Sustainable pathways to recovery: learnings from other Islands

Mauritius Research Platform on COVID-19

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Webinar, November 26, 10:11:30 am

Outline

The short-term challenge: Navigating the medical-economy loop

- **Navigating the twin health and wealth contraints**
- **Consumption responses to Covid across 5 European countries**

In search of different patterns of cases and deaths across sample of 25 islands (OWD as of November 23)
- **Cumulative Covid cases per million vs GDP per capita**
- **Cumulative deaths per million per GDPvs GDP per capita**
- **Covid death rate vs. population density**
- **Covid cases vs. deaths per million.**
- **Covid tests vs confirmed deaths**

- **Government response: Time-line of policy Stringency index**
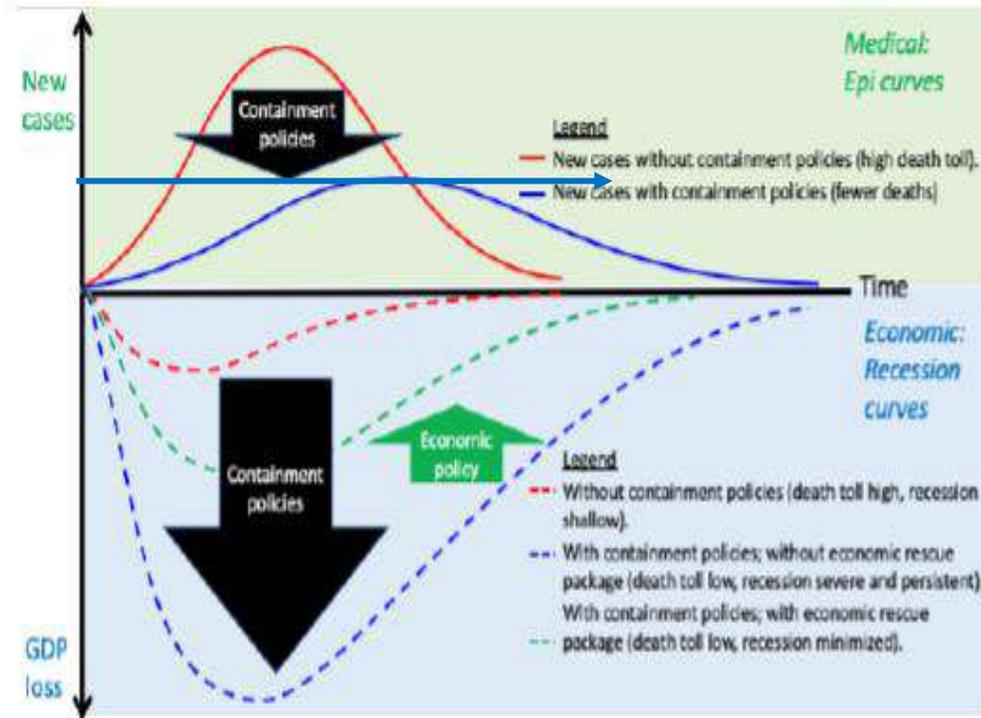- **Social distancing patterns (17 islands)**

The Long-term challenges

- **"Rubber band" shock (2008-9) vs. "paper clip" shock (2020). A hole in the hose when we turn water again?**
- **Emerging technologies, a challenge for jobs relying on rule-based on logic**
- **Covid an opportunity for islands (SIDS) to address sustainability challenge**
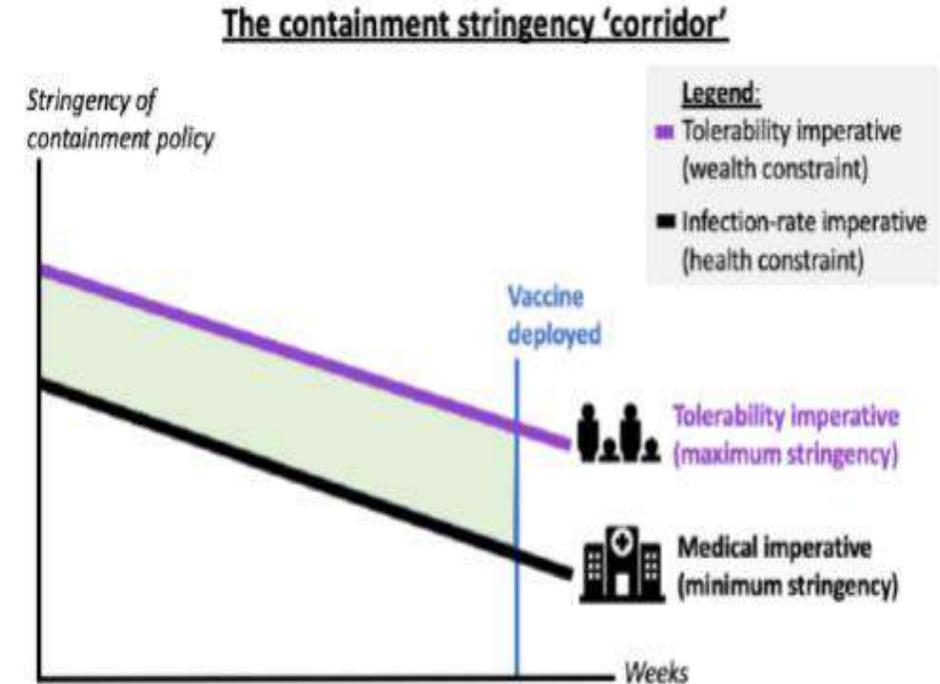
The short-term challenge: the medical-economy loop
(Navigating the twin health and wealth contraints)

