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The fight against Covid-19: the cases of Japan, South Korea and Taiwan

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Abstract

If you look at the data on the Covid-19 deaths per million inhabitants you can see an immense gap between the West (Europe, US and Canada, Latin America) and Northern Eastern Asia.

For example, as of December 1, 2020, the cumulative Covid-19 deaths per million inhabitants were 1434 in Belgium, 1086 in Peru, 973 in Spain, 933 in Italy , 868 in the UK, 858 in Argentina, 835 in USA, 819 in France , 818 in Mexico, 816 in Brazil, etc. On the contrary in North- Eastern Asia they were 17 in Japan, 14 in Hong Kong, 10 in South Korea, 3 in China and 0.3 in Taiwan. In this presentation I will focus on three democratic North- Eastern Asian countries, Japan, South Korea and Taiwan, which did much better than most major Western countries. Even one of the best performing large European countries (Germany) had a Covid-19 death toll per million inhabitants of 207, about 12 times larger than Japan, 21 times larger than South Korea and 690 times larger than Taiwan. What are the main reasons of this enormous gap between the West and these North-eastern Asian countries? What are the the main lessons that the extraordinary success of Taiwanese anti-covid-19 policies, the great one of South Korea and the substantial performance of Japan can give to Europe and the Americas? The answer is a mix of better policies and of deep demographic, cultural, institutional and historical differences. In the three Asian countries prevention was better than in Western countries and restrictive policies were prompter and more effective, even without the recourse to any generalized lockdown. Early severe screenings in ports and airports reduced the number of imported infections and well- organized tracing and isolation policies limited the diffusion of the pandemic avoiding the collapse of hospitals and other health institutions. Even though up to now the three Asian countries have done a relatively low number of tests (lower in Taiwan and Japan, somewhat higher in South Korea), they did it much more promptly than in Europe or the Americas, and were able, through careful tracing and isolation, to eliminate the covid-19 local outbreaks as soon as they started, avoiding the two great waves of exponential growth of the epidemic which have plagued most countries in the West. Historical reasons as the large exposition to other great epidemics, such as SARS, swine flu and MERS, contributed to better planning and prevention and to the strategy of maintaining more hospital beds for 1000 inhabitants in Japan and South Korea. Less individualism and more attention to the collectivity contributed to the traditional habit to wear masks and to respect more the directions of health authorities and experts. Less arrogance of political leaders and more courage towards myopic interest groups contributed to act more readily and so reduce the heavy social and economic consequences of long and generalized lockdowns as it occurred in most Western countries.

The immense gap between Western countries and North-East Asia as to the mortality rate

- **The Covid- 19 *mortality rate* (defined as *covid-19 deaths per million inhabitants*) is a rough indicator of the severity of the Covid-19 pandemic. It comes with a delay of about a couple of weeks after the level of diffusion of the pandemic, it probably underestimates the true level of deaths that can be attributed to the virus and is not fully comparable between countries, but it is much better than other indicators, such as the number of confirmed cases or the Rt ratios. (see Valli, 2020)**
- **As we can see in *table 1*, there is an enormous gap between the mortality rates in most Western countries (both Western European and of the Americas) and those of three Eastern Asian great democracies: Taiwan, South Korea and Japan.**
- **As of December 1 , 2020, for example, Belgium had a cumulative mortality rate 4780 times higher than Taiwan, 143 times higher than South Korea and 84 times higher than Japan. Peru, Spain and Italy had a mortality rate over 3000 times higher than Taiwan, over 93 times higher than South Korea and over 54 times the one of Japan.**
- **As of December 1 2020, even Germany, which did better (or less worse) among the large Western European countries, had a mortality rate 690 times higher than Taiwan, almost 21 times higher than South Korea and over 12 times the one of Japan.**

Table 1. Cumulative covid-19 deaths for million inhabitants

Source: worldometers (2020, December 2, 2020)

Selected Western countries			Selected Asian and Oceanian countries		
Countries	December 1, 2020	Taiwan = 1	Countries	December 1, 2020	Taiwan = 1
Belgium	1,434	4,780	India	100	333
Peru	1,086	3,620	Indonesia	62	207
Spain	973	3,243	Australia	35	117
Italy	933	3,111	Japan	17	57
UK	868	2,893	Hong Kong	14	47
Argentina	858	2,860	South Korea	10	33
USA	835	2,783	Singapore	5	17
France	819	2,730	New Zealand	5	17
Mexico	818	2,727	China	3	10
Brazil	816	2,720	Vietnam	0.4	1.3
Germany	207	690	Taiwan	0.3	1

