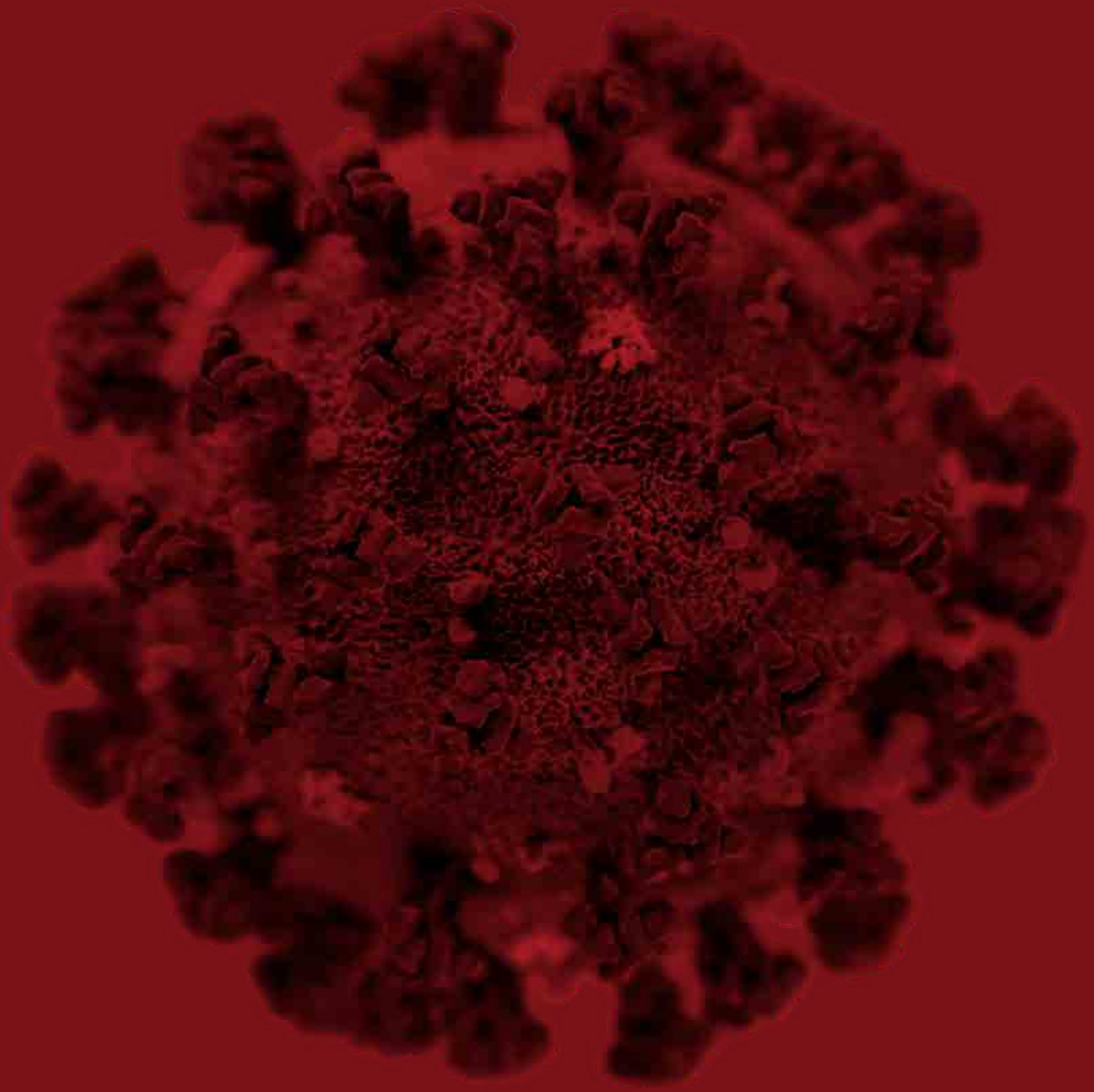
COVID-19



Special Report: Covid-19
Comparing International Policy Effectiveness

by Faeem Raza

1. EXECUTIVE SUMMARY

This article seeks to rank 184 countries by policy effectiveness against Covid-19.

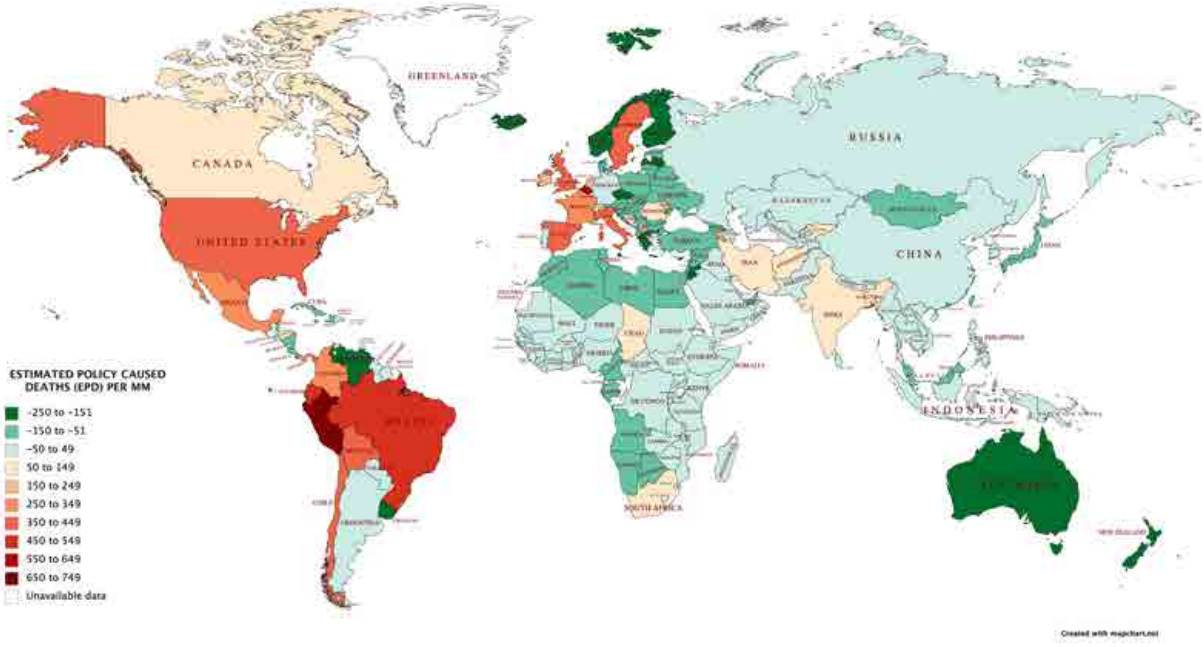
Defining policy effectiveness is a difficult problem and ideally would include measures of protection of the economy as well as control of spread of the disease and related deaths. This article discusses some of the challenges associated with assessing this and explains why a ranking methodology finally chosen was based on an Estimate of Policy caused Deaths (EPD).

This EPD is derived by analysing official Covid-19 death rates around the world, and then adjusting them for 9 variables considered to be influences which are not related to policy. These 9 variables are: (i) population density, (ii) median age, (iii) urbanisation, (iv) wealth, (v) government health spending, (vi) literacy, (vii) health, (viii) annual international arrivals, and (ix) proportion of citizens over the age of 65.

The map below illustrates this graphically. Global results are split into ten equal brackets of 100 EPD points, ranging from the best performers in dark green, to the worst performers in dark red.

A negative EPD score suggests policies have saved lives in comparison to global averages, and a positive EPD score suggests more lives have been lost due to policy.

Data used in this model is correct as of 9th September 2020.



The tables on the next page rank all 184 countries by EPD, from best performing to worst; and show EPD scores by countries arranged alphabetically.

COUNTRIES BY EPD

#	COUNTRY	POPULATION	EPD
1	Curaçao	164,222	-245
2	Anguilla	15,028	-243
3	Cayman Islands	65,867	-241
4	Iceland	341,665	-230
5	Malta	441,769	-230
6	Jordan	10,222,263	-219
7	Uruguay	3,476,039	-219
8	New Zealand	5,002,100	-215
9	Greece	10,413,105	-192
10	Australia	25,555,531	-177
11	Venezuela	28,420,266	-174
12	Finland	5,542,378	-167
13	Norway	5,429,288	-160
14	Czechia	10,712,805	-158
15	Cyprus	1,209,030	-158
16	Latvia	1,882,069	-151
17	Jamaica	2,963,641	-150
18	Dominica	72,020	-149
19	Croatia	4,100,306	-147
20	Lithuania	2,714,722	-139
21	Lebanon	6,819,477	-136
22	Japan	126,401,103	-135
23	Estonia	1,326,707	-135
24	Fiji	897,680	-132
25	Georgia	3,987,680	-132
26	Cuba	11,325,278	-132
27	Hungary	9,655,582	-130
28	Gabon	2,235,312	-127
29	Israel	9,197,590	-127
30	Tunisia	11,841,944	-120
31	Slovakia	5,460,153	-118
32	Syria	17,578,043	-118
33	Bulgaria	6,938,165	-111
34	Poland	37,838,578	-103
35	Algeria	43,997,567	-103
36	Denmark	5,796,113	-102
37	Mongolia	3,288,108	-101
38	Malaysia	32,443,761	-100
39	St. Vincent Grenadines	111,008	-97

COUNTRIES BY ALPHABETICAL ORDER

#	COUNTRY	EPD
155	Afghanistan	68
50	Albania	-79
35	Algeria	-103
170	Andorra	265
57	Angola	-71
2	Anguilla	-243
74	Antigua and Barbuda	-44
135	Argentina	23
166	Armenia	184
60	Aruba	-63
10	Australia	-177
58	Austria	-69
100	Azerbaijan	-17
92	Bahamas	-26
121	Bahrain	8
158	Bangladesh	86
43	Barbados	-88
47	Belarus	-83
183	Belgium	638
53	Belize	-74
95	Benin	-23
130	Bhutan	18
180	Bolivia	433
161	Bosnia and Herzegovina	106
46	Botswana	-85
181	Brazil	461
59	Brunei	-65
33	Bulgaria	-111
131	Burkina Faso	18
124	Burundi	12
127	Cabo Verde	14
144	Cambodia	33
62	Cameroon	-57
153	Canada	54
3	Cayman Islands	-241
143	Central African Republic	28
151	Chad	52
179	Chile	426
101	China	-16