Figure 1a: The medical-economy loop

New cases

ICU capacity

Medical: Epi curves

Containment policies

Legend
— New cases without containment policies (high death toll).
— New cases with containment policies (fewer deaths)

Time

Economic: Recession curves

Containment policies

Economic policy

Legend
--- Without containment policies (death toll high, recession shallow).
-- With containment policies; without economic rescue package (death toll low, recession severe and persistent).
With containment policies; with economic rescue
--- package (death toll low, recession minimized).

GDP loss

Figure 1b) the "2 imperatives corridor"

The containment stringency 'corridor'

Stringency of containment policy

Legend:
■ Tolerability imperative (wealth constraint)
■ Infection-rate imperative (health constraint)

Vaccine deployed

Tolerability imperative (maximum stringency)
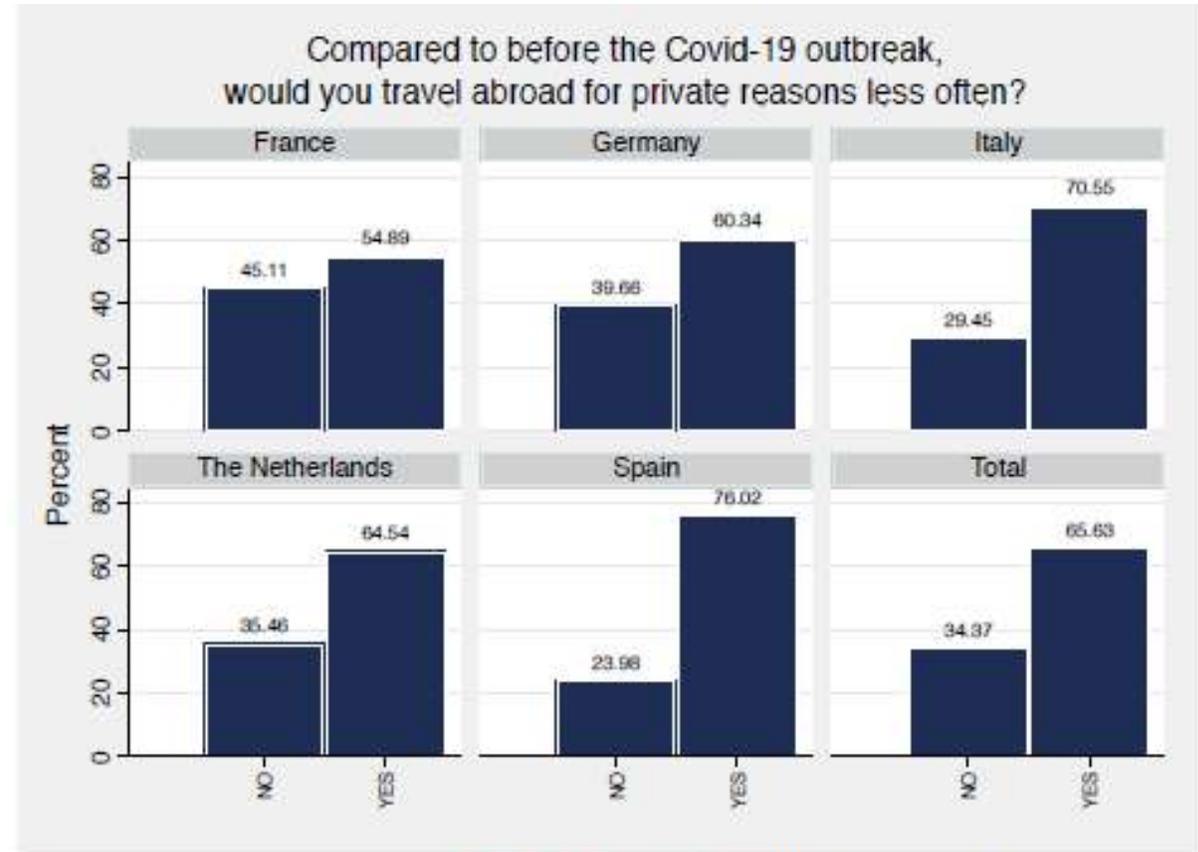
Medical imperative (minimum stringency)

Weeks

Many island economies hit hard (loss of tourism) Those that reacted by a sharp and early lockdown (applying the "hammer") have exited (at arguably less economic cost)— But now in "dance period" with different trajectories of cases and policy responses across islands. Difficulty to meet the 2 constraints: stringent measures for health and tolerability (

Consumption responses across 5 European countries (1)
(1500 each in France, Germany, Italy, Holland, Spain)

- Tourism sector experienced largest consumption drop, and services sector the least
- Older HH are likely to travel abroad less than before relative to younger HH
- Infection risk is the most reported reason for decreasing consumption

Compared to before the Covid-19 outbreak, would you travel abroad for private reasons less often?

