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Comparing the Covid-19 response and major outcomes in island nations

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Summary

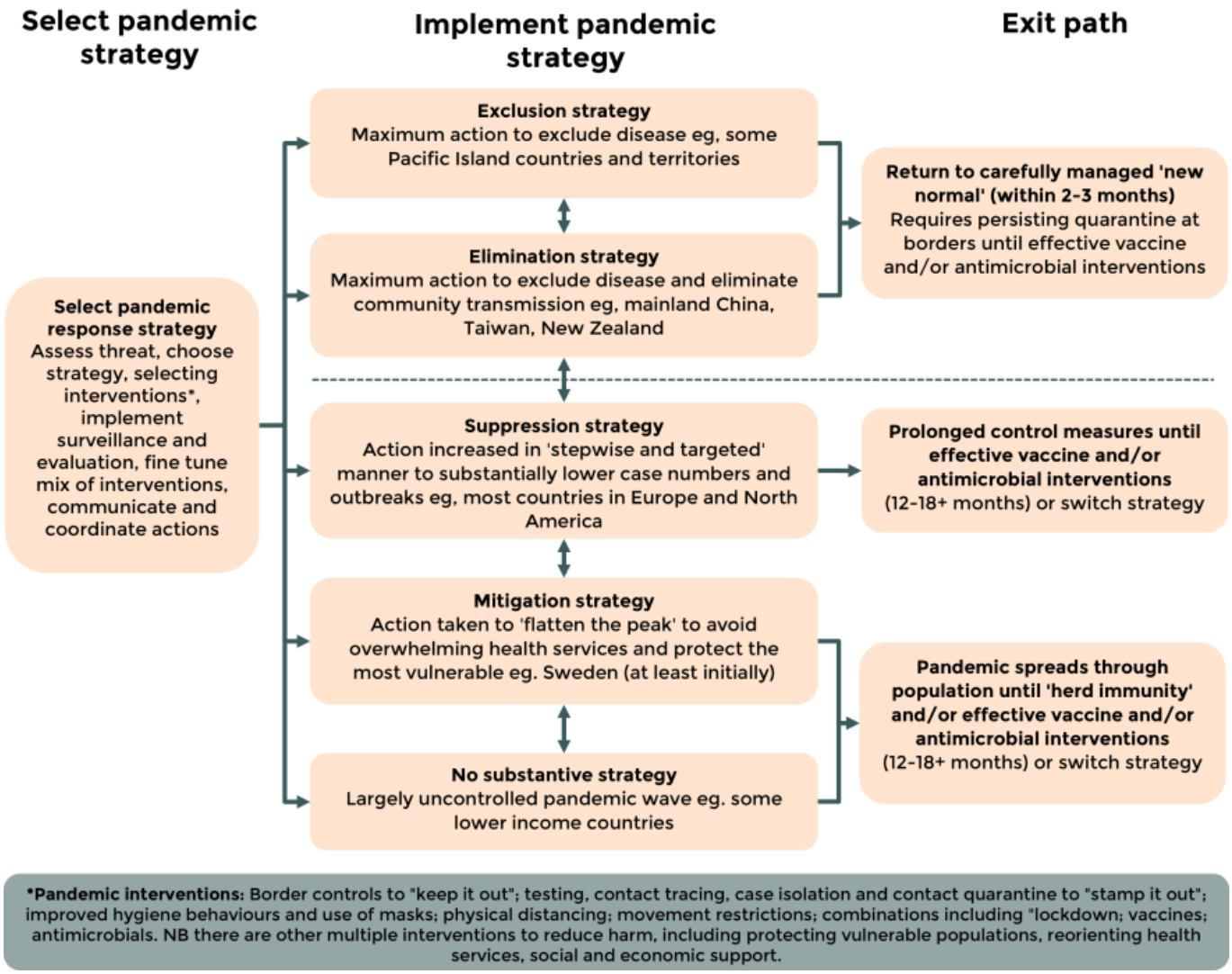
In this Briefing we detail findings in our recent journal publication on whether a vigorous, proactive response to the Covid-19 pandemic was associated with better or worse key health and macroeconomic outcomes.

