases over the past 14-days is now similar between closed and open states.
 - In Europe, most countries now appear to be in the terminal phase of growth. The UK has clearly turned a corner with low test positivity (~3%) and a sustained decline in day/day new cases. Given that Sweden does not have a lockdown, we would expect cases to continue to grow. Other key European countries are either stable or still in decline as they are reopening.
 - Asia is relatively stable with only Singapore seeing a sustained increase in new cases and South Korea up on a new cluster. Singapore appears to be starting to stem the uptick in new cases from returning workers.
 - South America, Eastern Europe and the Middle East continue to see significant spread. We now model >1M cases in Brazil and the spread appears to remain robust. The Middle East appears to be having a second wave during Ramadan. The scope of the outbreak in these countries appears underappreciated.

Global Covid-19 Monitor

22-May-20

WW/US	Confirmed Cases				Tested Cases				Testing Positivity Rate			Fatality				Mortality	Infected/1mm	Test/1mm	
Country	Cumulative	DoD	Pre DoD	3D Avg	Cumulative	DoD	Pre DoD	3D Avg	Cumulative	Daily	3D Avg	Country	Cumulative	DoD	Pre DoD	3D Avg	NA	Population	Population
Worldwide	5,101,967	106,840	101,932	94,034	NA	NA	NA	NA	NA	NA	NA	US	93,416	1,544	1,534	1,042	NA	NA	NA
US	1,577,140	26,038	23,379	21,493	13,056,206	408,415	413,804	382,863	12%	6%	6%	US	93,416	1,544	1,534	1,042	6.0%	4805	39776
NY	356,458 (23%)	2,088	1,525	1,416	1,555,055	49,219	38,097	30,813	23%	4%	5%	NY	28,636	78	219	170	8.1%	18324	79937
NJ	151,586 (10%)	810	1,420	1,424	544,274	12,931	11,161	14,593	28%	6%	10%	NJ	10,749	162	148	109	7.2%	17066	61277
CA	87,940 (6%)	2,211	2,408	1,934	1,421,127	41,007	40,804	48,292	6%	5%	4%	CA	3,485	111	95	55	4.1%	2226	35967
WA	18,971 (1%)	149	11	130	297,942	4,822	3,985	4,042	6%	3%	3%	WA	1,031	0	29	11	5.5%	2491	39126
IL	102,688 (7%)	2,270	2,388	2,076	672,020	29,307	21,029	20,256	15%	8%	10%	IL	4,525	146	145	83	4.5%	8104	53033
MA	90,084 (6%)	1,114	1,045	987	501,486	11,533	13,013	9,709	18%	10%	10%	MA	6,066	128	76	78	6.8%	12912	71881
PA	69,252 (4%)	1,126	815	785	365,224	7,718	7,805	8,200	19%	15%	10%	PA	4,770	142	113	49	7.0%	5402	28487
MI	53,510 (3%)	501	659	622	454,740	17,668	14,168	13,371	12%	3%	5%	MI	5,060	43	102	45	9.6%	5327	45270
FL	48,675 (3%)	1,204	527	628	813,929	42,581	55,493	39,852	6%	3%	2%	FL	2,096	44	55	29	4.4%	2213	37009
TX	53,053 (3%)	1,393	1,527	1,088	796,357	26,116	25,304	25,655	7%	5%	4%	TX	1,423	50	23	18	2.8%	1800	27021
GA	40,666 (3%)	865	902	720	407,731	4,791	24,784	17,255	10%	18%	4%	GA	1,697	18	30	27	4.4%	10191	102183
LA	36,504 (2%)	1,188	278	295	305,381	19,411	7,897	6,933	12%	6%	4%	LA	2,608	27	18	34	7.2%	8052	67361
Top 12	1,109,387 (70%)	14,919	13,505	12,104	8,135,265	267,104	263,540	238,973	14%	6%	5%	Top 12	72,146	949	1,053	709	6.6%	6234	45712
Rest of US	467,753 (30%)	11,119	9,874	9,389	4,920,941	141,311	150,264	143,890	10%	8%	7%	RoU	21,270	595	481	333	4.6%	3113	32747

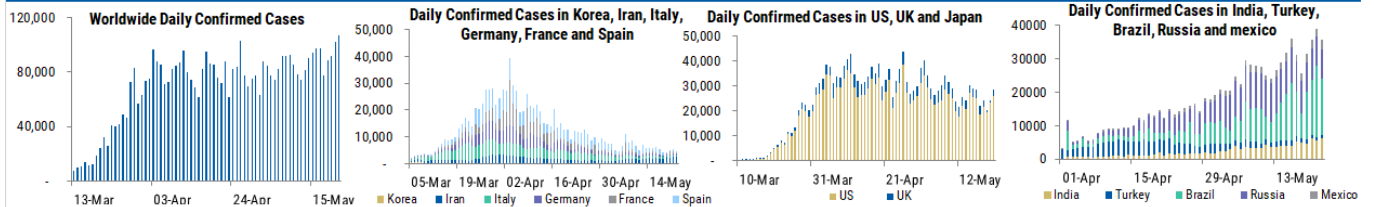
*Color code in US (confirmed cases and fatality) reflects the comparison across US states only