France	Germany	Italy
45.11 / 54.89	39.66 / 60.34	29.45 / 70.55
The Netherlands	Spain	Total
35.46 / 64.54	23.98 / 76.02	34.37 / 65.63

The survey question is: Compared to before the COVID-19 outbreak, how would you behave? I would travel abroad for private reasons: 1= more often than before; 2= same as before; 3= less often than before; 4= not at all; 5= I never did this before. Responses =5 are dropped and dummy created.

Figure 2: Less traveling abroad (yes/no)

Consumption responses across 5 European countries (2)
(1500 each in France, Germany, Italy, Holland, Spain)

- Infection risk is the most reported reason for decreasing consumption on travel.
- Any boost for Covid-free countries?

Source: Hodbod et al. (2020)

Main reason for traveling now less abroad:
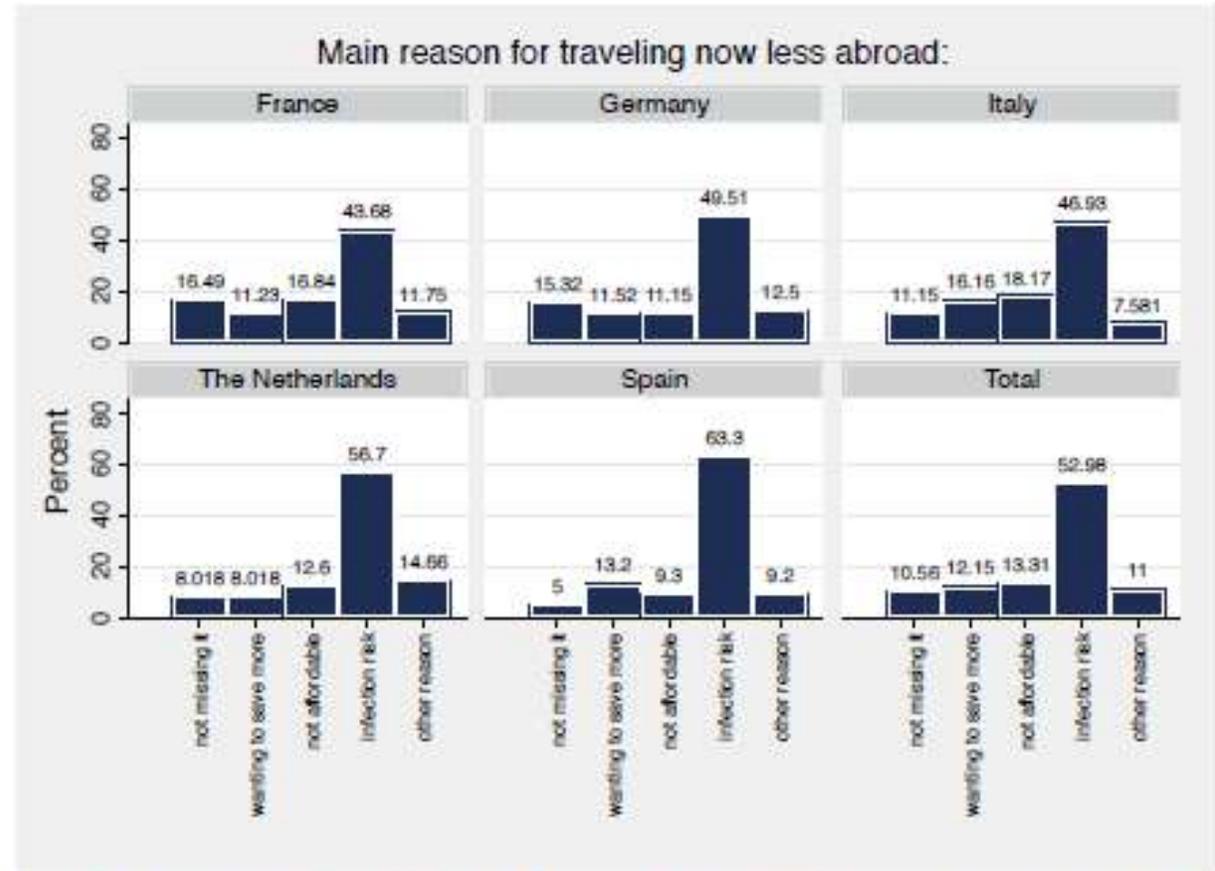
This survey question is only asked for people who reported "less often than before" or "not at all" in the previous question. The survey question is: "What is your main reason for doing now less of the following activity: Traveling abroad for private reasons?" 1= I realized I don't miss it; 2= I want to save more; 3= I cannot afford it anymore; 4= I am worried to get infected with COVID-19; 5= Other reason.

