COVID-19 Special Issue

GRID[™] Index: Tracking the Global Leadership Response in the COVID-19 Crisis

Chris D'Souza¹ & Janek Ratnatunga²

"Leadership is a responsibility. It's not about being in charge. It's about taking care of those in your charge." -Simon Sinek

Never has good leadership been more critical and relevant in our lifetime than today as countries around the world struggle to fight the COVID-19 crisis. In times of crisis, good leaders rally to nurture and protect their flock. Great Leaders with vision go beyond their own national boundaries and unite the world fostering global partnerships to work towards the common good. However, as we struggle against an unprecedented pandemic sweeping through our world, our leaders are tackling this global crisis in very different and often controversial ways. The nature of this crisis demands global cooperation but requires action differing from nation to nation. Each country battling this crisis has very unique political, cultural, geographical and social dimensions. The COVID-19 pandemic has impacted each country in a different manner and consequently the measures taken by leaders of different countries have varied. However, it is said that difficult times bring out the best in great leaders and arguably shine the spotlight on deficiencies and shortcomings of other leaders. Inevitably among other things the success of a nation's leader's during this pandemic will be judged by how well they have cared for those in their charge.

The Institute of Certified Management Accountants (Australia) commissioned a research study to evaluate the response and leadership shown in each country and to develop a **Global Response to Infectious Diseases (GRID**TM) index to indicate how efficient and effective the leadership of the country and the preparedness of its health system were in tackling this pandemic. The ICMA was of the view that a country's ranking on the index could be a motivator to a country in terms of being prepared for the next global pandemic or crisis. [See Appendix 1 for Methodology]

The results of individual country's performance on the GRIDTM index will be presented later in the article. First let us present an overview of the performance within specific countries and regions.

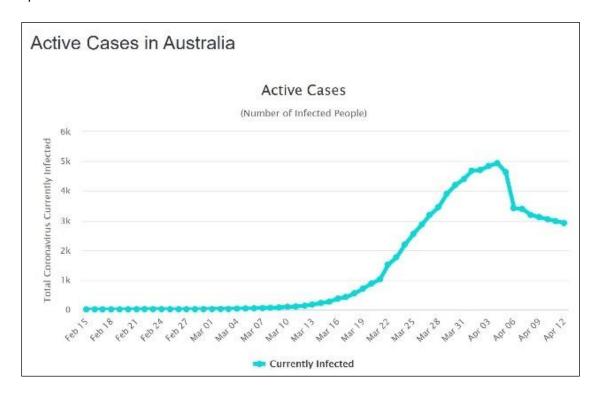
The ANZAC Response

First, let us look at the leadership in the ICMA's home country of Australia. Prime Minister Scott Morrison has emerged as a very capable leader and displayed remarkable leadership qualities in this crisis. The year 2020 had not begun well for Australia with horrific bushfires and our national leadership (particularly the Prime Minister) coming under severe criticism. Just one month later, in a dramatic turnaround, much to his credit, the very same Prime Minister Scott Morrison significantly picked up his game and upped the ante showing outstanding leadership during the COVID-19 crisis. To start with, he created a national cabinet as a unique decision-making authority bringing together State Premiers of different political persuasions to work together on a common goal to overcome the crisis. He has also successfully overcome ideological differences with his opponents (in stark contrast to President Trump in USA); earning him the admiration of supporters and opponents alike.

¹ Calwest University, USA

² ICMA (Australia)

The result of this coordinated and carefully planned response to the pandemic is a dramatic downward trend in the number of new cases as well as active cases as illustrated in the attached diagrams from 'worldometers' - Similar diagrams for every country are available and regularly updated on the 'worldometers' website.3



Besides the Australian Prime Minister, the Premier of Victoria, Daniel Andrews has also emerged as a great leader. He led the state admirably during the bushfires and now the Pandemic. Other State Premiers have also cooperated well with the Federal government while taking appropriate statewide action. Maybe there is a lesson for the USA to learn from here? A lesson that political differences need to be set aside and cooperation at all levels, State as well as Federal, together with a well thought-out and executed strategy, is the key to effective control of the Pandemic and any future crisis – global or national.

