

Coronavirus Disease Pandemic (COVID-19)

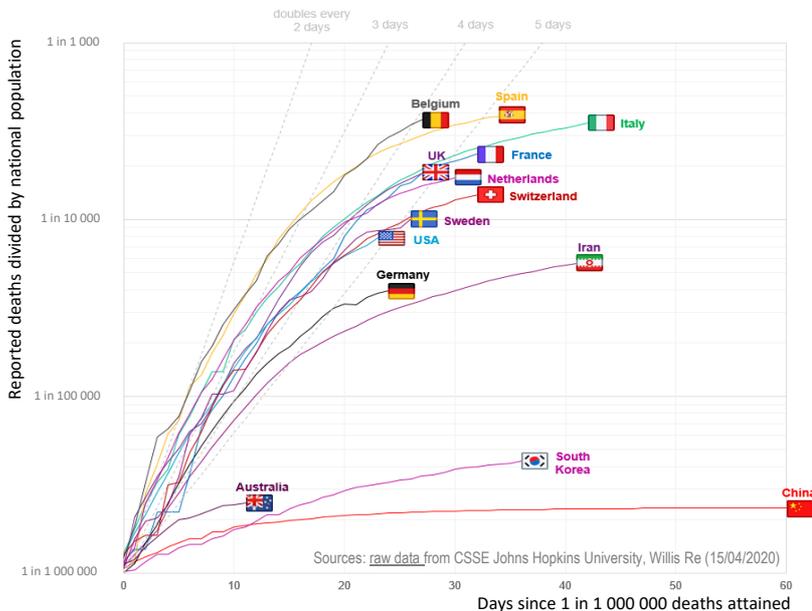
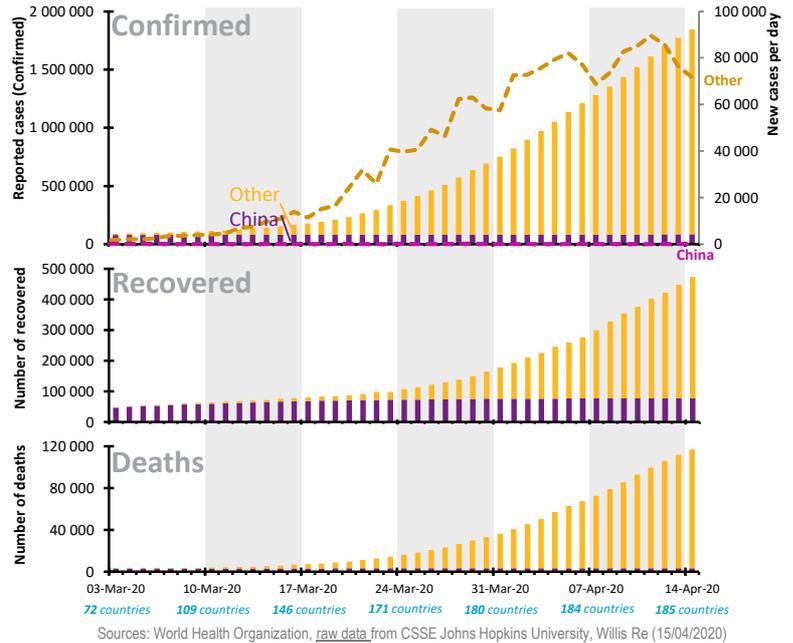
April 15th, 2020

Willis Re – COVID-19 update #5

With more than half of the global population under strict forms of social distancing and above 90 countries in lockdown, concerns is now shifting towards lockdown exit strategies. If the effects of social distancing measures are slowly being observed in countries where the epidemic is advanced, questions arise on when and how confinement will be lifted.

Evolution – Since our last report on March 17th, the following major events have been observed:

- The **global number of deaths has surpassed 100 thousand** on April 12th. For comparison, the pandemics of 1918, 1957 and 1968 reached respectively more than 20 million, 2 million and 1 million deaths.
- Following a **daily high for new cases of 120** on April 5th, **Singapore** has eventually made the decision to **suspend schools** and **close most workplaces** in the country.
- The **African continent** appears relatively unscathed at this date. **South Africa** reports the largest number of confirmed cases (2 272), and **Algeria** the highest number of deaths (313) of the continent.
- **Myriads of countries** currently **ban foreign travel** to avoid additional spread global of the virus.



How countries compare – Following a **first phase of deaths doubling every two days**, the evolution of the **death rate** in most countries where the epidemic is advanced is now slowing down.