We found that among the high-income (OECD) island nations, those which used a more proactive strategic response to Covid-19 (such as in Australia and Aotearoa New Zealand who proactively used exclusion and elimination strategies), generally experienced better health and macroeconomic outcomes compared to those which relied on suppression/mitigation strategies. Therefore, when faced with the threat of a severe pandemic, island nations should consider such exclusion and elimination strategies.

The Covid-19 Pandemic has had an enormous impact on health globally, with more than 778 million estimated cases and over seven million confirmed deaths (as of June 2025). When we consider estimates of excess mortality (arguably a more robust measure of impacts[1]), current estimates suggest a total of 27.3 million more deaths globally than would be expected based on previous years (95% uncertainty interval: 19.2 million to 36.3 million, as of February 2025).

However, the impact of the pandemic has varied substantially by nation, with some experiencing far greater effects, both in terms of health, but also economic performance. These differences may be due to certain nations taking a more proactive pandemic response, particularly in the early stages of the pandemic (Figure 1).

Figure 1: Strategic choices for responding to Covid-19 and other pandemics (adapted from Baker et al[2]).



In our new study published in the journal *Social Science and Medicine – Population Health,* we explored how all the island nations in the 38-member OECD responded to the pandemic.[3] The six island nations included Australia, Iceland, Ireland, Japan, Aotearoa New Zealand (NZ), and the United Kingdom (UK). They all have similar levels of average life expectancy and relatively high GDP per capita, albeit with variation in terms of population size and density.

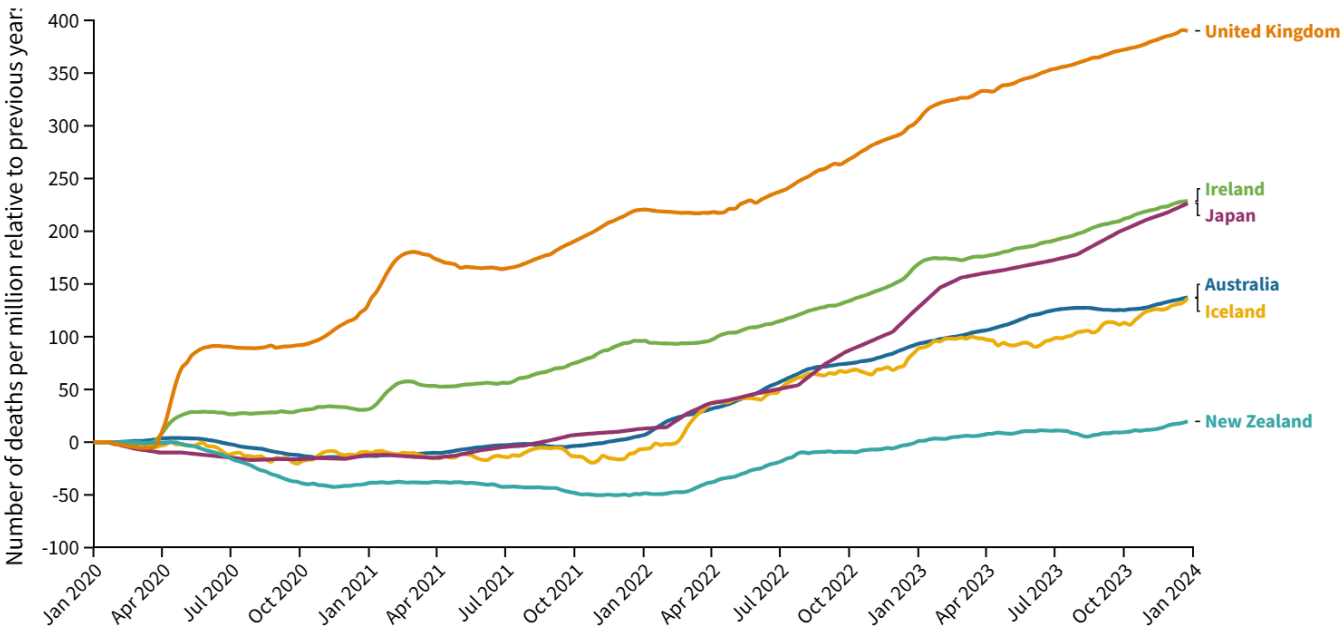
Specifically, we looked at the impact across both health and macroeconomic indicators four years on from the start of the Covid-19 pandemic using the largely comparable data collected by the OECD. We chose to focus on island nations due to their potential advantage in implementing border controls and historical evidence of their benefit as seen in the 1918 influenza pandemic.[4-7]