COUNTRIES BY EPD

#	COUNTRY	POPULATION	EPD
40	Nicaragua	6,639,367	-97
41	Turkey	84,510,112	-95
42	Grenada	112,623	-91
43	Barbados	287,443	-88
44	Libya	6,888,779	-86
45	Slovenia	2,078,993	-85
46	Botswana	2,360,365	-85
47	Belarus	9,448,722	-83
48	Ukraine	43,682,293	-83
49	Haiti	11,428,634	-80
50	Albania	2,877,188	-79
51	Morocco	36,992,794	-75
52	Taiwan	23,825,074	-74
53	Belize	398,963	-74
54	Costa Rica	5,102,920	-73
55	UAE	9,912,851	-73
56	Egypt	102,690,815	-72
57	Angola	33,048,914	-71
58	Austria	9,016,202	-69
59	Brunei	438,271	-65
60	Aruba	106,853	-63
61	Hong Kong	7,508,518	-62
62	Cameroon	26,665,949	-57
63	Namibia	2,549,419	-56
64	Serbia	8,730,506	-52
65	Germany	83,835,352	-50
66	Sao Tome and Principe	219,911	-49
67	Palestine	5,123,061	-47
68	El Salvador	6,492,458	-46
69	Zambia	18,476,730	-46
70	Kuwait	4,282,356	-46
71	Saudi Arabia	34,914,836	-46
72	Uzbekistan	33,559,779	-46
73	Paraguay	7,148,989	-45
74	Antigua and Barbuda	98,083	-44
75	Ghana	31,192,083	-42
76	Trinidad and Tobago	1,400,358	-41
77	Tanzania	60,040,404	-41
78	Zimbabwe	14,903,319	-40

COUNTRIES BY ALPHABETICAL ORDER

#	COUNTRY	EPD
171	Colombia	266
128	Comoros	15
54	Costa Rica	-73
19	Croatia	-147
26	Cuba	-132
1	Curaçao	-245
15	Cyprus	-158
14	Czechia	-158
36	Denmark	-102
107	Djibouti	-11
18	Dominica	-149
118	Dominican Republic	6
82	DRC	-36
182	Ecuador	468
56	Egypt	-72
68	El Salvador	-46
97	Equatorial Guinea	-19
23	Estonia	-135
141	Eswatini	27
134	Ethiopia	21
24	Fiji	-132
12	Finland	-167
169	France	254
28	Gabon	-127
136	Gambia	24
25	Georgia	-132
65	Germany	-50
75	Ghana	-42
9	Greece	-192
42	Grenada	-91
146	Guatemala	34
132	Guinea	20
129	Guinea-Bissau	16
102	Guyana	-15
49	Haiti	-80
156	Honduras	73
61	Hong Kong	-62
27	Hungary	-130
4	Iceland	-230

COUNTRIES BY EPD

#	COUNTRY	POPULATION	EPD
79	Saint Kitts and Nevis	53,271	-39
80	Yemen	29,946,262	-39
81	Tajikistan	9,576,830	-36
82	DRC	90,048,792	-36
83	Saint Lucia	183,788	-34
84	Nigeria	207,068,357	-34
85	Qatar	2,807,805	-32
86	Papua New Guinea	8,978,313	-32
87	Liberia	5,079,365	-30
88	Seychelles	98,463	-30
89	Mozambique	31,413,222	-30
90	S. Korea	51,277,698	-30
91	Portugal	10,190,924	-28
92	Bahamas	393,954	-26
93	Kazakhstan	18,818,912	-25
94	Russia	145,946,547	-23
95	Benin	12,180,704	-23
96	Thailand	69,833,642	-19
97	Equatorial Guinea	1,411,179	-19
98	Uganda	45,998,726	-19
99	Mali	20,355,707	-18
100	Azerbaijan	10,156,475	-17
101	China	1,439,323,776	-16
102	Guyana	787,278	-15
103	Timor-Leste	1,323,080	-14
104	Mauritius	1,272,174	-13
105	Togo	8,314,123	-12
106	Philippines	109,854,237	-12
107	Djibouti	990,683	-11
108	Laos	7,295,273	-11
109	Lesotho	2,145,472	-10
110	Madagascar	27,820,103	-8
111	Senegal	16,823,797	-7
112	Singapore	5,859,075	-6
113	Ivory Coast	26,497,023	-6
114	Mauritania	4,671,785	-3
115	Sudan	44,036,091	2
116	Kenya	53,988,201	3
117	Sierra Leone	8,006,823	5

COUNTRIES BY ALPHABETICAL ORDER

#	COUNTRY	EPD
160	India	103
140	Indonesia	25
163	Iran	148
119	Iraq	6
165	Ireland	174
29	Israel	-127
176	Italy	395
113	Ivory Coast	-6
17	Jamaica	-150
22	Japan	-135
6	Jordan	-219
93	Kazakhstan	-25
116	Kenya	3
70	Kuwait	-46
159	Kyrgyzstan	97
108	Laos	-11
16	Latvia	-151
21	Lebanon	-136
109	Lesotho	-10
87	Liberia	-30
44	Libya	-86
20	Lithuania	-139
125	Luxembourg	12
110	Madagascar	-8
120	Malawi	7
38	Malaysia	-100
157	Maldives	78
99	Mali	-18
5	Malta	-230
114	Mauritania	-3
104	Mauritius	-13
173	Mexico	348
167	Moldova	194
148	Monaco	37
37	Mongolia	-101
137	Montenegro	24
51	Morocco	-75
89	Mozambique	-30
145	Myanmar	34

COUNTRIES BY EPD

#	COUNTRY	POPULATION	EPD
118	Dominican Republic	10,868,449	6
119	Iraq	40,387,603	6
120	Malawi	19,219,556	7
121	Bahrain	1,712,032	8
122	South Sudan	11,218,401	8
123	Rwanda	13,010,583	9
124	Burundi	11,954,285	12
125	Luxembourg	627,871	12
126	Oman	5,130,194	13
127	Cabo Verde	557,125	14
128	Comoros	873,000	15
129	Guinea-Bissau	1,976,483	16
130	Bhutan	773,208	18
131	Burkina Faso	21,006,724	18
132	Guinea	13,197,140	20
133	Niger	24,360,921	21
134	Ethiopia	115,481,268	21
135	Argentina	45,274,241	23
136	Gambia	2,428,899	24
137	Montenegro	628,081	24
138	Suriname	587,627	24
139	Sri Lanka	21,430,438	25
140	Indonesia	274,068,991	25
141	Eswatini	1,162,430	27
142	Somalia	15,973,145	28
143	Central African Republic	4,845,332	28
144	Cambodia	16,762,243	33
145	Myanmar	54,479,223	34
146	Guatemala	17,976,822	34
147	Vietnam	97,504,356	35
148	Monaco	39,295	37
149	Nepal	29,233,798	42
150	Pakistan	221,683,215	46
151	Chad	16,510,635	52
152	Romania	19,212,516	54
153	Canada	37,804,826	54
154	Switzerland	8,666,651	58
155	Afghanistan	39,088,687	68
156	Honduras	9,933,918	73

COUNTRIES BY ALPHABETICAL ORDER

#	COUNTRY	EPD
63	Namibia	-56
149	Nepal	42
164	Netherlands	162
8	New Zealand	-215
40	Nicaragua	-97
133	Niger	21
84	Nigeria	-34
168	North Macedonia	228
13	Norway	-160
126	Oman	13
150	Pakistan	46
67	Palestine	-47
172	Panama	332
86	Papua New Guinea	-32
73	Paraguay	-45
184	Peru	743
106	Philippines	-12
34	Poland	-103
91	Portugal	-28
85	Qatar	-32
152	Romania	54
94	Russia	-23
123	Rwanda	9
90	S. Korea	-30
79	Saint Kitts and Nevis	-39
83	Saint Lucia	-34
66	Sao Tome and Principe	-49
71	Saudi Arabia	-46
111	Senegal	-7
64	Serbia	-52
88	Seychelles	-30
117	Sierra Leone	5
112	Singapore	-6
31	Slovakia	-118
45	Slovenia	-85
142	Somalia	28
162	South Africa	147
122	South Sudan	8
178	Spain	426

COUNTRIES BY EPD

#	COUNTRY	POPULATION	EPD
157	Maldives	542,308	78
158	Bangladesh	164,999,225	86
159	Kyrgyzstan	6,544,193	97
160	India	1,382,567,327	103
161	Bosnia and Herzegovina	3,276,820	106
162	South Africa	59,448,983	147
163	Iran	84,194,553	148
164	Netherlands	17,142,164	162
165	Ireland	4,948,171	174
166	Armenia	2,964,309	184
167	Moldova	4,032,141	194
168	North Macedonia	2,083,357	228
169	France	65,301,291	254
170	Andorra	77,289	265
171	Colombia	50,985,133	266
172	Panama	4,327,410	332
173	Mexico	129,188,221	348
174	Sweden	10,111,264	362
175	USA	331,372,810	373
176	Italy	60,444,583	395
177	UK	67,954,116	398
178	Spain	46,758,276	426
179	Chile	19,147,292	426
180	Bolivia	11,702,818	433
181	Brazil	212,846,718	461
182	Ecuador	17,692,994	468
183	Belgium	11,599,276	638
184	Peru	33,057,742	743

COUNTRIES BY ALPHABETICAL ORDER

#	COUNTRY	EPD
139	Sri Lanka	25
39	St. Vincent Grenadines	-97
115	Sudan	2
138	Suriname	24
174	Sweden	362
154	Switzerland	58
32	Syria	-118
52	Taiwan	-74
81	Tajikistan	-36
77	Tanzania	-41
96	Thailand	-19
103	Timor-Leste	-14
105	Togo	-12
76	Trinidad and Tobago	-41
30	Tunisia	-120
41	Turkey	-95
55	UAE	-73
98	Uganda	-19
177	UK	398
48	Ukraine	-83
7	Uruguay	-219
175	USA	373
72	Uzbekistan	-46
11	Venezuela	-174
147	Vietnam	35
80	Yemen	-39
69	Zambia	-46
78	Zimbabwe	-40

2. INTRODUCTION

Assessing and comparing Covid-19 responses for different countries around the world is an extremely difficult task. Data is inconsistent within countries from month to month, let alone between them. Even after the better part of a year, very little is understood regarding the nature of the disease and there is no global unanimity on optimal policy. Despite this, there are plenty of widely accepted themes to consider and no shortage of appropriately caveated data and discussions to analyse.