Before we go across the Pacific and look at leadership in America, we will look at countries closer to home. Across the Tasman, New Zealand is fortunate to have Prime Minister Jacinta Arden. Her leadership in the aftermath of the Christchurch massacre catapulted her into the international limelight; and now under her leadership in the pandemic, New Zealand seems to have achieved success like Australia in flattening the curve. Like Australia the opposition in New Zealand has cooperated with the ruling party to unite the country.

Connecting the Transparency Index with the Global COVID-19 Response

Questions have been raised as to the reliability of the data on each country with regards to its reporting of tests, cases and deaths relating to COVID-19. Some countries have been accused of underreporting the actual impact for various reasons: economic, religious, scientific, national security, lack of transparency and sheer negligence, amongst others. Some leaders have tried to shift the blame and even conveyed misinformation to their citizens. Misinformation is some countries rises to the level of Information warfare tactics with characteristics of psychological operations (PSYOPS) to build morale among their citizens and image projection to the world at large.

³ https://www.worldometers.info/coronavirus/country/australia/

As such, in developing the GRIDTM index, it was important to ascertain if there was a relationship between the level of COVID-19 information coming from a country and the transparency of the country providing the information. A country's ranking on the *Corruption Perception Index 2019 (CP Index)* published by *Transparency International*⁴ was used as a surrogate for the level of information transparency in each country. Countries high on the list are perceived as being less corrupt and more transparent, and thus the COVID-19 information from them could be assumed to be more reliable.

It is interesting to note that the ANZAC countries are ranked high on the *CP Index 2019*; with New Zealand 1st and Australia 12th out of 180 countries. Three other countries in the Asia Pacific region that seem to be managing the crisis very well are Japan (20th on the CPI), South Korea (39th on the CPI) and Singapore (4th on the CPI). These countries are comparatively higher on the *CP Index* than most of their Asian counterparts. These higher ranked Asian countries have leadership styles that are very different to that of the ANZACs. However, if you accept the fact that success in controlling the virus as measured by flattening the curve is a good barometer of leadership, then it can be accepted that these countries have demonstrated good leadership. Among countries ranked high on the CP Index is Hong Kong (16th on the CPI) – however; the level of independence of its leadership from China has been questioned by some, and a factor in the infamous HK riots of 2019. The Chinese response and leadership during the crisis seems to have worked for its citizens; with reports coming out of China that it has successfully contained the outbreak. There have been doubts raised in the Western media, however, on the reliability of the data coming out of China (China is ranked a lowly 80th jointly with 5 others including India, on the CP Index).

It is hard to commend or compare the success of leadership of countries that lack transparency. This is largely because there is not enough testing done in these countries, and also because in many cases the quality of the data coming out of these countries is in serious doubt. This includes some countries in the Middle-East, which though ranked higher on the transparency index due to perceived low corruption, are perceived to have unreliable data to evaluate effectiveness. However, the leadership in most of these countries have locked down their citizens and are in a position to impose restrictions on their residents at will.

South Asia

India has a very strong central Government with the ruling party having a large majority in their parliament which has allowed Prime Minister Modi to enforce a 21-day complete lockdown. The success of this lockdown which has now been extended till the end of April 2020, will be evaluated in the weeks to come but yielded disturbing chaotic scenes of migrant workers fleeing the major cities en-masse as their livelihoods disappeared. These scenes call into question how well the lockdown was planned and executed by India's leadership.

Individual state leaders in India will also be judged for their leadership skills. In Mumbai, the commercial capital of India, the Chief Minister of Maharashtra, Udhav Thackrey, has emerged as a decisive leader acclaimed even by his political detractors.