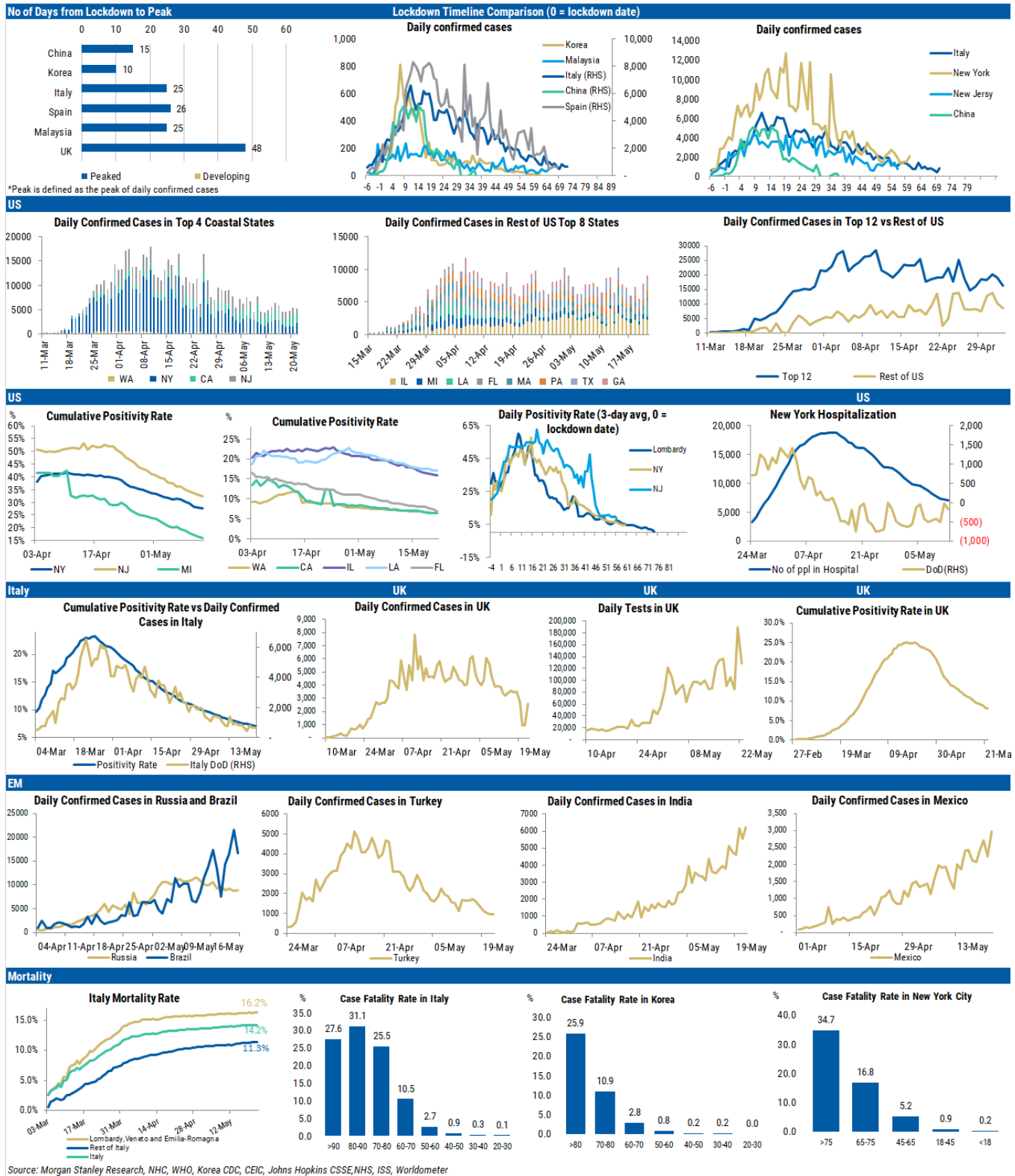
Other DM	Confirmed Cases				Tested Cases				Testing Positivity Rate			Fatality				Mortality	Infected/1mm	Test/1mm	
Country	Cumulative	DoD	Pre DoD	3D Avg	Cumulative	DoD	Pre DoD	3D Avg	Cumulative	Daily	3D Avg	Country	Cumulative	DoD	Pre DoD	3D Avg	NA	Population	Population
Italy	228,006	642	665	643	3,243,398	71,679	67,195	55,586	7%	1%	1%	Italy	32,330	161	162	135	14.2%	3777	53735
LOM	86,091	316	294	310	622,565	14,702	11,508	10,501	14%	2%	3%	LOM	15,662	65	54	49	18.3%	8557	61882
VEN	19,038	8	33	30	548,573	11,775	12,998	10,070	3%	0%	0%	VEN	1,832	12	17	12	9.7%	3881	111820
EMR	27,417	53	50	44	278,917	4,555	6,162	4,419	10%	1%	1%	EMR	4,008	11	11	12	14.7%	6148	62545
LOM, VEN, EM	132,546	377	377	384	1,450,055	31,032	30,668	24,990	9%	1%	2%	Top 3	21,502	88	82	74	16.3%	6823	74645
Rest of Italy	95,460	265	288	259	1,793,343	40,647	36,527	30,596	5%	1%	1%	RoI	10,828	73	80	62	11.4%	2332	43811
Spain	280,117	593	721	602	NA	NA	NA	NA	NA	NA	NA	Spain	27,888	110	69	72	10.0%	5992	NA
Germany	179,021	490	704	627	NA	NA	NA	NA	NA	NA	NA	Germany	8,270	77	70	55	4.6%	2138	NA
France	181,826	251	766	627	NA	NA	NA	NA	NA	NA	NA	France	28,132	102	31	135	15.5%	2786	NA
UK	250,908	2,615	944	1,533	3,090,566	128,339	189,675	127,153	8%	2%	1%	UK	35,786	364	546	319	14.4%	3776	46517
Canada	81,324	1,182	1,030	1,047	1,377,146	2,020	35,231	24,799	6%	59%	4%	Canada	6,031	119	70	78	7.6%	2159	36562
Sweden	32,172	649	724	460	NA	NA	NA	NA	NA	NA	NA	Sweden	3,831	88	45	23	12.0%	3186	NA
Japan	16,424	39	20	33	261,572	3,295	2,602	4,608	6%	1%	1%	Japan	768	0	19	14	4.7%	130	2066