There are two main measures of policy effectiveness: the economy and death rate.

In order to construct a ranking system, measures of economic performance were reluctantly precluded, due to a lack of available and dependable data. Instead, an Estimate of Policy caused Deaths (EPD) was constructed. This was derived from an analysis of official Covid-19 deaths for 184 countries after removing 9 variables: (i) population density, (ii) median age, (iii) urbanisation, (iv) wealth, (v) government health spending, (vi) literacy, (vii) health, (viii) annual international arrivals, and (ix) proportion of citizens over the age of 65.

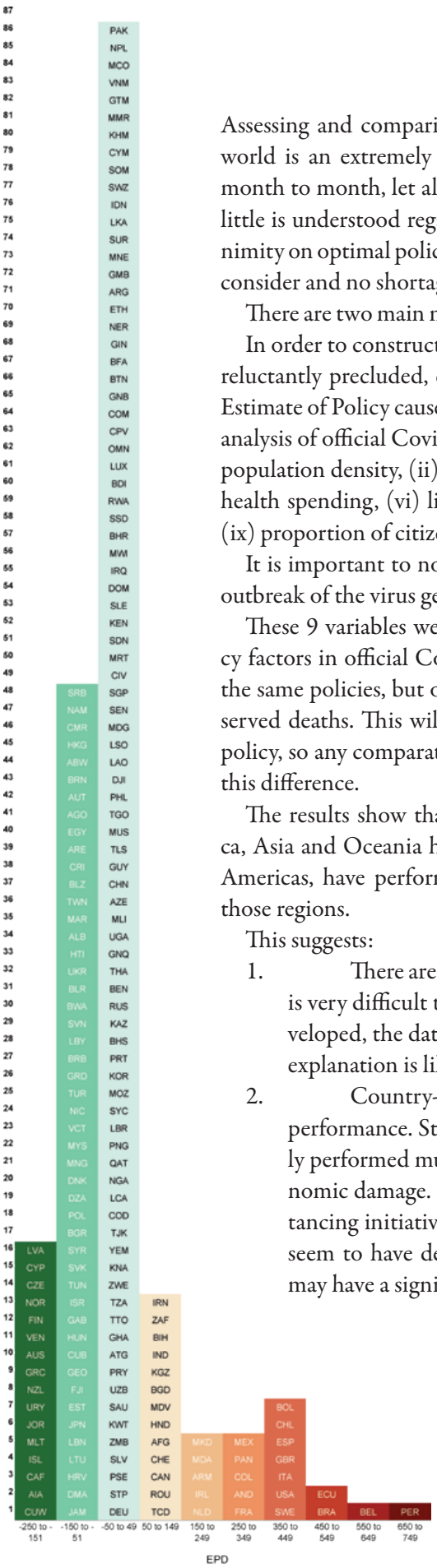
It is important to note that the countries which most effectively controlled the outbreak of the virus generally adopted the best economic strategy too.

These 9 variables were removed to separate the effect of policy from non-policy factors in official Covid-19 death counts. For example, if two countries deploy the same policies, but one has a lower median age, there will be a difference in observed deaths. This will be due to the nature of the virus and demographics, not policy, so any comparative measure of policy effectiveness would have to eliminate this difference.

The results show that policy effectiveness varies widely across the world. Africa, Asia and Oceania have performed well, whereas Europe, and in particular the Americas, have performed poorly. There are notable exceptions within some of those regions.

This suggests:

1. There are broad regional themes. These are visible in the map above. It is very difficult to explain quantitatively why these regional themes have developed, the data shows that median age alone does not account for it. Any explanation is likely to involve sociological theories.
2. Country-specific conditions are the most important determinant of performance. Studies demonstrate that governments that took action swiftly performed much better: resulting in fewer deaths and in general, less economic damage. It is just as important to note that citizens taking social distancing initiatives upon themselves, irrespective of government policy, also seem to have delivered outstanding results, indicating that cultural values may have a significant part to play.



EPD full list by 100 point buckets showing how far worst performers are from the average

This report is divided into two sections.

The first will summarise our current understanding of the disease, discuss the results of the ranking methodology and present a brief outlook.

The second section will discuss in further detail: Appendix I—How the methodology was chosen, the availability and reliability of data, and a simple test of the EPD model; and Appendix II—a collection of alternative-media/conspiracy theories.

3. COVID-19—A RECAP

"The virus, which causes the respiratory infection Covid-19, was first detected in the city of Wuhan, China, in late 2019. The outbreak spread quickly across the globe in the first months of 2020 and was declared a global pandemic by the WHO on 11 March.

A pandemic is when an infectious disease passes easily from person to person in many parts of the world at the same time.

Europe and North America saw their first major outbreaks in April but as they began to ease, Latin America and Asia started seeing cases spike."[1]

The onset of Covid-19 elicited complacency in much of the world, derived from past global health scares such as SARS and Ebola, which did not ultimately develop into pandemics. This was abruptly interrupted in March, when footage from Lombardy in Italy showed overflowing hospitals and morgues and widespread panic.

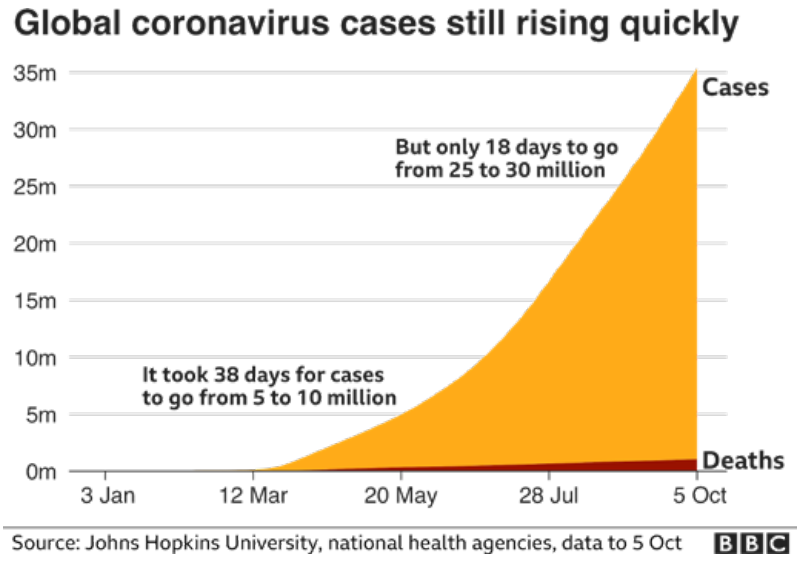
International responses to the pandemic varied significantly from country to country, with each struggling to understand the science of the disease and how best to assess risks with respect to their individual healthcare and economic capabilities. For most countries, action eventually took the form of mandated social distancing measures: a 'lockdown'.

From the peak of infection in some regions in the spring of 2020, reports showed numbers decline sharply where these measures were applied; but a second wave has begun in countries where they have since been eased.

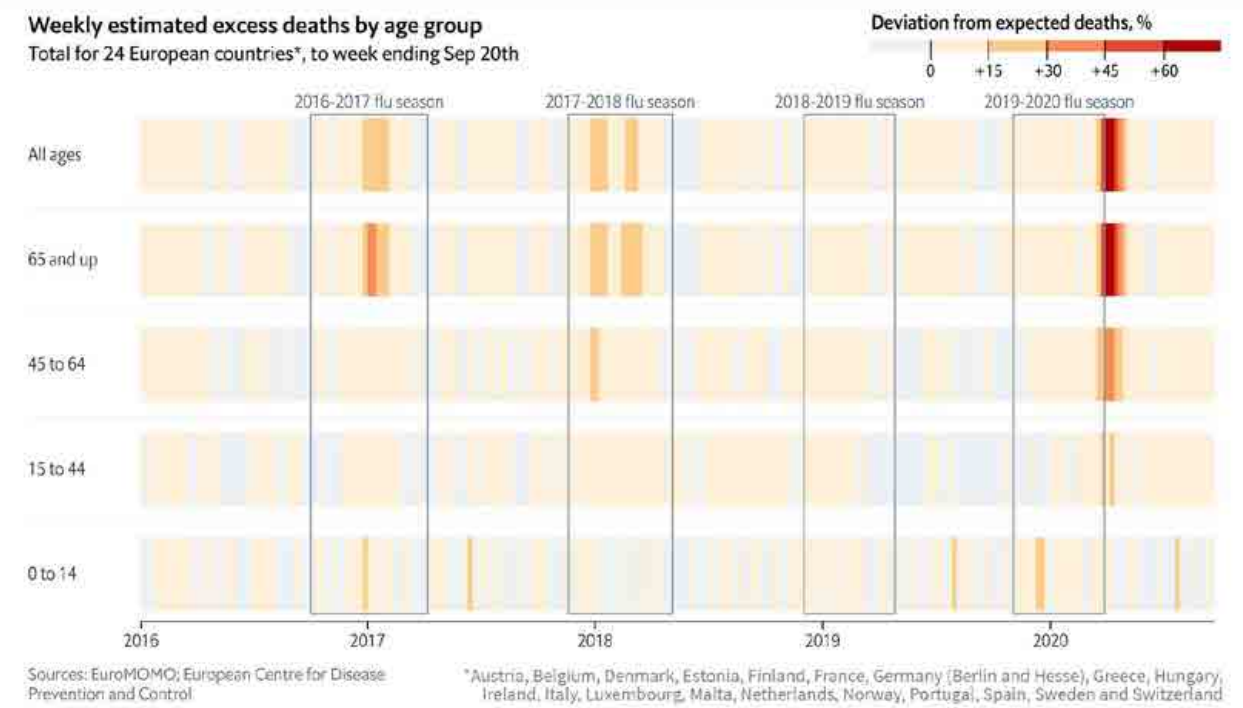
The main characteristics of the disease widely accepted by consensus are:

1. It kills.
2. It is highly contagious.
3. It is a respiratory virus, subsequently close physical proximity presents risk of infection.
4. The elderly are particularly vulnerable.[2]
5. Co-morbidities significantly increase vulnerability.[3]
6. When full medical facilities are available, the disease has a low fatality rate, but unknown morbidity[4]. This rate is higher when healthcare is unavailable[5], for example, when disease growth surpasses healthcare capacity.
7. To protect healthcare capacity and limit the spread of infection, most countries successfully adopted some form of social distancing lockdown measures. This has, however, resulted in immense economic damage.[6]

The unknown morbidity in point 6 is worth dwelling upon. In a study of German patients who recently recovered from Covid-19, it was discovered that 78% of patients had cardiac involvement and 60% had



Age-group (years)	% symptomatic cases requiring hospitalisation	% hospitalised cases requiring critical care	Infection Fatality Ratio
0 to 9	0.1%	5.0%	0.002%
10 to 19	0.3%	5.0%	0.006%
20 to 29	1.2%	5.0%	0.03%
30 to 39	3.2%	5.0%	0.08%
40 to 49	4.9%	6.3%	0.15%
50 to 59	10.2%	12.2%	0.60%
60 to 69	16.6%	27.4%	2.2%
70 to 79	24.3%	43.2%	5.1%
80+	27.3%	70.9%	9.3%



ongoing myocardial inflammation, independent of pre-existing conditions, severity and overall course of the acute illness, or time from the original diagnosis. Early research suggests that people infected with the coronavirus, may experience lung damage and other long-term complications that could persist, even if they don't experience particularly severe symptoms during their illness. Studies in China find that 5-15% of cases are reactivated after recovery.