What the data showed:

- Amongst the six nations, Australia and NZ primarily used a combined exclusion and elimination strategy. The remaining four nations of Iceland, Ireland, Japan and the UK used suppression and mitigation pandemic strategies, although it is worth noting that Iceland achieved a period of elimination in 2020.
- The nations of Australia, Iceland and NZ introduced early intense border controls in March 2020, notably the use of mandatory home or facility quarantine. They were followed by Ireland and Japan in April 2020, and finally the UK in June 2020.

- Iceland and Japan avoided any periods in lockdown (see Appendix Figure A1) and NZ had the lowest median stringency score (least restrictive policies as defined by the Oxford Stringency Index) during 2020-2022, despite its proactive strategy of elimination.
- Several nations displayed negative excess mortality—fewer deaths than would be expected based on pre-pandemic levels—for several months or years during the period 2020 to 2023, such as Australia, Iceland, Japan and NZ. However, NZ experienced the lowest overall excess mortality amongst the six nations at 20 excess deaths per 100,000 population over the years 2020 to 2023 (Figure 2).
- The UK exhibited the highest excess mortality at 390 excess deaths per 100,000 population, and also the highest cumulative confirmed Covid-19 deaths per million people amongst the six nations, at 3,404 Covid-19 deaths per million population (see Appendix Figure A2).
- During 2020, five of the nations experienced negative GDP growth, with Ireland being the exception (see Appendix Figure A3).

Figure 2: Excess mortality in the six high-income island countries in the OECD: cumulative number of deaths from all causes compared to projection based on previous years, per million people



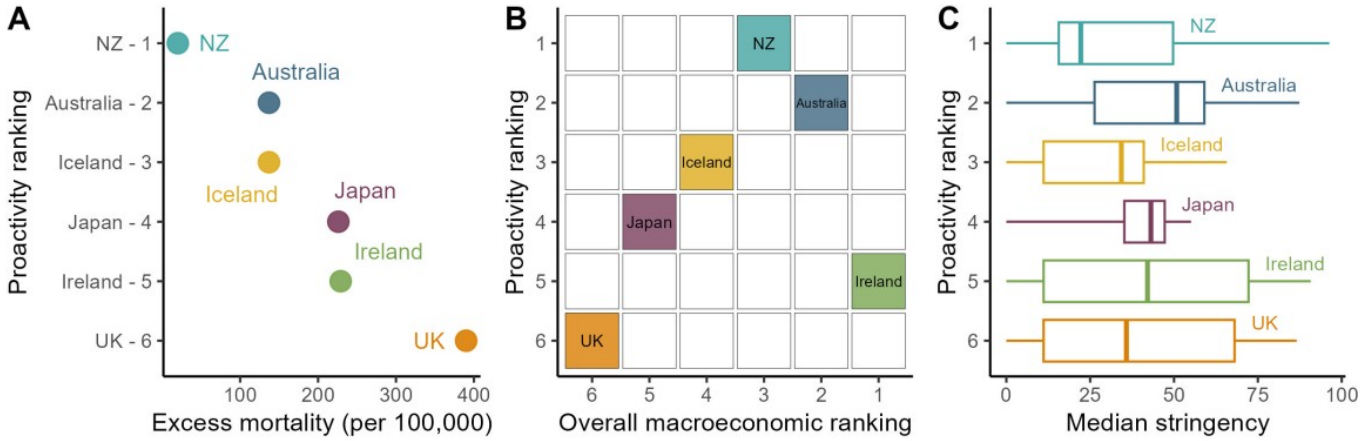
Source: Our World in Data, sourced from the Human Mortality Database (HMD) Short-term Mortality Fluctuations project and the World Mortality Dataset (WMD), Human Mortality Database, World Mortality Dataset • https://ourworldindata.org/coronavirus
Note: The cumulative difference between the reported number of deaths since 1 January 2020 and the projected number of deaths for the same period based on previous years. The reported number might not count all deaths that occurred due to incomplete coverage and delays in reporting. Data extracted April 2025