EM	Confirmed Cases				Tested Cases				Testing Positivity Rate			Fatality				Mortality	Infected/1mm	Test/1mm	
Country	Cumulative	DoD	Pre DoD	3D Avg	Cumulative	DoD	Pre DoD	3D Avg	Cumulative	Daily	3D Avg	Country	Cumulative	DoD	Pre DoD	3D Avg	NA	Population	Population
China	82,971	4	2	4	NA	NA	NA	NA	NA	NA	NA	China	4,634	0	0	0	5.6%	58	NA
Iran	129,341	2,392	2,346	2,250	NA	NA	NA	NA	NA	NA	NA	Iran	7,183	64	62	61	5.6%	1545	NA
Turkey	153,548	961	972	1,051	1,729,988	33,633	20,838	23,787	9%	3%	4%	Turkey	4,222	23	28	34	2.8%	1825	20566
Brazil	310,087	16,730	21,472	17,426	NA	NA	NA	NA	NA	NA	NA	Brazil	18,894	911	1,130	774	6.5%	1461	NA
Korea	11,142	20	12	19	802,418	13,734	12,251	11,824	1%	0%	0%	Korea	264	1	0	0	2.4%	218	15664
Russia	317,554	8,849	8,764	8,984	7,840,880	262,851	225,713	220,647	4%	3%	4%	Russia	2,972	135	115	100	7.0%	2176	53734
India	118,226	6,198	5,553	5,443	2,615,920	103,532	108,121	94,915	5%	6%	6%	India	3,434	132	146	143	3.4%	86	1900
Malaysia	7,059	50	31	38	NA	NA	NA	NA	NA	NA	NA	Malays	114	0	1	0	1.7%	219	NA
Mexico	59,567	2,973	2,248	2,458	NA	NA	NA	NA	NA	NA	NA	Mexico	6,090	424	334	207	10.9%	463	NA
Indonesia	20,162	973	693	558	160,374	6,235	6,340	4,553	13%	16%	12%	Indonesia	1,242	21	30	44	6.3%	74	588
South Africa	19,137	1,134	803	829	525,433	18,572	18,252	15,329	4%	6%	5%	South A	339	27	26	17	7.9%	324	8887
Singapore	29,812	448	570	442	NA	NA	NA	NA	NA	NA	NA	Singap	22	0	0	0	0.1%	5104	NA
Hong Kong	1,064	8	0	0	NA	NA	NA	NA	NA	NA	NA	HK	4	0	0	0	0.4%	142	NA

* The color code: If latest DoD is above past 3D average, "Red+", if below past 3D average, "Green -"

Worldwide Confirmed Cases





Source: Morgan Stanley Research, NHC, WHO, Korea CDC, CEIC, Johns Hopkins CSSE, NHS, ISS, Worldometer

For our published research on the virus and its implication. Please see:

- [Biotechnology: COVID-19 Outbreak Dynamics - Daily Update Vs Our Model](#)
- [Morgan Stanley Global Research: Global Weekly COVID-19 Impact Update: May 15, 2020 \(15 May 2020\)](#)