The table to the left shows hospitalisation and infection fatality rates per age bracket, taken from the Imperial model of 16th March.[7]

The chart[8] above dispels one of the more common misconceptions about the disease: that its impact has been no worse than a bad flu year. It shows data from 24 European countries covering 350mm people. The baseline is an average over the past ten years. The darker lines show greater excess deaths than normal. It indicates deadly flu seasons in 2017 and 2018, but 2020 is incomparably worse. It is worth noting that although most deaths were of those over the age of 65, the number of deaths amongst 45-64 year olds were 40% higher than normal in early April. This data only takes into account part of the year, under heavily social distancing protocols.

In some parts of the world, there is a perceived absence of dependable guidance on dealing with Covid-19, in part due to the rapidly evolving science of such a young pathogen, but also because main stream media and governments have been accused of repetitive U-turns and disinformation as they try to maintain popularity, claim competency[9] and retain solvency.

The subsequent vacuum of trust in authority has been a fertile ground for 'alternative' media outlets to provide explanations to people desperate to make sense of the unprecedented upheaval of their lives.

A discussion of some of these alternative theories is included in Appendix II.

If government advice on coronavirus was a road sign

4. DISCUSSION OF RESULTS

This study shows that 'policy' is critical for dealing with Covid-19 and the model presented here allows for interesting comparisons.

The results indicate: 1. There is considerable Country-specific variation across the world and occasionally sharp contrast between neighbours, particularly in Europe and the Americas. 2. They also indicate that there are important regional homogeneities.

In trying to understand variation, since the numbers never speak for themselves, the following efforts to speak for them will very much be open to debate. 1. Country-specific variations will be much easier to analyse, since Country-specific data is easily obtained. 2. Interpreting regional variations will be much more imprecise, since any sociological or civilisational factors linking countries within regions will be speculative; regional variation is unlikely to be explained by demographics, coronavirus life cycle variability, temporal region or hemisphere.

For the avoidance of doubt: 'policy' is used here as broad term covering government interventions, but also individual behaviour. 'Culture' is used as a common link between people, transcending division between government and the public; and in the context of regions, between national boundaries.

1. Exploring Country-specific Variation in Policy Outcome

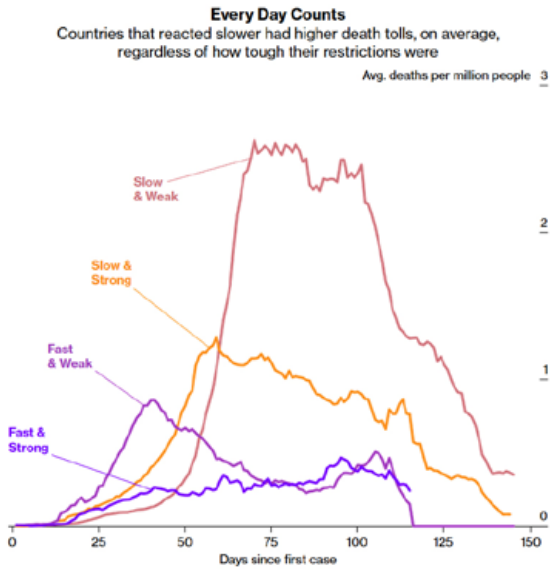
There are robust studies to show that a rapid response[10] to the crisis was critical in saving lives and by extension, the economy. In some cases, delays might be excused by capacity or affordability and in others, might be explained by ineptitude. The importance of delay cannot be overstated. It is estimated in the UK for example, "Every week before lockdown cost us five to eight weeks at the back end of the lockdown"[11]

This chart[12] (right) shows how rapid interventions were critical to the death count. For example, Argentina (EPD 23) instituted a stringent lockdown, and enforced closures and checkpoints with punishments of up to two years in prison. Neighbouring Brazil (EPD 461) did the opposite. Taiwan (EDP -74) battle-hardened by their experience with SARS in 2003 and alerted to danger by Chinese social media posts by medical professionals, locked down, deployed effective contact tracing and immediately utilised quarantines. The USA (EPD 373) was slower and weaker than most countries driven by the current cycle of electioneering and cultural paranoia regarding freedoms (at least for a portion of their society). Countries such as Germany (EPD -50) and South Korea (EPD -30) were able to manage their responses with strong testing capabilities and local, rather than national lockdowns. South Korea was amongst the first to offer drive-through testing.

India (EPD 103) compared to Pakistan (EPD 46) is interesting because of the comparable demographics, the main differences being size, political governance and religion. Pakistan[13] has received international accolade for its policy response of smart lockdowns, demonstrating the intelligent use of accurate data. India on the other hand, accused of undercounting Covid-19 deaths[14] is still deeply into its first wave and so the gap between them is likely to still grow.[15]

Jordan (EPD -219) is a case of outlying excellence in its region and is the best global performer amongst countries with a population greater than 10 million. Its success was yet again down to a swift and aggressive response.[16] In the context of a country ill-equipped to deal with and vulnerable to a large outbreak, this was particularly noteworthy. "Jordan holds the position as the second largest host of externally displaced peoples per capita in the world."[17]

Italy (EPD 398) was important as one of the first countries in the western hemisphere to witness the worst of the first wave of the virus, but also one of the first to demonstrate that strict policy could arrest the spread of infection. Sadly, this lesson was not heeded closely, for example, in the UK (EPD 395). The UK response has been characterised by lethargic, confused messaging, corruption, ineptitude[18] and widespread public non-conformity[19]. Unlike the localised spread in Italy and Spain, in the UK, infection spread was broad, thanks to returning holiday makers[20].



Sweden (EPD 362) is the (only) poster child for those opposed to lockdown measures. It chose soft measures, but performed no worse than some countries with much stricter measures, such as the UK (EPD 395). This position fails to recognise that the critical determinant of UK policy outcome was not strictness, it was timing.

Proponents against lockdowns further claim that Sweden's soft measures should not be assessed on official performance since this is unduly negatively affected by the early strategic error of not protecting senior living homes. There is no evidence to suggest that a policy of shielding older and vulnerable people has been successfully worked, or that any other country's performance wasn't equally disadvantaged. The facts are that Sweden (EPD 362) has performed extremely poorly, whilst its immediate neighbours which instituted rapid and strict measures, performed exceptionally well: Finland (EPD -167), Norway (EPD -160) and even Estonia (EPD -135), Latvia (EPD -151), Lithuania (EPD -139), Poland (EPD -103), Germany (EPD -50) and Denmark (EPD -102).

There has been significant professional opinion within Sweden that has disagreed[21] with the government strategy. In response, the Swedish government has vigorously defended[22] itself on some occasions, but admitted failures[23] on others. It has also expressed surprise at the very limited resultant herd immunity[24]. Judging Sweden's performance solely on soft government mandate, does not take into account any voluntary public choice to socially isolate. This may be a significant contributory factor as to why performance was not worse in Sweden and might explain the lack of herd immunity. It can be seen how robust this phenomenon can be in the next example.

Japan (EPD -135) is a fascinating case study, illustrating the power of voluntary individual action over state mandate. It has been the best performing of the top 49 most populous countries: It has a population of 126 million which is densely packed into huge cities and has the greatest proportion of elderly in the world. "Greater Tokyo has a mind-boggling 37 million people and for most of them, the only way to get around is on the city's notoriously packed trains."[25]

In contrast to other success stories, the Japanese government has been criticised for a lazy and half-hearted response, with inadequate testing capacity, even now. It was, on the other hand, quick to recognise the risks of large gatherings, deployed clear messaging and sent free masks out to each household. Japanese laws do not allow for European style enforcement of lockdown measures and so, interestingly, policy was simply suggestive.

The incredible success of the country in its fight against Covid-19 has been attributed to the quiet determination of the public. Masks have already been common since a 1919 flu pandemic and people are expected to wear them when suffering a cough or cold in order to protect those around them. Their track and trace systems date to the 1950s, their social customs dictate speaking quietly, bowing rather than shaking hands or hugging, and the culture incorporates high standards of personal hygiene[26], with frequent hand washing taught from nursery age. Though there is a tenuous suggestion of historical immunity from similar coronaviruses in the past, the evidence suggests this is a triumph owing to culture and the commitment of individuals.

2. Exploring Regional Variation in Policy Outcome

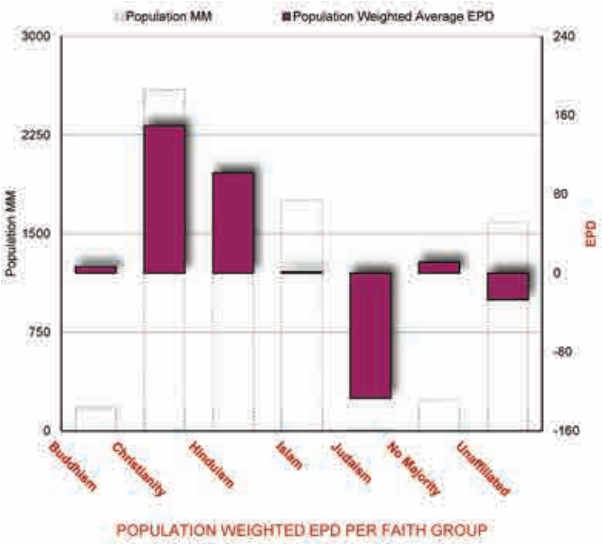
See full map on page 25

It is important to note that regional variations are very real and so are important to consider in order to fully understand what drives differences in policy effectiveness.