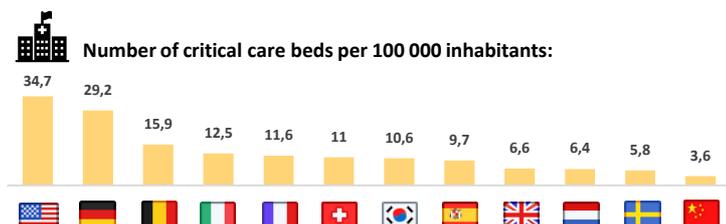
It appears that some countries are reaching **plateaus in death rates**, indicating **control** over the virus spread and **capacity of national health systems** to manage the severe cases.

Germany and the **USA** possess the **largest numbers of critical care beds per capita**, and coincidentally some of the **lowest death rates** among the most affected countries to date.

South Korea has adopted **early and decisive** measures of **testing, tracing and isolating** cases, hence controlling the **virus spread** and the **demand surge** in hospitals.

Australia has **clusters** of the virus in its **major cities**, however, early measures of **national and state border control** slowed down the epidemic.

China has shown an **early and aggressive** reaction to the virus. The country's high population lowers significantly the death rate, however **questions on the true number of deaths** in China are emerging.



Sources: <https://doi.org/10.1007/s00134-012-2627-8> ; <https://www.statista.com/chart/21105/number-of-critical-care-beds-per-100000-inhabitants/>

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Suppression and mitigation strategies

Buying time until vaccination or treatment

In the **absence of interventions**, COVID-19 would have resulted in billions of infections and **40 million deaths** globally this year.

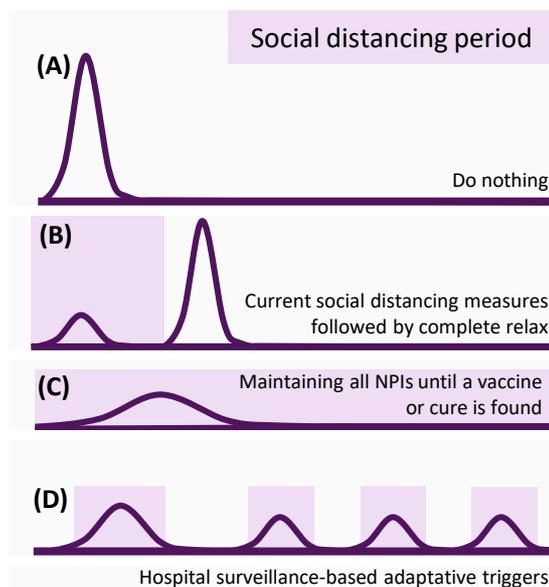
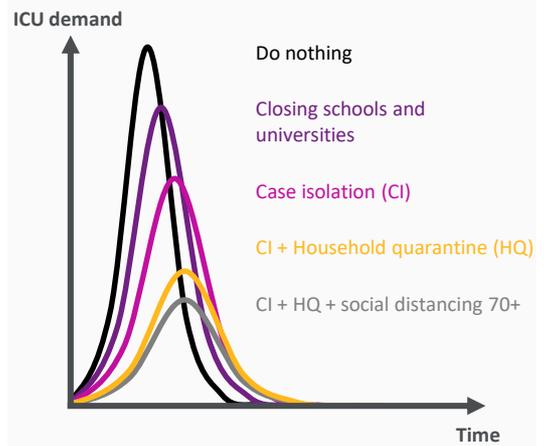
As we are currently facing the **first epidemic peak**, most countries have implemented multiple **Non-Pharmaceutical Intervention (NPI) strategies**.

A study led by Imperial College London researchers shows that the most effective NPIs strategies are: *(in increasing order of efficiency)*

- Closing schools and universities,
- Case isolation (symptomatic cases stay at home for 7 days),
- Case isolation combined with household quarantine (all household members remain at home for 14 days following identification of a symptomatic case),
- Case isolation, home quarantine and social distancing of the older (over 70s).

The latter is identified by the study as the **optimal mitigation scenario**, which would reduce **peak critical care demand by two-thirds** and **halve the number of deaths**, and has the potential to suppress transmission.

Modelled Impact of Non-Pharmaceutical Intervention (NPI) strategies



Different strategies, different outcomes

While the current situation is likely to remain enforced for some weeks or months, the question of **what to do next** arises.

- **(A)** Doing nothing to reach quickly the herd immunity threshold has not been adopted massively. It would lead to very high numbers of deaths and saturation of hospital capacities.
- **(B)** Strict social distancing measures is the preferred strategy around the world. This strategy risks a **second wave of infections should the measures be lifted** too early, severely increasing the toll.
- **(C)** Enforcing stringent social distancing measures **until a vaccine or cure is made available** does not seem realistically feasible due to social and economic constraints in many countries. Intermediate solutions have to be found.
- **(D)** Imperial College researchers proposed a way of enforcing social distancing measures and school/university closures every time **admissions to intensive care units (ICUs)** start to spike, and relax them each time admissions fall. This option leads to the lowest toll in the study.