We developed a composite score for several key Covid-19 pandemic outcomes and compared proactivity of control measures across the six nations up to the end of 2023 where data allowed (Figure 3 and online Table). Proactivity was defined by the extent and early use of exclusion/elimination vs suppression/mitigation measures.

- NZ, Australia and Iceland had the lowest excess mortality per 100,000 whilst also having the better ranks for proactivity—that is, they acted relatively early in response to the Covid-19 pandemic.
- Ireland, followed by Australia and NZ, ranked best on a measure of macroeconomic performance based on GDP per capita growth and unemployment levels.
- Median stringency levels, a measure of the intensity of restrictive policies, showed no

clear pattern when ranked against proactivity. The UK experienced the poorest outcomes for both excess mortality, macroeconomic outcomes and the lowest rank for proactivity.

Figure 3: Composite measures of the Covid-19 pandemic impact for the six high-income island countries. Comparing proactivity ranking with: (A) cumulative excess mortality (per 100,000), (B) overall macroeconomic rankings, and (C) median stringency*



* Adapted from Figure 5 of Summers et al (2025), further details available online.3 Based on daily data, 2020 up to 2023 (where available). Australia and UK data reflects population weighted state or nation average. Cumulative excess mortality rates are for end-2023.

Comment

One of the key findings from this study is that exclusion and elimination approaches can work in response to pandemics in terms of relatively favourable health *and* economic outcomes. In particular, NZ (with relatively low excess mortality and reasonable macroeconomic outcomes) demonstrates this pattern. Such a pattern has also been highlighted in other studies.[2 8 9]

Pandemic planning and preparedness can draw on the findings of this research. Such planning needs to consider the diverse range of potential natural and bioengineered agents[10] (including those produced using artificial intelligence[11 12]) that may have higher clinical severity and be more difficult to control than Covid-19. Consequently, there is a need for pandemic strategies to be informed by detailed pre-pandemic modelling and methods such as multi-criteria decision analysis.[13 14]

It is notable that Iceland pursued a suppression/mitigation approach, but also achieved a period of elimination. This success may reflect the intensity of its control measures, especially very extensive testing of the population.

Despite a not so favourable health response, Ireland had the top ranking for macroeconomic outcomes. This outcome may be partly due to the growth in its technology and pharmaceutical sectors during the pandemic (and how major companies are headquartered in Ireland for tax reasons).

What this Briefing adds

- Our research suggests that island nations that implement proactive strategies to pandemic threats tend to fare better in terms of health and economic outcomes.
- Island nations that used an exclusion/elimination strategy to respond to the Covid-19 pandemic generally had better health and economic outcomes over the four pandemic years, compared to nations that used suppression/mitigation strategies.

Implications for policy

- Pandemic preparedness plans should include various elements of proactivity, such as rapid implementation of an exclusion strategy with early border controls (arguably more achievable in island nations than other nations).
- If an exclusion strategy fails, then intensive control measures can still achieve elimination (as seen for Australia, Iceland and NZ with Covid-19). However, this result may also be achieved without the use of lockdowns, as seen in Iceland which used very intensive control measures such as extensive testing.
- Given the diverse range of possible future pandemics (both natural and bioengineered), there is a need for detailed pre-pandemic modelling and multi-criteria decision analysis.