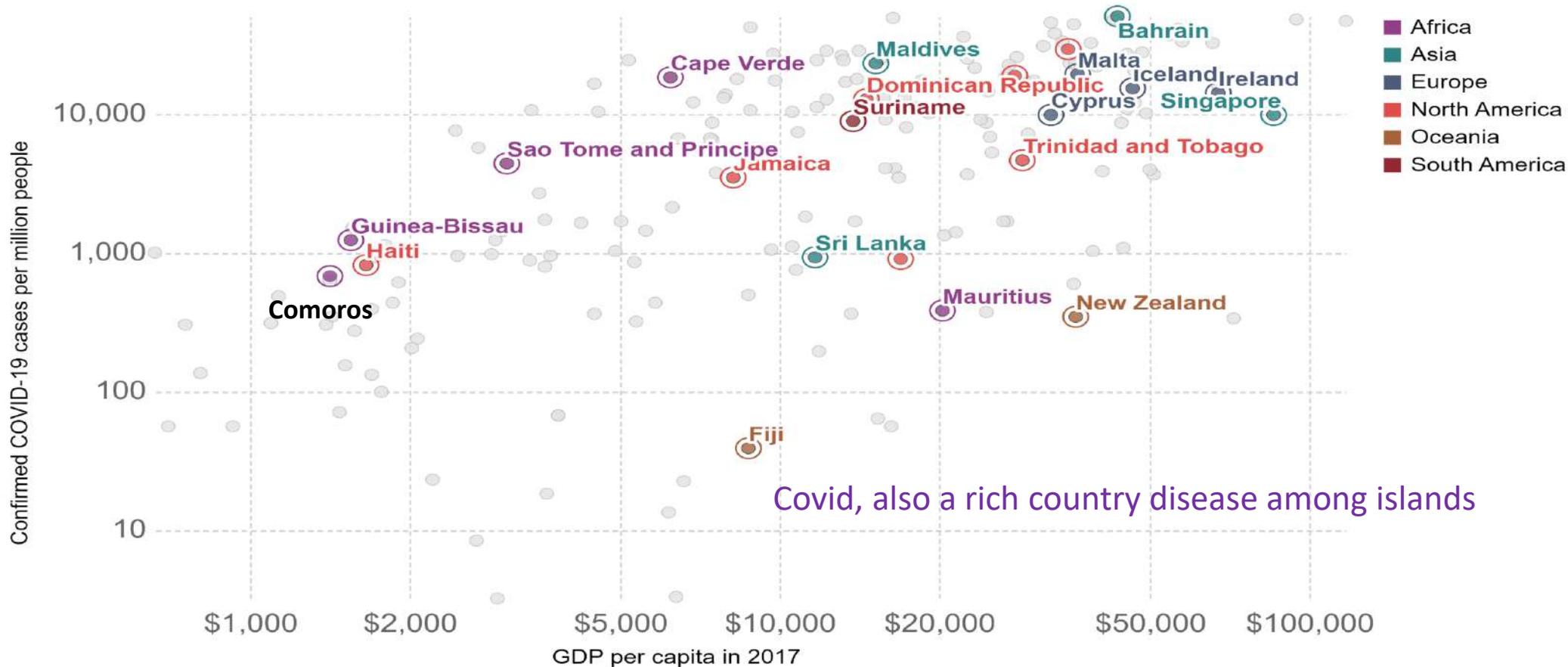Figure 7: Reasons for fewer private travels abroad during dance phase

Patterns: Cumulative cases, deaths, and PCR tests

- COVID is also a rich country disease among islands
- Death rates (per million) also higher for high-income countries (except New-Zeland and Singapore)
- Weak positive association of death rates and population density
- Deaths per million are positively associated with cases per million (fewer deaths per cases for Singapore, Sri Lanka)
- High test countries have higher deaths but sample too small