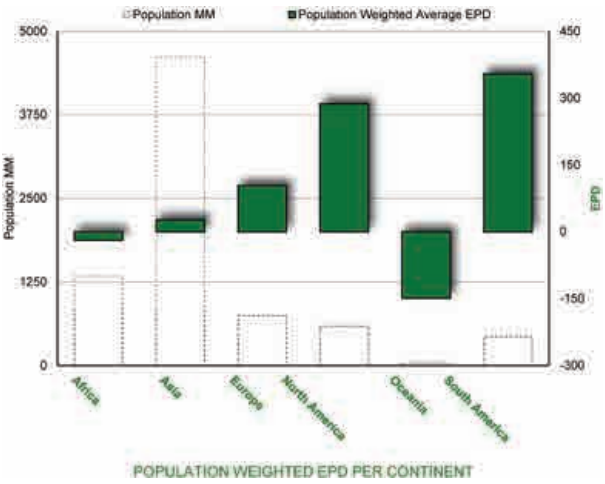
Using Defined Criteria

In order to try to explore regional themes analytically, it is possible to use well-defined categories to determine if they reveal noteworthy patterns, for example: (i) Majority Religious Belief and (ii) Continent.

For religious belief, eliminating data points with low sample size (population), leaves Christianity, Hinduism, Islam and Unaffiliated (China, Czechia, Estonia, Hong Kong, Japan). The data shows Christian and Hindu countries are worst performing, with Islamic and Unaffiliated countries performing better. How closely a population adheres to the principles of a faith is of course unknown, so any assessments here will refer to adherents rather than faith. Reasons for



POPULATION WEIGHTED EPD PER FAITH GROUP



POPULATION WEIGHTED EPD PER CONTINENT

better performance are extremely difficult to identify with conviction, but may include:

- Imparting better compliance through better social empathy.
- Better provision of psychological stability to obviate rebellion.
- Better observation of faith principles.
- An overlap with totalitarian regimes that eliminate disobedience.
- An overlap with poverty or war ravaged countries and correspondingly fewer vulnerable elderly.

For continents, again ignoring low population data (Oceania), we see how poorly the Americas have performed, followed by Europe, with Asia and Africa the two better performing regions. The Asian nations did have a degree of preparedness after SARS, from which Oceania will also have benefited, alongside their excellent governmental policies and island isolation.

There has been speculation that these differences are explained by median age. Population weighted average median ages are as follows: Africa 20, Asia 32, Europe 42, N America 35, Oceania 35, S America 31. Whilst this might explain Africa and Europe, it does not explain the Americas. There is also the belief that in Africa, rather than demographics, "early, and aggressive lockdowns [...] on the continent have clearly played a crucial role"[27] in disease control.

The results here again confirm regional differences, but the numbers do not explain why.

Using Undefined Criteria

After an analytical attempt at explaining regional differences, further discussion falls into the domain of speculation. Defining what links the countries in poorly performing regions and what links those in better performing regions is a matter of subjective assessment. This will include any number of civilisational theories on tradition, history, culture, social philosophy, economic theory and so on, which will likely provide interesting material for further debate.

The following is an example of a civilisational theory.

Hypothesis: Cultural Modernity vs Traditionalism Explains General Regional Themes in Covid-19 Policy Efficacy

The atlas of EPD scores and analysis of continental regional variation suggests a demarcation of results between the Americas combined with Europe, and the rest of the world.

In attempting to identify what is common to either region, it is speculated that this split is roughly along the lines of the culturally modern and traditional worlds, with the modern world faring much worse than the traditional one.

In the appendix 'Testing the Methodology' (app I, C), the correlation between Covid-19 deaths and GDP per capita was shown as positive. Although this may be related to GDP per capita's high correlation with median age, median age is only 29% correlated with deaths. This finding is consistent with the modern, richer world performing worse than the traditional, poorer world.

Since government policy is country-specific, this leaves the task of identifying cultural variables affecting public attitudes in each of the modern and traditional worlds.

Since pandemic restrictions are based on social empathy and saving the lives of the weakest, it is speculated that choosing to rebel, except in extenuating circumstance, is driven by two primary and one sub-

ordinate overlapping impulses:

1. Sociopathic Greed—loss of personal opportunity
2. Psychological Frailty—inability to comply to social restrictions
3. The minority belief that policy measures do not protect the weak—alt-media

Why would the modern world engender more of this behaviour?

Hypothesis: The Modern World

Modern capitalistic societies work by creating demand, which in turn is created by convincing an individual of their inadequacy or need. Marketing industries do this by relentlessly bombarding individuals with the message that they are too fat or too ugly, or need new shoes or a phone, etc. The emphasis is on repetitive, plastic, disposable superficiality, in order to continually replenish demand, and is propelled by a popularised me-culture of vanity that integrates with marketing pressure. Pivotal to this system working is the consumer constantly feeling inadequate: this necessarily creates anxiety and imbalance.

Prior to the virus, the modern individual was habituated to escaping this reality by riding with the four horsemen of the secular capitalistic apocalypse: consumerism, inebriation, promiscuity and vanity. With the stable's doors now locked down, introspection becomes unavoidable. If there has been no investment in cultivation of something more substantive, this introspection unmasks the transparency of materiality, revealing an emptiness that spawns the anxiety and imbalance referred to above. This is the experience of modern individuals looking inwards.

Looking outwards: The global Black Lives Matter (BLM) movement was a revolt against extreme imbalance caused by institutionalised racial prejudice. It evoked such unprecedented global support by breaching the limits of tolerance in groups, equally disenfranchised by other extreme imbalances in the modern world: the climate, wealth distribution, and power. Adding supposition of corrupt state machinery, media and governments to this sense of extreme injustice, the result for the modern individual is a soul crunching dehumanisation on a mass scale.

So the modern individual sees a crumbling vacuum within, and an all-gobbling machine without. Crushed by these two gigantic grindstones, and struggling to survive, there is no space for empathy, and hence, an unavoidable preponderance of sociopathic greed and psychological frailty.

Hypothesis: The Traditional World

Traditional societies may be somewhat protected from these trends. This may simply be because they cannot afford to join modernity. However, whatever the truth of their philosophies, traditional societies emphasise social responsibility[28], social empathy and internal balance, derived from well-worn definitions of human nature. They counsel the ephemerality of material and time—the coal and bellows of modern capitalism.

Looking inwards through rituals, worship, fasting, meditation and pilgrimages, often these societies are well practiced at seclusion and introspection, and so are less prone[29] to being unsettled at the horrors of what they might see.

Looking outwards, many traditional societies over the past decades have been subject to wars, despots, xenophobia, and oppression, and so they are likely relatively numb to the extreme macro imbalances that surround us all.

Rebuttal:

There are plenty of counter examples for theories like this, for example, Japan is traditional yet capitalist, and South America is traditional yet has performed terribly. It is unlikely that one civilisation theory will explain all regional variations.

5. OUTLOOK

Despite Covid-19 still being in a nascent stage of discovery, there are important lessons to take forward.

On a state level, certainly early and rapid government intervention has proven to be decisive for the control of infection and restriction of deaths. On an individual level, public cohesive initiatives and culture appear to be as effective.

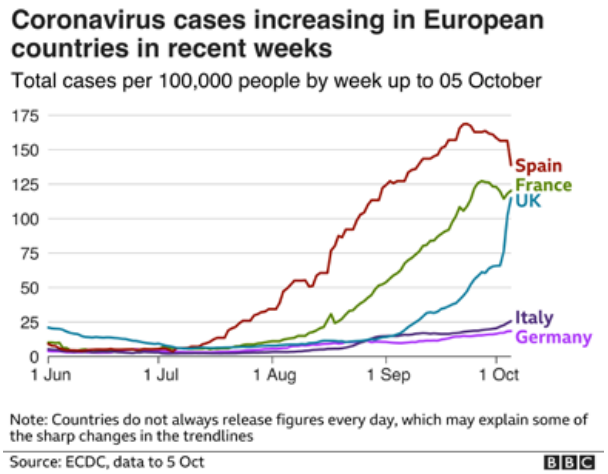
There are widespread hopes pinned on uncertain future medical discoveries of some form of cure. However, successful global disease control and the experience of achieving this through advanced testing protocols with limited social disruption, in places such as Germany and South Korea, suggest that vastly expanded testing will likely be the most practical and probable strategy in the near future. This will facilitate both rapid state policy and motivate better public compliance.

Finally, a word on current emerging trends.

A second wave has begun in many parts of the world[30], but has so far demonstrated very different characteristics from earlier in the year—accelerating rates of infection, but far fewer deaths[31].

There are a few suspected reasons[32] for this; but the risk remains that deaths will catch up.

1. Increased availability of testing, finding more, milder and earlier cases—it is likely many more people than we know were infected in the spring, making a comparison moot.
2. The changing age profile of infections—the infection appears to be growing amongst the 20 -40 age group which has a low fatality rate[33].
3. Improved care—the medical profession now has some experience of better care as compared to when the disease was new.