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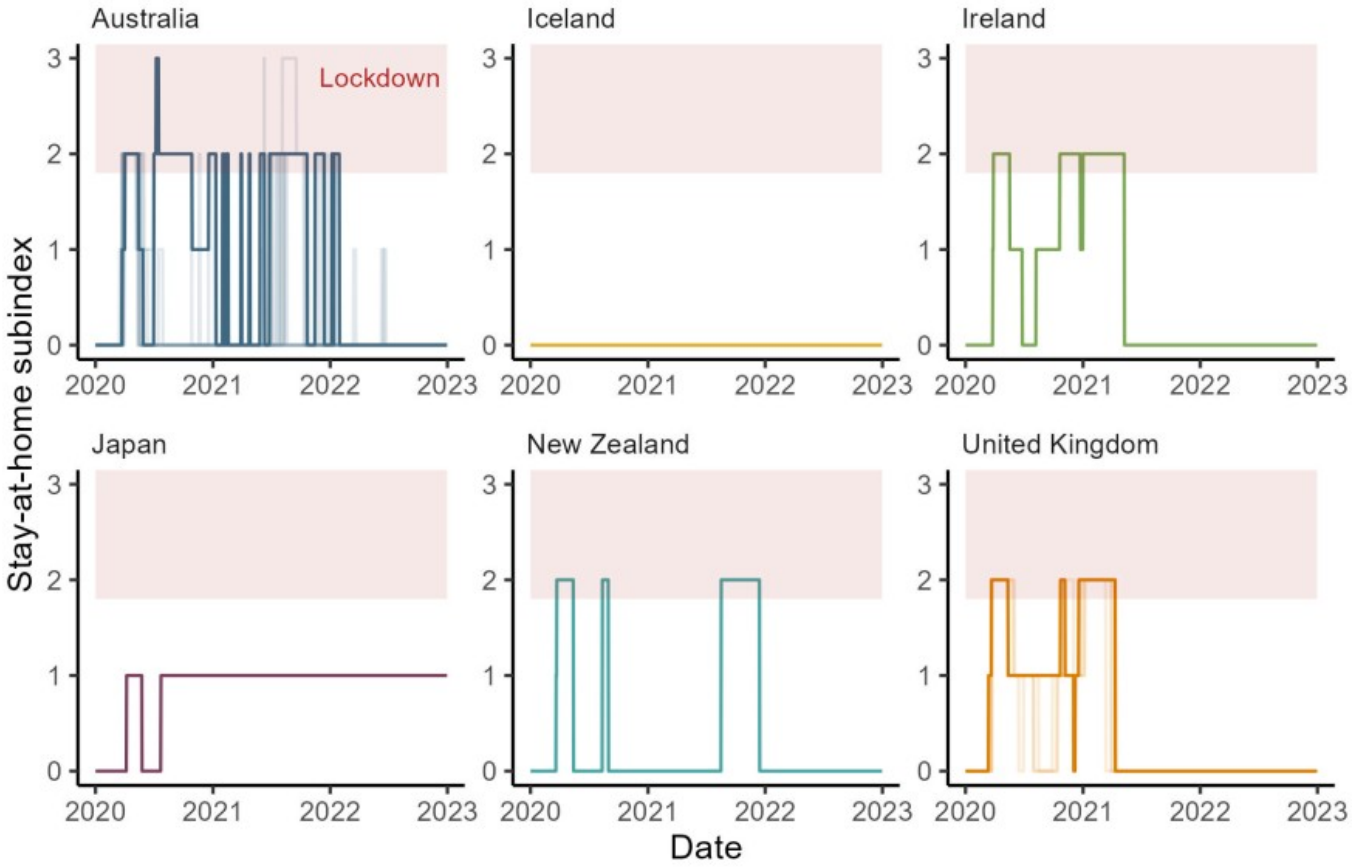
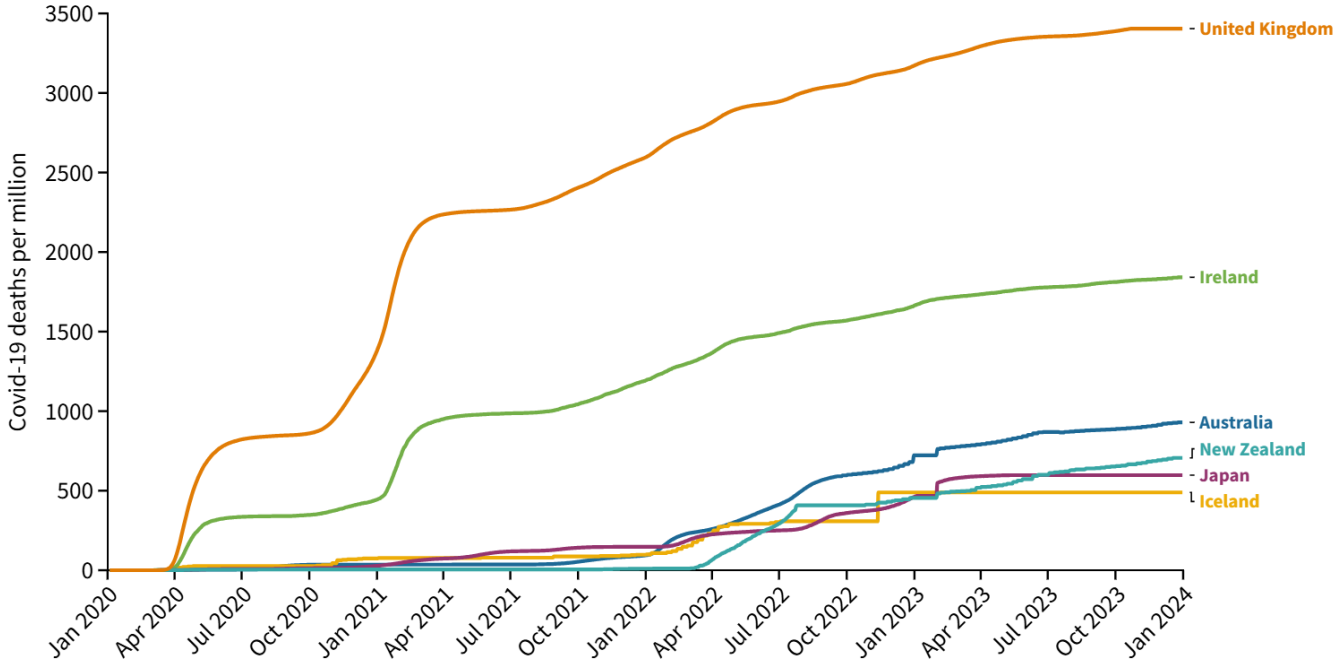
Appendix