Cumulative confirmed COVID-19 cases per million vs. GDP per capita, Nov 23, 2020

Total confirmed COVID-19 deaths per million vs GDP per capita, Nov 23, 2020

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.
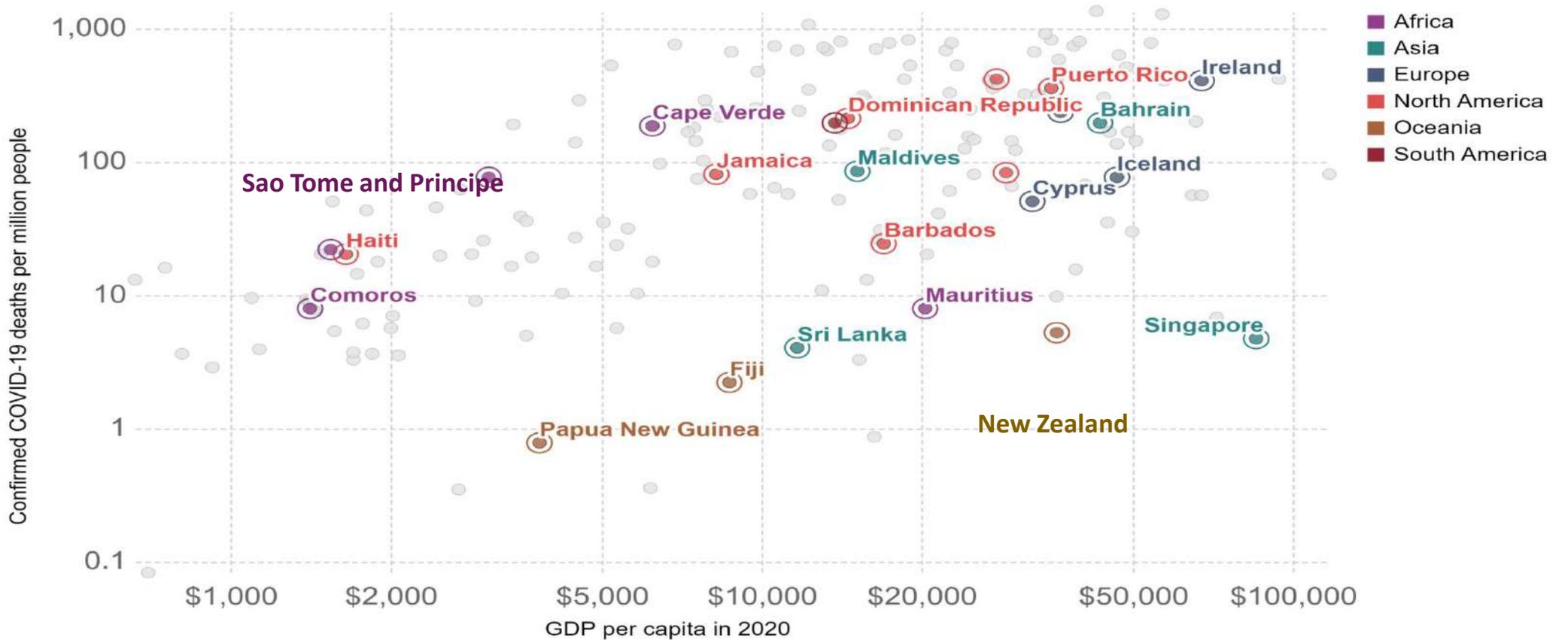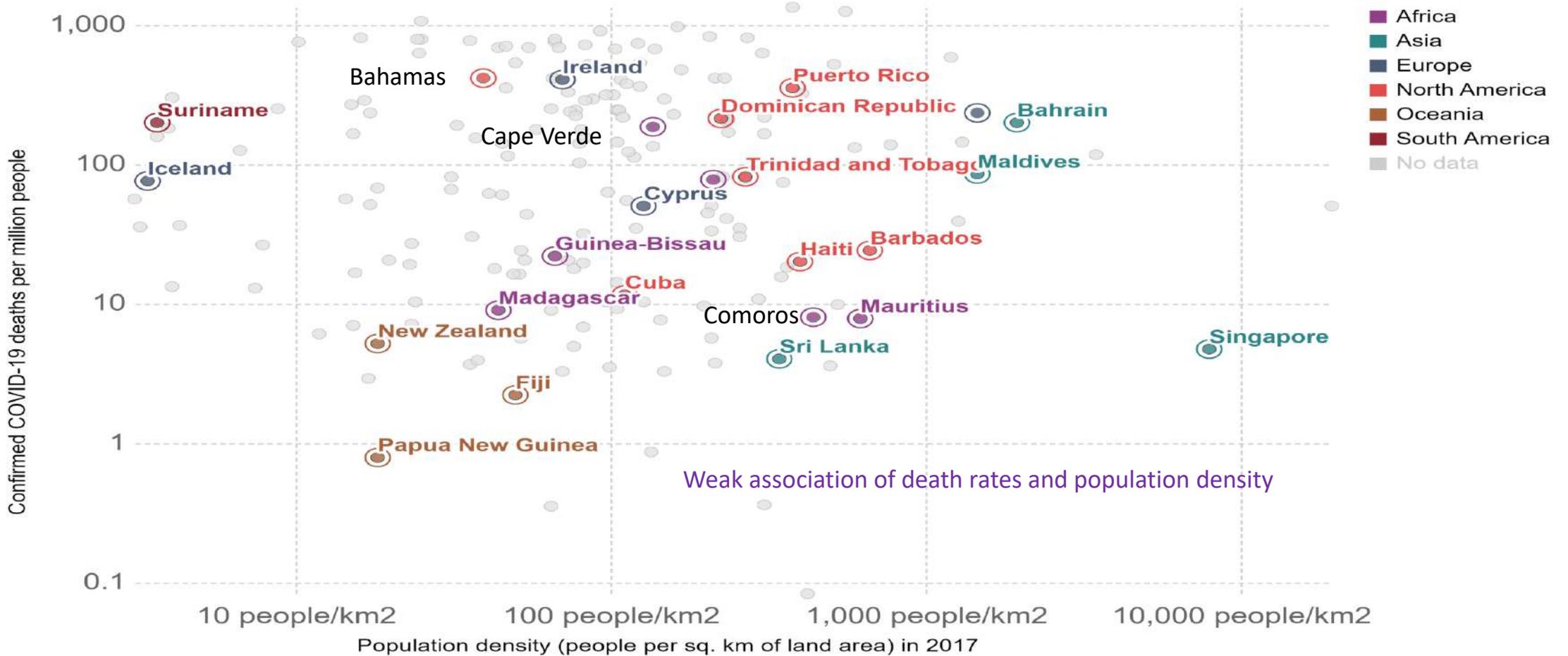GDP per capita is adjusted for price differences between countries (it is expressed in international dollars).