As the contagious coronavirus cuts through India, the little islands of good news in these terrible times have been the performance of individual chief ministers such as Kerala's Pinarayi Vijayan, Rajasthan's Ashok Gehlot, Maharashtra's Uddhav Thackeray,

⁴ Transparency International - Corruption Perception Index 2019 https://www.transparency.org/cpi2019

⁵ APF (2020), "WHO demands more data on virus from Mideast states", *Business Standard*, https://www.business-standard.com/article/pti-stories/who-demands-more-data-on-virus-from-mideast-states-120031801522_1.html

Chhattisgarh's Bhupesh Baghel, Delhi's Arvind Kejriwal and the irrepressible Mamata Banerjee of West Bengal (Chaturvedi, 2020).⁶

The central government, however, is facing a divided nation just emerging from riots fueled by the contentious *Citizenship Amendment Act 2019*. An important aspect to be noted here is that India possesses a very unique diversity, comparable to none globally; and is the world's largest democracy with over a billion people. Its approach has to be also unique and different from non-democratic countries like China and the Middle-East, and also different from that of western democracies.

In India, the first COVID-19 infection was reported in Kerala on January 20. From early March, the virus started to spread across India; currently, 30 out of the country's 36 States and Union Territories (UTs) are affected. The government's failure to detect, trace and isolate infected persons in the nearly two-month-long window of opportunity it had to protect people from the coronavirus shows its irresponsible handling of the COVID-19 crisis (Wilson, 2020).⁷

Great Leadership is different from populism – The Indian Prime Minister like many other leaders around the world is arguably a populist. This is evident from some of his popular actions like getting all Indians to clap hands at the same time and on another occasion getting everyone to turn the lights out and light candles 'diyas' for 9 minutes at 9pm. Popularity and populism will not win the battle against the Pandemic. The true test of his leadership will be how well he manages the fallout from this pandemic, irrespective of his popularity.

Consider India's leadership response to that of neighbouring Sri Lanka. As the origin of the novel coronavirus in Wuhan was announced, Sri Lankan authorities started to take vigilance in stopping the potential danger. The military forces and the national intelligence service were put on high alert. The government created specialized aviation and border control expert teams, to track the movement of all inbound tourists and with a potential threat. Sri Lanka was one of the first countries to send rescue missions to Wuhan to evacuate 33 Sri Lankan families. The families were brought down via an exclusive carrier and quarantined in a unique quarantine military facility. All potential contacts were observed continuously under quarantine. Those in the military facility were given full access to information; and there was no government control of information, hence increasing its reliability.⁸

This explains why although Sri Lanka is placed a lowly 93rd in the CPI ranks; it is ranked 10th on the $GRID^{TM}$ Index alongside countries such as Hong Kong and Taiwan.

The reason Sri Lanka responded so well is because Sri Lanka has a public health system which is free for all citizens. Going hand in hand, Sri Lanka has had a free education system until graduate school for the last 60 years; thanks to which it has trained thousands of well-qualified healthcare professionals and paramedical workforce for many decades through well-regulated and state of the art medical faculties covering all regions of the country; all free of charge. The doctors and paramedical staff receive post-graduate training and continuous medical education throughout their career. The island nation also has a robust century-old community health program. Health statistics such as maternal and child mortality rates are the lowest in the region. In fact, comparable to the

⁶ Swati Chaturvedi - From Thackeray To Gehlot, Effective Corona-Fighting In States – *NDTV* April 7, 2020, https://www.ndtv.com/opinion/gehlots-bhilwara-model-sets-standard-for-corona-fight-2207491

⁷ James Wilson – Test not find not - Frontline April 10, 2020, https://frontline.thehindu.com/cover-story/article31272654.ece

⁸ Health Review Global (220), Sri Lanka and Coronavirus, https://healthreviewglobal.com/sri-lanka-coronavirus-update-setting-a-global-example/

western world. The life expectancy is highest in the region. The nation is 100% vaccination covered, and all treatments under the extended program of immunization are administered free of charge.