The first and second waves of global pandemic

- **The cumulative mortality rate is in large part associated to the earlier or later exposition of a country to the virus and to one or two waves of the pandemic.**
- ***The first wave* occurred in the last days of February or the beginning of March 2020 in countries and regions which had strong and complex trade, FDI, migrations, and tourism relations with China. It struck mainly Northern-East Asia, Western Europe and the United States. For example, In Italy the first wave hit earlier and more violently North Italy and Tuscany, which had more relations with China, and only marginally the other regions, which had weaker relations with China. During the Summer, in which in Italy and other Western countries several restrictions had been relaxed, domestic tourism and other forms of contacts strongly contributed to spread the pandemic to other zones of the countries, incubating *a second wave* in Autumn and Winter.**
- **In most Eastern European and Latin American countries, which had relatively less relations with China, the pandemic started later, in April or May, mainly spurred by contacts with the already plagued Western European countries or the United States. In 2020 several Eastern European (Poland, Czechia, etc.) and Latin American countries had only one long covid-19 wave, often escalating since September.**
- **Up to now, due to prompt and strong containment policies, China, Taiwan, South Korea and Japan have been able to reduce to a minimum the covid-19 deaths since late February 2020, and avoided almost completely the second wave, while most Western countries were utterly unable to do so.**

Why these wide differences in covid-19 mortality?

- **The enormous gap in covid-19 mortality between most Western countries and North-Eastern Asia is due to a complex of factors:**
- **A) demography.**
- **B) the pre-existing health system**
- **C) health policies and restrictive measures**
- **D) socio-political, institutional and cultural factors.**
- **As to demography, it is true that elder people, especially over 65-70 years of age, have a much higher covid-19 mortality then younger ones. This is essentially due to two main reasons: elder people are more fragile because they have a higher probability to have one or more pre-existing major medical problems (cancer, heart, diabetes, lung, etc.) and they are less able to produce an adaptive immunologic response sufficient to successfully fight the virus than younger people.**
- **However, even a cursory look at table 1 and 2 shows that demography explains only a part of the differences in covid-19 mortality. For example Japan has a percentage of people of 65 years or above higher than Belgium, Peru, Spain and Italy, but a much lower covid-19 mortality rate.**

Table 2. Population of 65 years and above as % of total population in selected countries

Sources: UN, World Bank and national statistics for Taiwan

Western Countries (Europe an the Americas)		Selected Asian and Oceania's countries	
Countries	**population 65 years and above as % of total population (2019)**	**Countries**	**population 65 years and above as % of total population (2019)**
Italy	23.0	Japan	28.0
Germany	21.6	Hong Kong	17.5
France	20.4	New Zealand	16.0
Spain	19.6	Australia	15.9
Belgium	19.0	South Korea	15.1
UK	18.5	Taiwan	14.1
USA	16.2	Singapore	12.4
Argentina	11.2	China	11.5
Brazil	9.3	Vietnam	7.6
Peru	8.4	India	6.4
Mexico	7.4	Indonesia	6.1

Health systems

- **The main characters of the health systems in Japan, South Korea and Taiwan as compared to other countries are:**

a) **before the Covid-19 crisis Japan and South Korea had almost 3 times more beds per 1000 inhabitants than other OECD countries and China, and also Taiwan had more beds than OECD's average. Moreover, Japan and Korea had about twice "acute care" hospital beds (which included ICU. i.e. intensive care units) per 1000 inhabitants than the OECD average, though for ICU hospital beds both Korea and Japan were below the average OECD level.**

b) **As to practising nurses per 1000 inhabitants, in 2017, Japan had a higher level and South Korea a bit lower one, than the OECD average, while for practicing doctors per 1000 inhabitants both countries had a lower level than the OECD average.**

So, Japan and South Korea had the possibility to promptly host a larger number of symptomatic Covid-19 patients in their hospitals than most other countries and, if necessary, to rapidly transform simple beds or acute care beds in ICU beds without overwhelming the normal functioning of the hospitals. In this way they could save the life of a large number of patients hit from Covid-19 or other severe diseases. However, the relative lack of doctors, and in South Korea also of nurses, led to the necessity to try to contain *at the start* the diffusion of the virus with severe containment measures. Therefore, Japan and South Korea, and even more Taiwan, implemented severe controls at the frontiers, tests also for asymptomatic people, rigid and well organized *tracing* and *isolation* measures which, together with distancing and the pervasive use of masks, could successfully contain, without generalized lockdowns, the diffusion of the pandemic and therefore the number of infected people and ultimately of deaths.