COVID-19 death rate vs. Population density, Nov 23, 2020

The death rate is the number of total confirmed deaths due to COVID-19 per million people.

https://ourworldindata.org/grapher/covid-19-death-rate-vs-population-density?time=latest&country=BRB~BHS~BHR~COM~CPV~CYP~DOM~FJI~GNB~ISL~HTI~IRL~MDG~MDV~MLT~MUS~PNG~PRI~LKA~SUR~STP~TTO~SGP~CUB~NZL
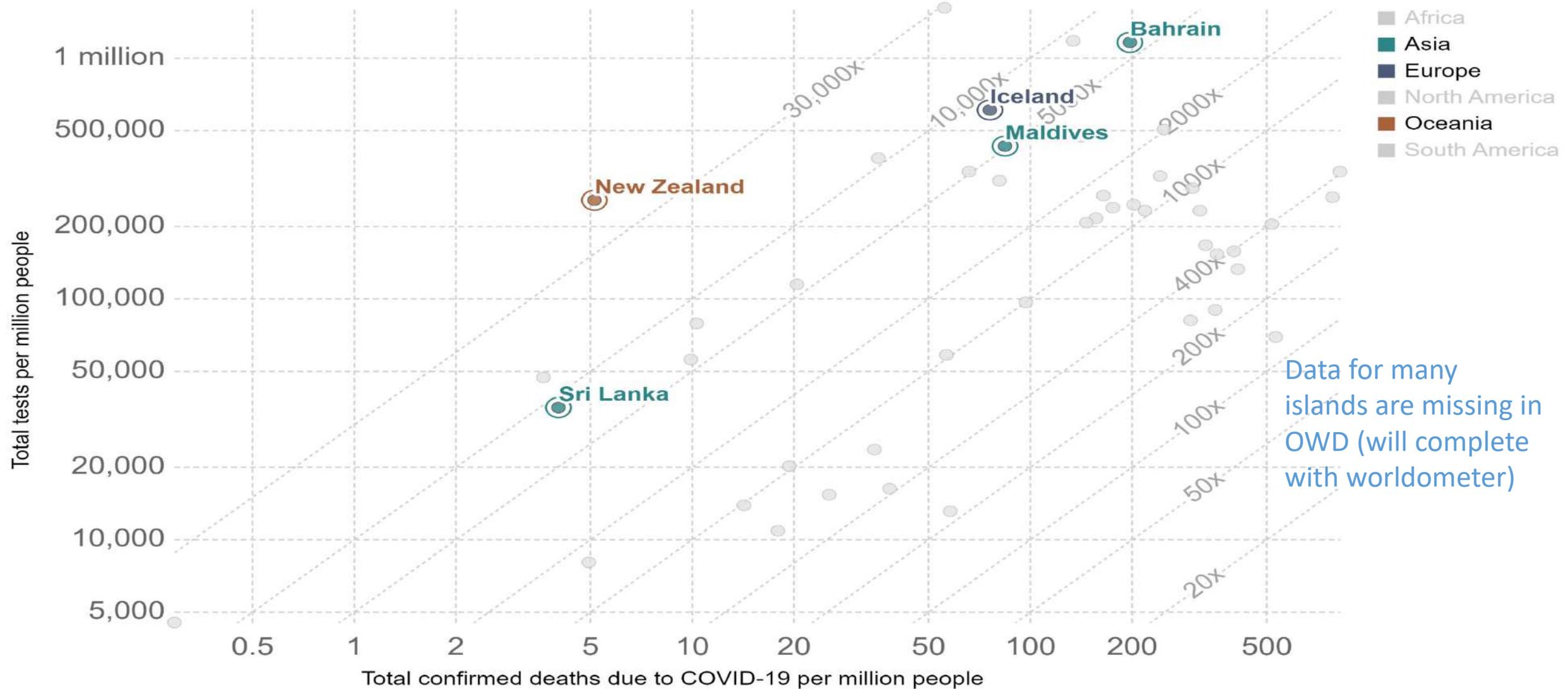
Total confirmed COVID-19 cases vs. deaths per million, Nov 23, 2020

Both measures are expressed per million people of the country's population.
The confirmed counts are lower than the totals. The main reason for this is limited testing.