European Union

The European Union, UK and USA are currently the nations that are worst affected by the pandemic – the top 5 affected countries in the world being USA, Spain, Italy, France and Germany. Nine of top twelve affected countries are in Europe. Out of all the European countries seriously affected by COVID-19, Germany has best managed this crisis – not so much in containing the outbreak but in managing the fallout from the outbreak – `with a mortality rate below 2%. Germany was hampered by its open borders with the rest of Europe, specially Italy, which led to the high number of cases in the country. However, it seems to have managed the crisis exceptionally well. The *New York Times* has credited Chancellor Angela Merkel's leadership as one reason the fatality rate has been kept low.

Ms. Merkel, a trained scientist, has communicated clearly, calmly and regularly throughout the crisis, as she imposed ever-stricter social distancing measures on the country. The restrictions, which have been crucial to slowing the spread of the pandemic, met with little political opposition and are broadly followed" (Bennhold, 2020).⁹

Arguably the Worst Response - USA

History will be the judge of the leadership of the crisis by its President, Donald Trump. Opinion in the US is bitterly divided along partisan lines but from outside the US it is very clear that so far, his handling of the COVID-19 crisis has been disastrous and might potentially result in hundreds of thousands of lives lost.

Trump initially declared the virus to be hoax perpetuated by his political opponents and at every step of the denial he has bumbled along playing partisan politics and severely reprimanding the press for asking questions. He refuses to take any responsibility and keeps repeating that the pandemic is not 'his fault'. The utter unpreparedness and disarray of the USA for a pandemic indicates an appalling lack of leadership on Trump's part, as well as the limitations inherent within the US when trying to implement nation-wide responses. The 2018 disbanding of a National Security Council unit set up by President Obama to focus on pandemic preparedness is an appalling lack of vision on the part of the Trump administration. The loss of stockpiled respirators to breakage because the federal government let maintenance contracts lapse in 2018 is a callous decision by the Trump administration that could otherwise prevent loss of precious lives in times of a pandemic like current COVID-19. The failure to store sufficient protective medical gear in the national arsenal represents the Trump administration's failure towards protecting America's valuable healthcare professionals. The gob-smacking spectacle of States bidding against other states for equipment, paying many multiples of the pre-crisis price for ventilators, shows an appalling lack of management skills by Trumps federal administration. Moreover, his constant public flip-flopping in his attitudes towards, and responses to the crisis, have confused the public.

Air travellers summoned home and forced to stand for hours in dense airport crowds alongside infected people – demonstrates a lack of nurturing and care towards the American people. Ten weeks of insisting that the coronavirus is a harmless flu that would miraculously go away on its own, is a clear indicator of Trump's lack of understanding and reckless train of thought. The refusal of Republican State Governors to act promptly as illustrated by the failure to close Florida and Gulf Coast beaches until late March, are further proof of a lack of leadership at the highest levels. No doubt these State Governors share some of the blame, but the buck stops with President, Donald

⁹ Katrin Bennhold - A German Exception? Why the Country's Coronavirus Death Rate Is Low – *The New York Times,* April 4, 2020 https://www.nytimes.com/2020/04/04/world/europe/germany-coronavirus-death-rate.html

Trump. As President of the USA, he could have insisted they be closed, but he did not.¹⁰ Experts increasingly point to President Trump's willful negligence as a primary cause of the pandemic's intensity, but MSNBC legal analyst Glenn Kirscher, takes things a step further, arguing controversially that Trump could be legally liable for coronavirus deaths after he leaves office.

I actually think he will see charges brought in each jurisdiction in which people have died as a result of his gross negligence. So, I have a feeling that he has got a lot of criminal legal exposure coming at him beginning in January 2021.¹¹

The impact of the failure of Trump's leadership are stark and clear for all to see – at the time of writing the COVID-19 cases confirmed in the US are well over half a million, and the President of the USA is on record as saying that restricting the death toll to 200,000 would be considered a great achievement. Clearly, this leader shows a remarkable lack of care for the people in his charge.