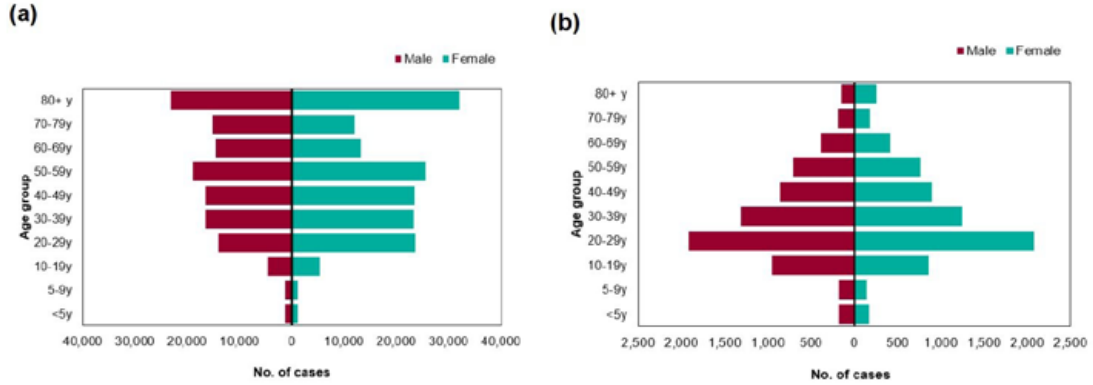


4. Lower viral loads—now that transmission is occurring within communities with some degree of distancing and use of masks as opposed to in hospitals, exposure to lower doses of virus may reduce chances of serious illness.
5. Seasonality—the summer is usually a less dangerous time for virus infection.
6. Time lag—the time it takes for the infections to develop and manifest into deaths, as long as six weeks[34].
7. Mutation—it may be that the virus is mutating into a less severe variant, though there is little evidence for this.[35]

The tragic events of 2020 have sadly caused immense difficulties for millions of people, though inspiration and comfort can be drawn from thousands of stories of genuine heroics: people who have sacrificed so much, including their lives, to help so many others.

Reports and photographs from around the world show that the unprecedented and involuntary pausing of life has reinvigorated the natural world. It also offers humanity a rare opportunity to reassess and reprioritise, which will hopefully illicit similar success.

Figure 2: Age/sex pyramids for laboratory confirmed COVID-19 cases tested under Pillar 1 and 2 (a) cumulative number since week 05 (n=287,389) and (b) in weeks 34 and 35 (n=13,820)



APPENDIX I

A. Choosing a Methodology

There are two main measures for Policy Effectiveness: 1) The Economy and 2) Death Rate

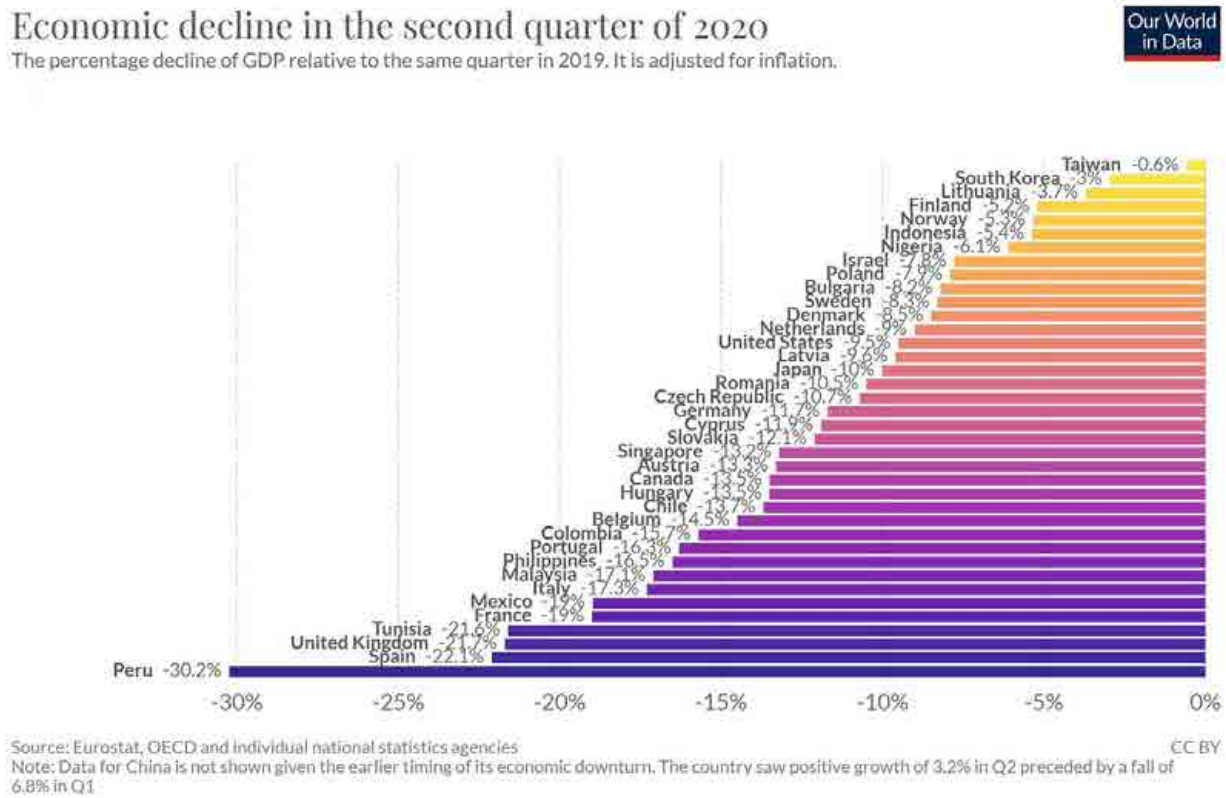
1. The Economy

The human cost of Covid-19 related economic collapse is considered to be immense, and importantly for this analysis, is expected to be spread over several years. There is no doubt that this is a critical policy outcome, but at this early stage in the crisis, it is almost impossible to measure.

1. Looking forwards at GDP predictions, expectations are generally for a significant dip in 2020, but for a sharp recovery in 2021[36] or 2022. Without knowing more about the disease, the possible depth of a second wave and the extent of the global recession, it is impossible to accurately forecast economic disruption and recovery. These answers will likely be unavailable for months and possibly years. In addition, projections currently available are likely to be subject to considerable revision, and so are far too unreliable to build into a model[37].
2. Looking backwards, at reported rather than estimated GDP for Q2, this is only available for 62[38] of the 184 countries under consideration. As a single three month snapshot, it is an extremely volatile[39] number that is difficult to use with any confidence to assess overall economic performance.
3. Finally and importantly, note that where data is available, countries controlling the outbreak of the virus effectively, generally adopt the best economic strategy too[40]. So a measure of deaths implicitly builds in a measure of economic performance to some extent.

These arguments explain why economic measures were reluctantly precluded from the estimated measure of Policy Effectiveness, and why Estimates of Policy caused Deaths (EPD) were preferred.

> "This chart [below] shows the scale of the recent economic decline across 38 countries. [...] It plots the percentage fall in GDP seen in the second quarter (April—June) of 2020 as compared to the same period last year, adjusted for inflation.
>
> We see that in some countries the economic downturn has indeed been extremely severe: in Spain, the UK and Tunisia, the output of the economy in the second quarter was more than 20% smaller than in the same period last year. This is 4 to 5 times larger than any other quarterly fall on record for these countries. And in Peru the year on year fall was even larger, at 30%.



In other countries, however, the economic impact has been much more modest. In Taiwan, GDP in the second quarter of 2020 was less than 1% lower than in the same period in 2019. Finland, Lithuania and South Korea all saw falls in their GDP of around 5% or less."[41]

"The pandemic is expected to plunge most countries into recession in 2020, with per capita income contracting in the largest fraction of countries globally since 1870. Advanced economies are projected to shrink 7 percent. That weakness will spill over to the outlook for emerging market and developing economies, who are forecast to contract by 2.5 percent as they cope with their own domestic outbreaks of the virus. This would represent the weakest showing by this group of economies in at least sixty years."[42]

2. Death Rate

"During the coronavirus pandemic a key question has been: How many people have died because of Covid-19? This seemingly straightforward question is surprisingly difficult to answer.

The complexity lies partly in the different ways this can be measured"[43].

It can be measured by registrations on a death certificate; or confirmation by testing, (dependent upon availability of testing); or only in hospitals; or may include faulty diagnosis of Covid-19 when a comorbidity caused death; or may not include people who have died of Covid-19 at home[44]; it might include irregular Covid-19 designations from coroners; and may or may not include death after recovery, inside or outside the cut off period for designation, etc.

In addition to this "a focus on just confirmed and suspected deaths misses out on those deaths from other causes resulting from more indirect effects of Covid-19. For example, deaths can occur when health systems are strained or overwhelmed and unable to provide sufficient or quality care—think of non-Covid-19 patients requiring ICU beds in units already over capacity due to the pandemic. Deaths can also arise from delays in going to the hospital among those needing care due to fear of getting infected during their stay. And lastly there are deaths stemming from Covid-19's interactions with non-communicable diseases such as diabetes, heart disease, cancer, kidney disease, and others."[45]

The preferred measure to use is "excess deaths". This captures all deaths beyond the average expected for the year, and so captures all the under and over estimates in the various scenarios above. It does include excess non-Covid-19 deaths, but it can be argued that these are largely secondarily associated with the pandemic.

"Excess mortality statistics will only be available for a small number of countries. Excess mortality can only be calculated on the basis of accurate, high-frequency data on mortality from previous years. But few countries have statistical agencies with the capacity and infrastructure to report the number of people that died in a given month, week or even day-to-day. For most low- and middle-income countries, such data is not available for previous years"[46]

The closest useable proxy is official published death numbers[47], the reliability of which we will discuss in the next section. It is worth noting that although this number is usually less than excess deaths, the graphs are relatively consistent in terms of size and shape.

Delineating policy from non-policy contributions to death statistics

Having settled upon utilising publicly available Covid-19 death statistics, the question arises of how to isolate how many of those deaths are caused by political policy rather than by other factors?

From the list of characteristics of the disease, it is known that age, social proximity, and standards of health increase infection and death, irrespective of political policy. So is it possible to remove their contribution from the official death count? This is what the EPD attempts to do.

The following represents nine non-policy factors (or variables) which may cause deaths: the section on 'Testing the methodology' discusses whether these are good choices by calculating how well they correlate with actual death numbers.

1. **Population Density**—indicative of social proximity
2. **Median Age**[48]—virus fatality is age sensitive
3. **Urbanisation**—(percentage of population in urban centres) indicative of social proximity
4. **GDP Per Capita**—a measure of how rich a country is = capability of keeping its citizens safe

5. **Health Spend Per Capita**—better health facilities = lower fatalities
6. **Literacy**—adherence to lockdown restrictions and health guidance
7. **Prevalence Of Overweight/Obese Adults**—proxy for health and comorbidity
8. **Inbound Arrivals/Tourists Per Capita**—more arrivals = more social contact
9. **Proportion Of Population Over The Age Of 65**—virus fatality is age sensitive

To strip out the impact of these factors from the death count, machine learning and regression[49] is used. This creates a model which predicts expected deaths for given values of those nine variables. The difference between these and actual deaths provides an EPD.