Our World in Data

Legend:
- Africa
- Asia
- Europe
- North America
- Oceania
- South America

Y-axis: Total confirmed cases of COVID-19 per million (10,000 / 1,000 / 100 / 10)
X-axis: Total confirmed deaths due to COVID-19 per million (0.1 / 1 / 10 / 100 / 1,000)

Labeled points: Bahrain, Puerto Rico, Maldives, Malta, Bahamas, Iceland, Ireland, Cyprus, Suriname, Singapore, Trinidad and Tobago, Jamaica, Guinea-Bissau, Barbados, Sri Lanka, Cuba, New Zealand, Mauritius, Papua New Guinea, Fiji

Per capita: COVID-19 tests vs. Confirmed deaths

Both measures are shown per million people of the country's population.

Legend:
- Africa
- Asia
- Europe
- North America
- Oceania
- South America

Labeled points: Bahrain, Iceland, Maldives, New Zealand, Sri Lanka

Y-axis (Total tests per million people): 1 million, 500,000, 200,000, 100,000, 50,000, 20,000, 10,000, 5,000

X-axis (Total confirmed deaths due to COVID-19 per million people): 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500

Comparison lines: 30,000x, 10,000x, 5000x, 2000x, 1000x, 400x, 200x, 100x, 50x, 20x

Data for many islands are missing in OWD (will complete with worldometer)

https://ourworldindata.org/grapher/covid-19-tests-deaths-scatter-with-comparisons?time=latest&country=BHR~MDV~NZL~ISL~LKA
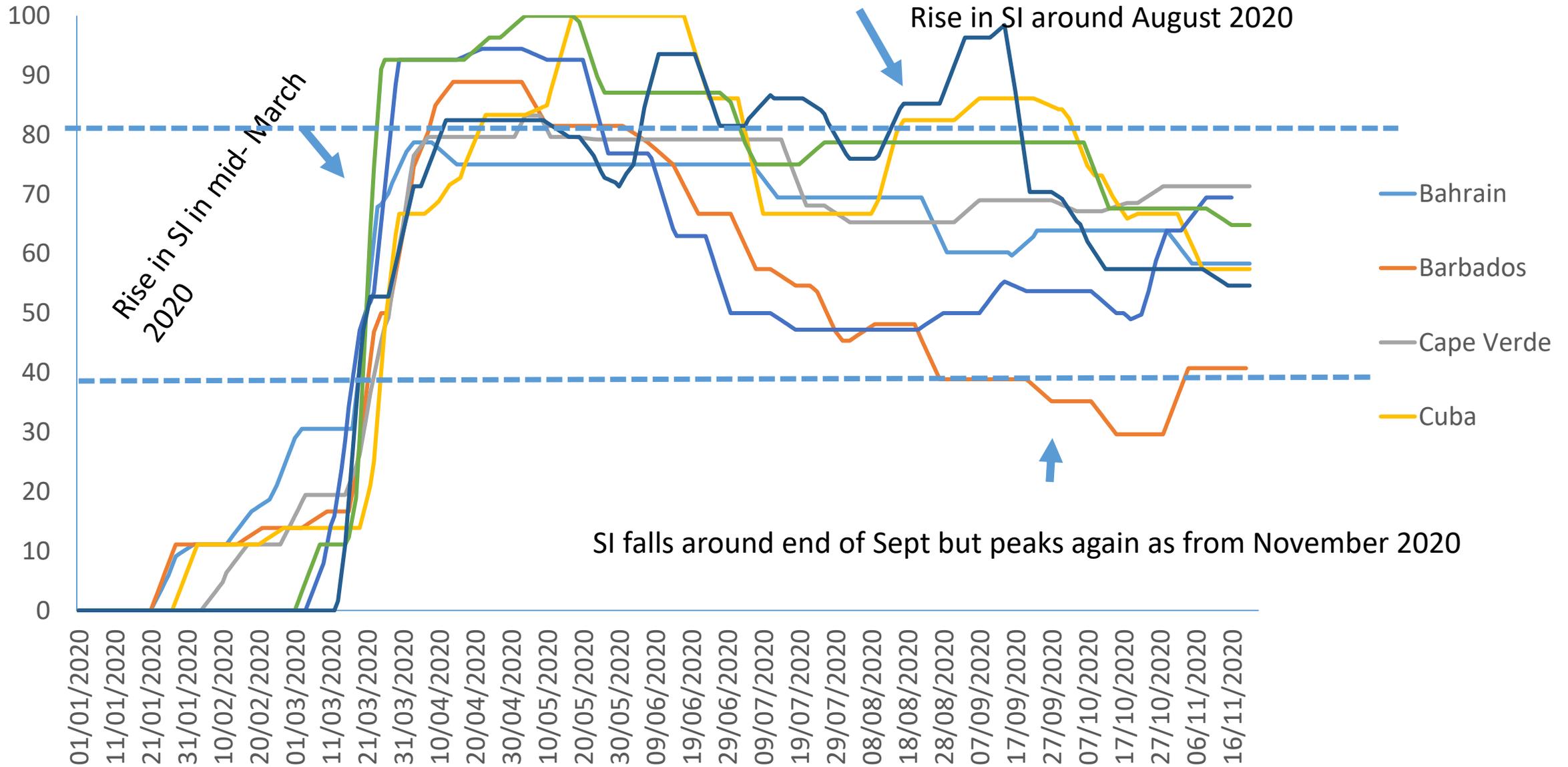
Policy Responses: The Stringency Index (SI)