Global Response to Infectious Disease (GRID™) to Evaluate the Global Response and Leadership

In constructing a $GRID^{TM}$ Index to evaluate the Global Response and Leadership in the COVID-19 Pandemic, an algorithm was developed incorporating the number of tests per million of population (weighted positive score), the number of deaths per cases (weighted negative score), the number of deaths per million of population (weighted negative score), the number of cases per million of population (weighted negative score) and the *CP Index* (weighted positive score). The Raw data for the purpose of this ICMA research study was obtained from the worldometer¹² website. The reason for using these numbers are as follows:

- Percentage of cases tested to population indicates readiness of the health system to handle a pandemic.
- Percentage of cases to tests ratio indicates community spread of disease.
- Percentage of deaths to cases ratio indicates efficiency of health care system.
- Deaths per million of population indicating overall performance effectiveness of a country's response.
- Percentage score above a benchmark CP Index indicates the reliability of the information provided.

Some of the results obtained in the $GRID^{TM}$ Index for are provided in Appendix 1. Against each country, the comparative CP Index score and rank from Transparency International is shown besides the $GRID^{TM}$ Index ranking. Apart from a few outliers, there seems to be a positive corelationship between the two Indices. To start with, both the Indices have a common leader — New Zealand. Australia ranks 4^{th} in the $GRID^{TM}$ index which is better than its ranking of 12^{th} on the CP Index. That is partly because of its unique geographical and other factors, all of which would have been totally useless if its leadership had not stepped up to the plate. On the other hand, European countries have been badly hampered by geopolitical factors like open borders and climatic factors such as the colder climate.

Let us compare South Korea with the USA, since both countries had their first case of COVID-19 on the 20^{th} of January – USA ranks 23^{rd} on the transparency Index and South Korea ranks 39^{th} . On the $GRID^{TM}$ index score, South Korea ranks 8^{th} in its efficiency and effectiveness in its response, and the US ranks 70^{th} mainly because of President Trump's abject failure and inability to protect his people.

¹⁰ David Frum - This Is Trump's Fault – The Atlantic – April 7, 2020, https://www.theatlantic.com/ideas/archive/2020/04/americans-are-paying-the-price-for-trumps-failures/609532/

¹¹ Deconstructed, "Is Donald Trump Criminally Responsible for Coronavirus Deaths?" – *The Intercept*, April, 2020 https://theintercept.com/2020/04/02/is-donald-trump-criminally-responsible-for-coronavirus-deaths/

¹² https://www.worldometers.info/coronavirus/

South Korea reacted quickly and decisively testing and isolating in record numbers early in stark contrast with Trump who buried his head in the sand calling the virus a hoax perpetuated by his political opponents. The result was that lives were saved in South Korea, and lives were tragically lost in the USA. The death toll in the US is currently 16,500 and growing by 2,000 a day; whereas the death toll in South Korea is 204.

Many countries seem to be doing relatively well on the *GRID*TM *Index*, based on the fact that the virus is only just beginning to take effect in those countries. Brazil is an example where the behavior and leadership style of its President Jair Bolsonaro is very similar to that of Trump. Like Trump, he is fighting the Governors of states that are taking the Pandemic seriously. Consequently, the Pandemic is now exploding in Brazil with about two thousand new cases every day and over a hundred deaths each day. Mexican President Andres Manuel Lopez Obrador, also followed these myopic leaders in asking Mexicans to "live life as normal", even as his health minister asked people to stay home. The Pandemic is rising in Mexico and their death toll is rising.

British Prime Minister Boris Johnson also took things lightly even shaking hands with Covid19 patients, and he almost paid for this irresponsible behavior with his life. Luckily for him, he got the best VIP treatment the NHS could provide and access to an ICU and is now recovering. Other citizens of his country have not been as lucky with a death toll currently near 9,000 which is an astonishing 10% of the confirmed cases.