Health Policies and restrictive measures

- **Though there were meaningful differences between the 2020 policies of the three North-Eastern Asian countries, their basic approach was similar: to extinguish the outbreaks, the small fires, before they rose to uncontrollable giant fires, to use *prevention* and *containment* rather than *mitigation* and *tardive lockdowns.***
- **The fruits of *prevention and containment* were: from the start of the contagion up to now, in Japan the *daily* covid-19 deaths did never surpass the number of 49 persons (0.4 per 10 million inhabitants), in South Korea 9 (0.2 per 10 million), in Taiwan 2 (0.1 per 10 millions) and none from May 10 (see Table 3).**
- **The bitter fruits of *mitigation and tardive lockdowns* in some Western countries were: a lot of more covid-19 deaths (tables 1 and 3) and also two devastating waves of the pandemic with very high peaks. In Belgium there were 341 daily deaths in the peak of the second wave (297.4 per 10 million inhabitants); in the US 2744 deaths in the peak of the first wave (83.1 per 10 millions); Peru, Italy, UK, Spain and France had worse per capita results than the United States. Even Germany, the EU large country that did better, had highly worse results than the three major Eastern Asian democracies. (Table 3)**
- **All this has led to lower economic losses in the three Asian countries. According to EU, IMF and national projections, in 2020, Taiwan, South Korea and Japan would have a real GDP % rate of change respectively of +2.5, -1.1 and -5.5, while most Western countries would have real GDP per cent losses varying from – 4.6 (USA) to - 12.4 (Spain) with an EU average of -7.4. Also the disruption in employment and in public finance will be higher in Western countries.**

Table 3. covid-19 deaths in selected countries (December 1, 2020)

Country	Maximum daily deaths per 10 million inhabitants from the start of the pandemic	Maximum daily deaths (a) from the start of the pandemic	Cumulative total deaths per million inhabitants	GDP Rate of change projections 2020
Taiwan	0.1	2 (I)	7	2.5 (NS)
South Korea	0.2	9 (I)	526	-1.9 (IMF)
Japan	0.4	49 (I)	2,139	-5,5 (EU)
China	0.1	150 (I)	4,634	1.9 (IMF)
India	14.5	2006 (I)	138,159	-10,3 (IMF)
Germany	59.2	497 (II)	17,359	-5,6 (EU)
Brazil	72.9	1554 (I)	173,862	-5,8 (IMF)
USA	83.1	2744 (I)	276,979	-4.6 (EU)
Italy	152.5	921 (I)	56,361	-9,9 (EU)
UK	171.4	1166 (I)	59,051	-10,3 (EU)
Spain	212.8	996 (I)	45,515	-12.4 (EU)
France	220.1	1437 (I)	53,506	-9.4 (EU)
Belgium	297.4	345 (II)	16,645	-6,4 (EU)

(a) peak in the first wave (I), peak in the second wave (II), Sources: Worldometers (2020); col.5 EU, IMF, national statistics

Japan, South Korea and Taiwan, main anti-pandemic policies

FEATURES	JAPAN	SOUTH KOREA	TAIWAN
Previous epidemics such as SARS (2002-3) and swine flu (2010) and MERS (2012-15).	Hit by swine flu. Relatively well prepared to fight other pandemics	Hit by SARS, swine flu, and MERS in 2015. Well prepared, TTT (tests, tracing, treatment)	Hit by swine flu and badly hit by SARS. Well prepared to fight other pandemics
Hospital beds in 2019-20 Territorial health, hospitals	Plenty Effective and resilient	Plenty Effective and resilient	Adequate Effective
Controls at the border	Very severe (as “a sieged fortress”)	Less severe at the start, but then soon reinforced	Very severe
Measures at the border	Travel bans. Tests and compulsory quarantine	Tests. Quarantine measures.	Previous negative tests. Quarantine.
Testing	Relatively few tests	Initially many tests, then also accurate screening	Very few tests
Distancing, masks, tracing and isolation	Prompt and severe measures, discipline, good tracing and quarantine organization.	Prompt and severe measures, discipline, good tracing and quarantine organization	Severe measures, discipline and good health organization
Lockdowns	Not generalized	Not generalized	Not generalized

Attitudes, culture and institutions matter

- **A) *Attitudes* :**
- **Japan's, South Korea's and Taiwan's political leaders, governments and corporations usually have a less myopic vision than the political and economic leaders of Western countries. They look also to mid and long-term objectives and not mainly to short term results. So, their health systems are more effective and more resilient.**
- **Western experts and politicians rely too much on the great Anglo-Saxon research and Journals, which gave tardive information because the pandemic hit first China and other Eastern Asian countries and China was at first reticent. They often ignored or undervalued the scientific literature and the best practices of Eastern Asian countries.**
- **Several Western political leaders, such as Boris Johnson, Donald Trump, Jair Bolsonaro and at first also Macron and several Italian politicians, were arrogant and grossly underestimated the dangers associated to the pandemic. Not resisting to the pressure of powerful interest groups at first they acted weakly and tardively and then had to recur to generalized lockdowns which produced greater economic damages.**
- **B) *Culture:***
- **Individualism is a key in Western culture, while responsibility towards the community is probably stronger in Eastern Asian culture: the tradition to use masks is an Important corollary.**
- ***C) Institutions***
- **In several Western countries unstable governments, heavy and often inefficient bureaucracies, conflicts between Central and regional authorities contributed to retard the anti-covid policies.**

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