The EPD captures any influence on death other than the nine variables. These influences will include Policy—which it is hoped to capture—together with other contributory factors for example, temperate variations, virus mutations, infection timing, health particularities like Vitamin D levels[50], and so on.

It is unknown if there are widespread studies showing that these kinds of factors are either quantifiable or make a significant difference to the death count, so for the purposes of this study it will be assumed that Policy is the major component of the EPD.

B. Data—Availability and Reliability

The difficulties of using statistics for a project like this is explained by Professor David Spiegelhalter when he writes[51],

> "It is misguided to try to attribute good or bad performance to individual causes. Sweden has done badly and ranks sixth in the league table, just behind Wales. How much of this is due to its liberal measures, avoiding a strict lockdown? And how much is due to the fact that a huge number of Swedes take winter holidays in Spain and Italy, and returned and set off outbreaks, or that (like the UK) its care homes were not properly protected? There are no simple answers. [...] We will need years to properly assess the effect of the epidemic and the measures taken against it."

However this does not mean that all analysis is without merit. As Tim Harford writes[52],

> "From the point of view of statistics, [...] disinformation is still out there, as the public understanding of Covid-19 has been muddied by conspiracy theorists, trolls and government spin doctors. Yet the information is out there too. The value of gathering and rigorously analysing data has rarely been more evident."

He goes on to provide an example of the critical use and misuse of these tools,

> "'Locking down a week earlier would have saved thousands of lives,'" says Kit Yates, author of The Maths of Life and Death — a view now shared by influential epidemiologist Neil Ferguson and by David King, chair of the 'Independent Sage' group of scientists.
>
> Statistics should, one would hope, deliver a more objective view of the world than an ambiguous aroma. But while solid data offers us insights we cannot gain in any other way, the numbers never speak for themselves."

Producing a league table that is bullet proof requires a quality and volume of data that is not yet available. However, the idea of Policy as a driver is very much a workable one. In Spiegelhalter's examples: international travel, arrivals, quarantines and care home regulations—all very much fall under the ambit of Policy.

In this study, the greatest variability of quality of data lies in core death statistics. These numbers are widely available, but there are legitimate concerns over their dependability (there is not much reason to fear the accuracy of data corresponding to the nine variables.) Apart from intra- and inter-country variations in the definitions of death and excess deaths, there are suspicions of corruption, and the withholding of accurate data for political advantage by some countries. "Many authoritarian governments are not transparent with their data generally, and one should not expect that they are transparent in this case" according to Democracy Reporting International's executive director.[53]

There is a recognition too that many countries may not have the medical components necessary to test for Covid-19, either through affordability, sanctions or availability[54]; or that they may lack the governance to produce accurate statistical measurements in real time.

Interestingly, accusations of wrong doing are not

limited to the nations at the bottom of 'Corruption Perception' indices. The UK at the start of the crisis was accused of mismanaging their way to a shortage of tests, thereby under-reporting cases, and they were probably not alone given the rush for and global shortage of testing kits at the start of the year. During the ongoing USA election season, all manner of accusations of under-testing, and over-testing have been made. France revised its first confirmed cases well after the fact, and so on.

It is worth looking at a map of corruption perception[55], and comparing it to the map of EPD—there is some overlap. Note though that correlation does not mean causation. There are also similarities with maps of GDP per capita, median age, obesity/overweight, and urbanisation[56].

The countries featuring most often in the western press for hiding Covid-19 death data, are not particularly surprising: Russia[57], Iran[58], and of course, China. India manages to garner a few mentions too[59]. From the Al Jazeera report 'Data fog: Why some countries' coronavirus numbers do not add up': "China—where the pandemic originated—recently escaped a joint US-Australian-led effort at the World Health Assembly to investigate whether Beijing had for weeks concealed a deadly epidemic from the WHO.", and quoting an interviewee: "US sanctions against Iran, which human rights groups say have drastically constrained Tehran's ability to finance imports of medicines and medical equipment, could also be a factor."

The opposite error might also be found on occasion, for example it is thought that Belgium has been particularly generous in allocating Covid-19 to cause of death, which may have led to inflated numbers.

Finally, it is worth mentioning timeline as another possible inconsistency in our data. Each country has undergone its own timeline of Covid-19 first wave deaths. For example, India, Israel and Indonesia appear to be accelerating into their first wave (in the case of Israel, because its first was only a small blip in comparison). Comparing them with a European country which is well past the first wave is not quite an apples-to-apples comparison.

So there are some yellow flags on the core data used for this study, but rankings can easily be adjusted up or down the scale to reflect any doubts. The EPD measure is not bullet proof, but it does represent a large amount of interesting data, and is certainly food for thought. Perhaps a soup rather than a kebab.

C. Testing the Methodology

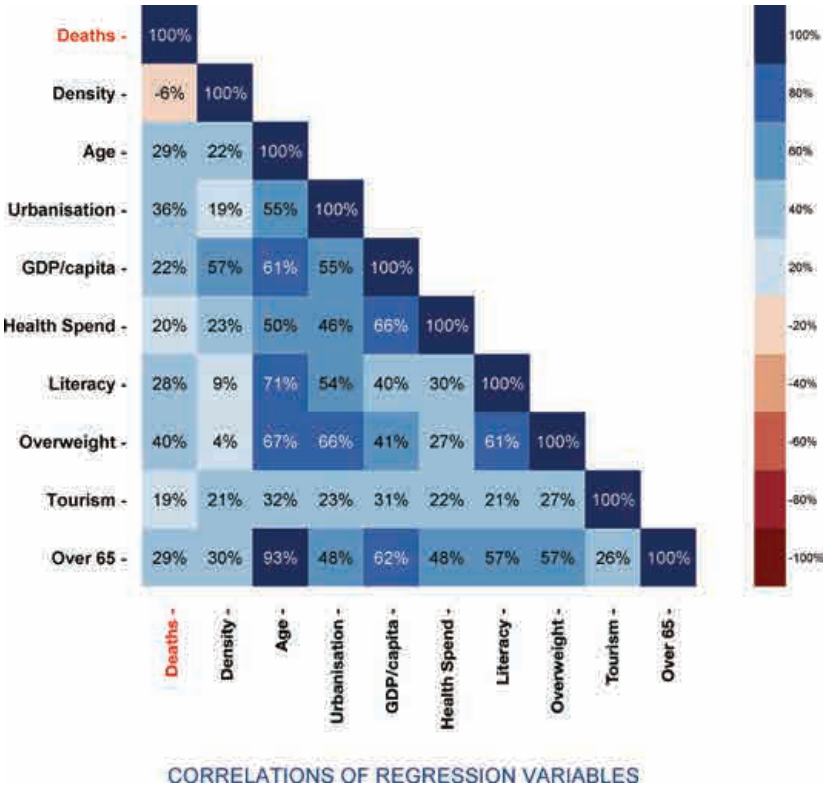
To test if the nine variables were good choices, and do indeed contribute to actual Covid-19 deaths, a correlation matrix (below) showing how each of them relate to one another can be calculated.

Looking at the correlations of the nine variables with actual deaths (the first column from the left):

Population Density at -6% indicates that it does not capture the preponderance of less than 2m social distancing required for disease spread. Intuitively, urbanisation ought to be much better at this, and sure enough, correlates at 36%.

Median Age (29%), Over 65s (29%), Overweight/Obesity (40%) and Tourism (19%) all correlate positively with death, as expected. So the greater the value of each of these, the greater the chance of higher Covid-19 deaths.

What is surprising is that the matrix suggests the greater the GDP per capita (22%), Health Spend per capita (20%) or Literacy (28%) in a country, counterintuitively, the more likely it is to have higher Covid-19 deaths. This might be explained to some extent by noting that these variables are all well correlated with Age (61%, 50%, 71%) suggesting that people in richer