Figure A1: Stay-at-home subindex of the stringency levels and lockdown periods across for six OECD high-income island countries*



*Adapted from Figure 3 of Summers et al (2025), further details available online.[3] Note: Scores of 2 and 3 on this subindex of the Government Response Tracker reflect requirements to stay at home with varying levels of exceptions permitted (i.e., lockdown; red shaded region in plots). For Australia and UK, country-level policies are shown as a solid line, with state level policies shown as faded lines.

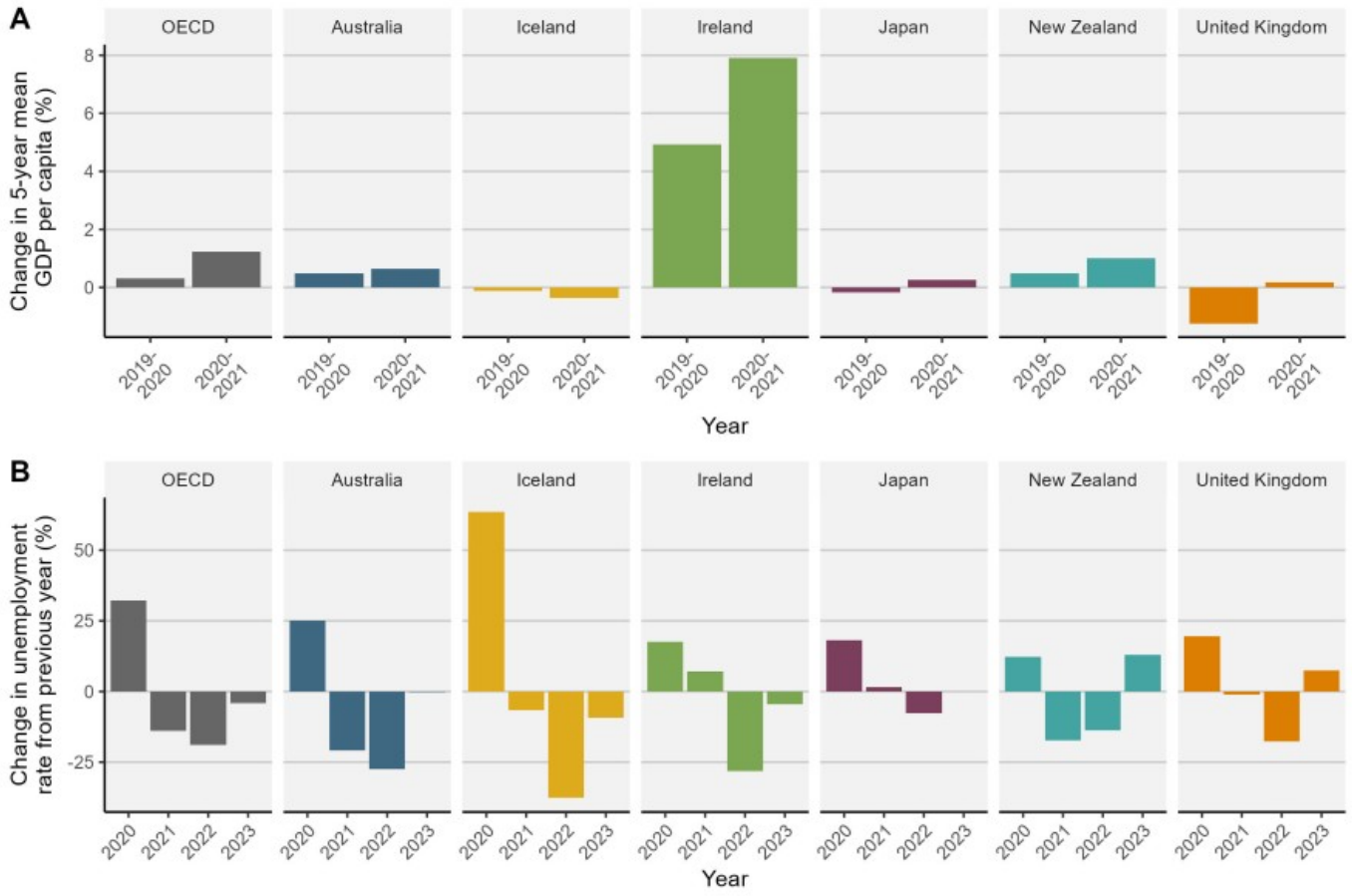
Figure A2: Cumulative confirmed Covid-19 deaths per million people in the six OECD high-income island countries*



Source: Our World in Data , sourced from Johns Hopkins University CSSE COVID-19 Data and WHO data • https://ourworldindata.org/coronavirus
Data extracted April 2025

* Adapted from Figure 3 of Summers et al (2025), further details available online.[3]

Figure A3: Macroeconomic impacts of Covid-19 for six OECD high-income island countries and for the 38 country OECD grouping overall* - (A) Gross domestic product (GDP) per capita growth from 2019 to 2020 and 2020 to 2021, using 5-year geometric means; (B) Annual change in level of unemployment relative to the preceding year (%)



* Adapted from Figure 4 of Summers et al (2025), further details available online.[3]

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