The crisis is far from over. It is clear from the data we have so far that the actions of leaders in this Pandemic will either save lives or cost lives. The countries with good leadership at the helm will be able to save more lives and the countries where the leadership is either callous, negligent or inefficient will pay a heavy price for the failures of its leaders.

The GRID™ index algorithm is constantly being refined as new information comes in. What we have provided here are the results of the first iteration. The performance of individual countries might change in the coming days and so will their position on the index. For example, Singapore handled the initial outburst of COVID-19 cases very well without locking down their economy. Now they too are forced to close down with the second spike of cases. However, it helps that they have a leader at the helm who said: "We are transparent - if there is bad news, we tell you. If there are things which need to be done, we also tell you. If people do not trust you, even if you have the right measures, it is going to be very hard to get them implemented." ¹³

Singapore is high on both the CP Index and the GRID[™] Index.

Summary

For most of us born post World War II, this is the biggest unprecedented crisis our world has faced in our life time. Our leaders will be judged by their performance during the course of this crisis. Some leaders have already failed their constituents and other leaders have stepped up to the plate. In this ongoing Pandemic and the biggest crisis of our lives, the requirement for good leadership has never been greater. Leaders who show genuine empathy and efficiently take care for the citizens of their country will be remembered and those who fail the test with misguided agendas and mediocre leadership will be judged harshly by history.

¹³ Olivia Ho Coronavirus could take years to run its course: PM Lee – The Straits Times – 30th March, 2020. https://www.straitstimes.com/politics/coronavirus-could-take-years-to-run-its-course-pm-lee

Vol. 18 · No. 1 2020

Appendix 1
GRID™ Index 2020 vs CP Index 2019

	GRID Index A	2020 VS CP Index	(2019		
Country	COVID-19 RESPONSE Rank	COVID-19 Response Score (Normalized)	CPI Rank	CPI score 2019	Variation CPI vs GRID Rank
New Zealand	1	87	1	87	0
Singapore	2	86	4	85	2
Iceland	3	85	11	78	8
Australia	4	84	12	77	8
Finland	5	83	3	86	-2
Norway	6	79	7	84	1
Canada	7	78	12	77	4
Korea, South	7	78	39	59	31
Hong Kong	9	76	16	76	6
Sri Lanka	9	76	93	38	83
UAE	9	76	21	65	18
Japan	9	76	20	73	14
Taiwan	9	76	28	65	19
Germany	16	72	9	80	-7
Denmark	21	64	1	87	-27
India	38	57	80	41	42
Russia	50	48	137	28	87
China	61	41	80	41	19
Indonesia	63	40	85	40	22
Philippines	64	39	113	34	49
Brazil	68	36	106	35	38
United States of America	70	35	23	69	-47
Mexico	72	33	130	29	58
Bangladesh	80	27	146	26	66
Sweden	87	22	4	85	-83
Switzerland	88	21	4	85	-84
United Kingdom	89	20	12	77	-77
Netherlands	91	19	8	82	-83
France	92	18	23	69	-69
Belgium	93	17	17	75	-76
Italy	93	17	51	53	-42
Spain	95	16	30	62	-65

Note: Above version of $GRID^{TM}$ Index includes the countries on top and at the bottom of the table and some in between which might be of interest to our readers.

Appendix 1

GRID™ Index - Methodology

In constructing a *GRIDTM Index* to evaluate the Global Response and Leadership in the COVID-19 Pandemic, a ranking algorithm was developed incorporating both quantitative and qualitative information. This approach is common in social science research. The ICMA has over 15 years' experience in supporting research that develops ranking indexes; the most well-known being the *5-STAR Reporting Index* TM which rates the quality and comprehensiveness of economic, environmental, social, governance and empowerment frameworks in listed companies in Australia and Internationally. 14

The $GRID^{TM}$ Index is a composite of:

A. Publicly available **Quantitative information**:

- 1. The ratio of tests per million of population (to indicates readiness of the health system to handle a pandemic).
- 2. The ratio of deaths per cases (to indicate the community spread of the disease).
- 3. The ratio of deaths per million of population (to indicate the efficiency of health care system).
- 4. The ratio of cases per million of population (to indicate the overall performance effectiveness of a country's response).