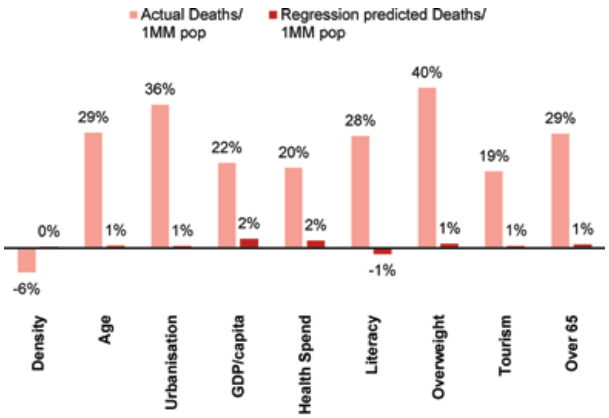


CORRELATIONS OF REGRESSION VARIABLES

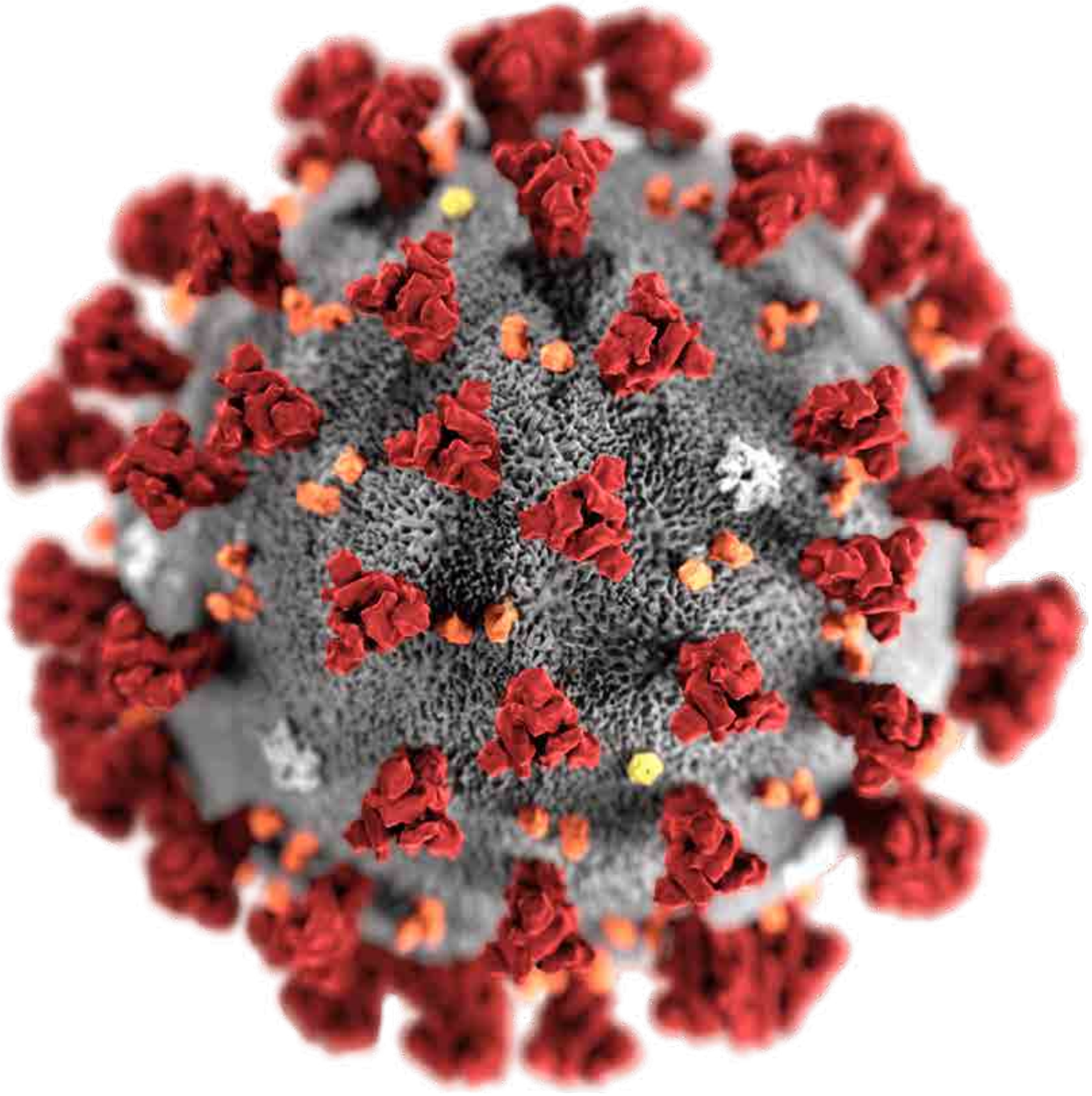
countries with good healthcare and literacy tend to be countries where people live longer, and so are more exposed to age related disease fatality.

Note that the correlations of the nine variables with death are not particularly high (<40%). This suggests there are other variables which are significant contributors to Covid-19 deaths. The hypothesis of this study is that these other variables are captured by Policy.

To test if the model has extracted all useful information from the nine factors, a correlation between model predicted deaths to each of those nine factors can be run. This is illustrated here in red, and values close to zero shows the model works well.



CORRELATION OF DEATH WITH 9 FACTORS PRE AND POST REGRESSION

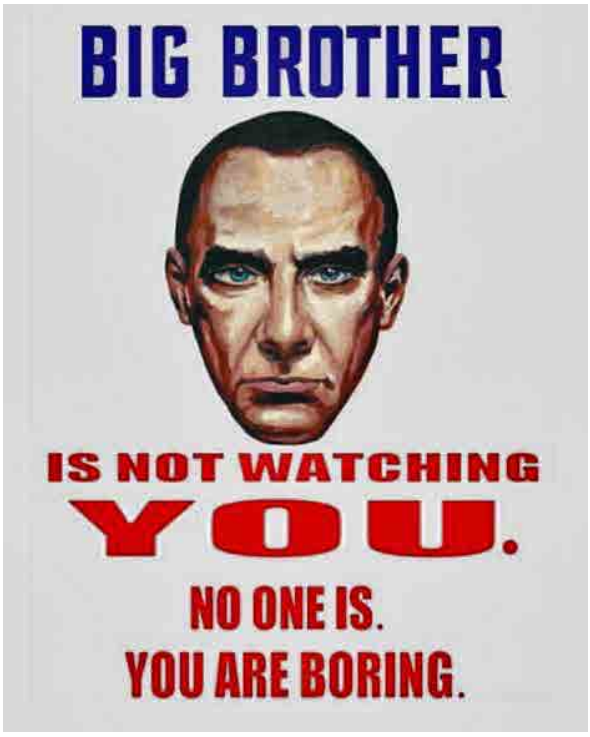


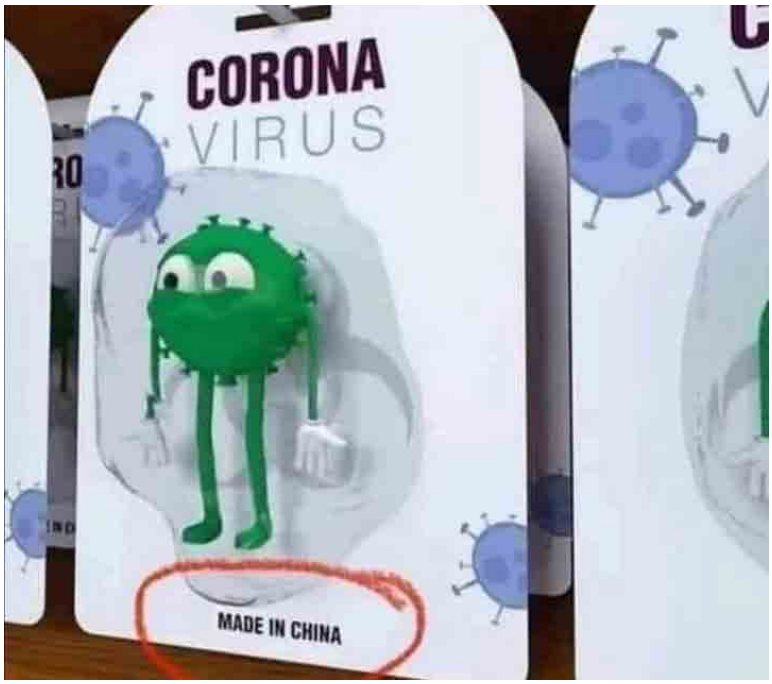
SARS-CoV-2 Virus

APPENDIX II

Popular Alternative Media / Conspiracy Theories

1. The virus is real, but was made in a lab and was released either by mistake, or purposefully as a bioweapon[60].
2. The pandemic has been planned by a well-known family of financiers who decided to publish all their secret plans back in 2010; they are seeking to depopulate and control the world: it is a "plandemic".
3. The disease is no more dangerous than the flu and has been purposefully exaggerated to requisition liberties through emergency legislation. Medicine and technology will be forced upon us all for the purpose of control. This is orchestrated by a super class of globalist elite who exist beyond the law. They are involved in paedophile rings, they consume children's brains to maintain youth and, of course, they devil worship.
4. A high profile tech billionaire philanthropist is trying to use this "plandemic" to control human populations and to secretly use vaccines to insert microchips into all of us.
5. Mainstream medical opinion is either compromised, complicit or ignorant. The same applies to main stream media ("lame stream media"). These so-called-experts cannot be trusted.





6. The rulings to use face coverings to limit large airborne disease carrying droplets are in fact a part of the initiation ritual of a worldwide programme to induct us all into a satanic cult.
7. Masks don't prevent the spread of coronavirus and they pose severe health risks to the person wearing them.
8. Large pharmaceutical firms and politicians have either initiated the pandemic purposefully, or are utilising it to rush through emergency legislation to limit freedom, and to profiteer through preferentially awarded contracts[61] without proper scrutiny[62].
9. 5G telecommunication technology and towers have caused the coronavirus.
10. Excess deaths this year are due to psychological stress caused by the lockdown, eg suicides, not because of an imaginary virus.
11. Healthcare workers are no more likely to suffer infection than the general populace, proving the infection is not dangerous.
12. If you type "illuminati" backwards into a search engine, and add ".com" you will be directed to the government National Security Agency website of the USA.

It is a worrying symptom of the psychological impact[63] of the Covid-19 phenomenon that these kinds of theories are widely proliferating[64], and that proponents vociferously defend them, engage in vigorous global protests and actively undermine public and professional medical policy.

The following represents a selection of references and opinions which are often disputed or manipulated by alt-media:

- There is an immense amount of evidence to suggest that COVID is responsible for sig-

nificant increases in deaths above five year averages. There are many charts illustrating how extensive this data is for example in The Economist[65]. Note that these excess deaths would have likely been much worse had it not been for massive global social distancing interventions.

- It is unclear what extra control is sought by introducing the pandemic. It is beyond doubt that modern state surveillance is already pervasive: face and voice recognition, digital surveillance, Cambridge Analytica, GPS tracking, all with public assent and without disruption.
- It is unclear why a pandemic and new vaccine programme has been orchestrated to secretively inject microchips into everyone, when presumably this could have been slipped into current global childhood vaccination programmes.
- Although main stream media and the pharmaceutical industry has been justifiably criticised in the past, sometimes severely, this does not mean it is all untrustworthy. It is inconsistent for alt-media sources of information to advise trusting no sources of information, except them.
- Masks do reduce risks for coronavirus. Most evidence cited for the opposite opinion are tested against flu, not coronavirus[66] In addition, masks are in constant safe use in medical settings.
- There is genuine concern about the cost of lockdowns to mental health, its effect on people too frightened to visit hospitals, and the associated economic cost estimated in one article to be as many as 150,000 lives in the UK over the coming years[67]. Compare this to estimates of over 500,000 deaths in the UK in the case of Covid-19[68]. Both of these are comparable projections under the unrealistic but theoretical assumption of no mitigation.
- For context of suicides, consider the UK for illustration: excess deaths are currently about 60,000[69]. Average suicides a year are about 5,500[70]. We would need somewhere close to a 1,000% increase in suicide rates in the country to explain excess deaths—there have been no reports of any significant magnitude of increase.
- Healthcare workers do have a higher mortality than the general population.[71]
- Presumably a secret society of uber-powerful global elites and billionaires would choose to fool the world using a method more sophisticated than a redirected domain name.

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ENDNOTES

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Early estimates put the IFR across populations at between 0.6 and 1 per cent. Some thought this would turn out to be an overestimate, but recent estimates are similar. A statistical analysis by Grewelle and his colleague Giulio De Leo, for instance, suggests that the global IFR so far is 1 per cent. https://www.newscientist.com/article/2248813-why-are-us-coronavirus-deaths-going-down-as-covid-19-cases-soar/#ixzz6ZAIlSJ26

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