Imperial College COVID-19 Response Team – Report 12, 26/03/2020

Post-lockdown mitigation measures have yet to be designed and tested, aiming to manage the infection rates to low levels **until a vaccine or cure is available**, which may take some time. As of today, **114 treatments** are in consideration and **79 vaccines** in development. Novel mitigation techniques are on the table to exit population-wide lockdowns.

Selective isolation

Recovered and less risky population can slowly return to normal conditions.

Adaptive triggers

Switching on and off population lockdown following the trend in ICU demand.

Localised lockdowns

Regions where the epidemic peak has been reached and ICU services are not saturated could start lifting lockdown measures.

Testing and Tracing

Extensive case-finding, testing and isolation are required to envisage social distancing strategies that gradually relax while keeping schools closed and seniors isolated.

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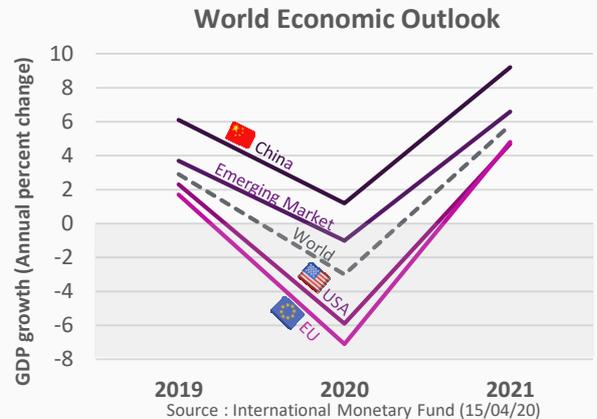
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Economic Recession in 2020

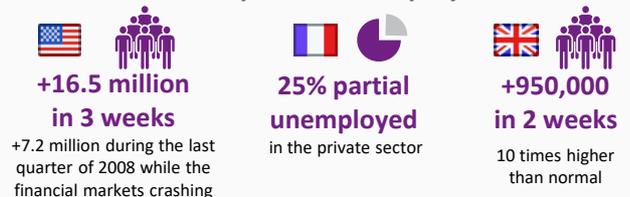
The COVID-19 pandemic is having a strong impact on the global economy. To contain the pandemic most countries have had to confine their populations with a direct impact on the consumption and business. The economic outlook has collapsed, IMF forecast a **global economic contraction of 3% in 2020**, the worst downturn since the Great Depression. In comparison, during the last recession (2009) and the Great Depression (1929-1932) the World GDP shrunk respectively by 0.1% and 15%. Advanced, emerging and developing economies are all expected to be in recession in 2020. However the actual forecast of the IMF involves a 'V' shape for the recovery that could lead to a **rebound of 5.8% of global GDP in 2021** contingent upon:

- The pandemic fading in the second half of 2020,
- Sufficient policy measures taken to prevent the economic crisis.

In the meantime due to the economic slow down, immediate effects are seen on the unemployment rate in many countries, **with record numbers of employees** applying for unemployment benefits within a few weeks.



Direct impact on unemployment



Government economic packages – To tackle the health and economic crisis and to facilitate a potential rebound, massive aid plans have been set up by governments.



Total UE plan of **€ 3 200 bn** has been mobilized by EU governments (eg. € 750bn in Germany to finance social spending and businesses, €100 bn in France for partial unemployment, ...).

- Eu plan of **€540 bn** to support unemployment, small businesses and healthcare expenditures
- ECB has extended Quantitative Easing and announced the Pandemic Emergency Purchase Program with an envelope of **€750 bn** for asset purchase in private and public sector



Cares Act, **\$ 2 200 bn** :

- **\$500 bn** for direct loans to eligible businesses, states and municipalities
- **\$350 bn** of forgivable loans for small businesses
- **\$300 bn** cash payments for individual earning < \$75k, ...

The Fed launched a **\$ 2 300 bn** plan of **financing** into business and an **unlimited buy back** of Corporate Bonds, Treasuries and Mortgage-Backed Securities.

£330 bn of loans and guarantees for businesses. The Bank of England is ready to finance directly the UK government if bonds market is insufficient.



China spending for the coronavirus crisis is estimated **\$370 bn** (prevention, medical equipment, unemployment insurance and fiscal stimulus).



Economic stimulus package of **\$993 bn**, (20% of its GDP). The Bank of Japan continues to expand its monetary policy and has increased its purchase of corporate bonds and ETFs.



Source : Reuters, April 14, 2020, Investopedia 'government stimulus efforts to fight the covid 19 crisis'

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