B. Publicly available Qualitative information:

1. The *Corruption Perception Index (CPI)* (used as a surrogate for the level of information reliability and transparency in each country. Countries high on the list are perceived as being less corrupt and more transparent, and thus the COVID-19 information from them could be assumed to be more reliable.

C. Privately obtained Judge-Ratings (Qualitative)

In most countries where ICMA had a presence, Information content on a particular country's performance was collected by 3 senior members of ICMA (working independently of each other) on the following 5 leadership responses:

- 1. Speed and Efficiency of Social Distancing and Lock-downs
- 2. Safety and Protections of its Citizens overseas.
- 3. Effectiveness in Measures taken to Flatten the Curve.
- 4. The Accuracy of Testing, Recovery and Death numbers.
- 5. The Functioning of Business and the Economic Hurt.

Once the content analysis was completed, the collected data for each country was given an individual 'judge rating' on a 5-point Likert scale¹⁵, i.e. each leadership response was given a rating score in terms of its focus and measures provided. The recommendations of Yin (1994) with regards to judge-ratings was followed closely, i.e. these judge-ratings were done by at least two individuals who were both independent of the content analysts. Before obtaining these independent judge ratings, the country

¹⁴ For full description of the 5-Star Index methodology, see: Ratnatunga, J. and Jones, S. (2012), "A Methodology to Rank the Quality and Comprehensiveness of Sustainability Information Provided in Publicly Listed Company Reports, in *Contemporary Issues in Sustainability Reporting and Assurance*, Chapter 10, Stewart Jones & Janek Ratnatunga (Editors), Emerald, Bingley, UK.

¹⁵ The reporting relating to each criterion should be rated: 1= very poor; 2=poor; 3=Average; 4=Good; 5=Excellent. A zero should be given if there was no information regarding a particular 5-Star reporting bottom line.

names were removed from the data set so as not provide any preconceptions as to reporting quality, although it will often be easy to guess the country's name, based on the information being examined. These judge-rating were then used to develop weights for each of the quantitative ratios calculated.

An algorithm was developed incorporating these 'weights' to drive the final Index score either in a positive direction or negative direction, as follows:

- Ratio of tests per million of population (weighted positive score)
- Ratio of deaths per cases (weighted negative score)
- Ratio of deaths per million of population (weighted negative score)
- Ratio of cases per million of population (weighted negative score)
- The CP Index above a median benchmark (weighted positive score).

The ICMA (Australia) is at an advantage in getting at judge-rated weights fast as it has members in almost all countries affected. But these weights are being constantly tweaked as our members feeding us information from the ground on a weekly basis; that are then being rated by the judges. This is similar to how Transparency International constructs its CPI; i.e. it uses real data and perceptions from its representative on the ground.

More information on the actual weights used will be provided in a more scientific forum, at a later date when the issues become less politically charged, and more information is obtained. For example, the *Economist Magazine* recently published graphs that tracked COVID-19 excess deaths across countries between the same periods in 2019 and 2020. The premise was that the "excess deaths" were caused by COVID-19. If more information on these 'Total Deaths' numbers become available; this could well replace the CPI index as a surrogate in adjusting the official COVID-19 death tolls that under-count the true number of fatalities for various reasons.

¹⁶ https://www.economist.com/graphic-detail/2020/04/16/tracking-covid-19-excess-deaths-across-countries?utm_campaign=coronavirus-special-edition&utm_medium=newsletter&utm_source=salesforce-marketing-cloud&utm_term=2020-05-09&utm_content=cover_text_url_2

_