- SI is average of 3 components: (i) Closure & containment;
(ii) economic measures; (iii) Health measures.
- Values in (0,100 range). High values correspond to stronger gov't response. Display is alphabetical

- Graphs show sharp rise "applying the hammer"
- in all islands around the second week of March, then falls ("the dance" period) in September with rise again in early November.
- Quite a lot of diversity in SI patterns over the period June-October

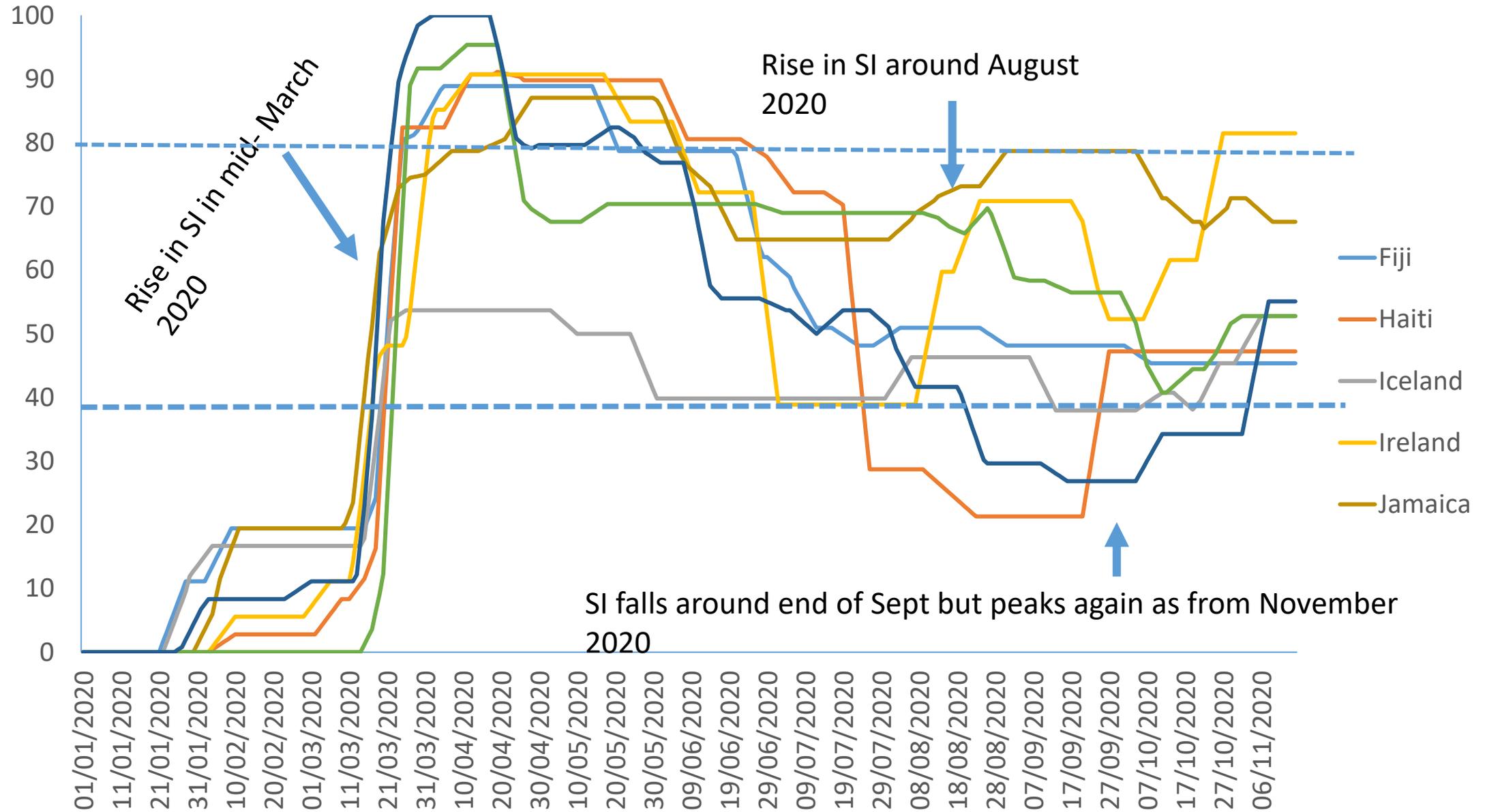Data from 29 Aug 2020. Individual countries may be several days older.
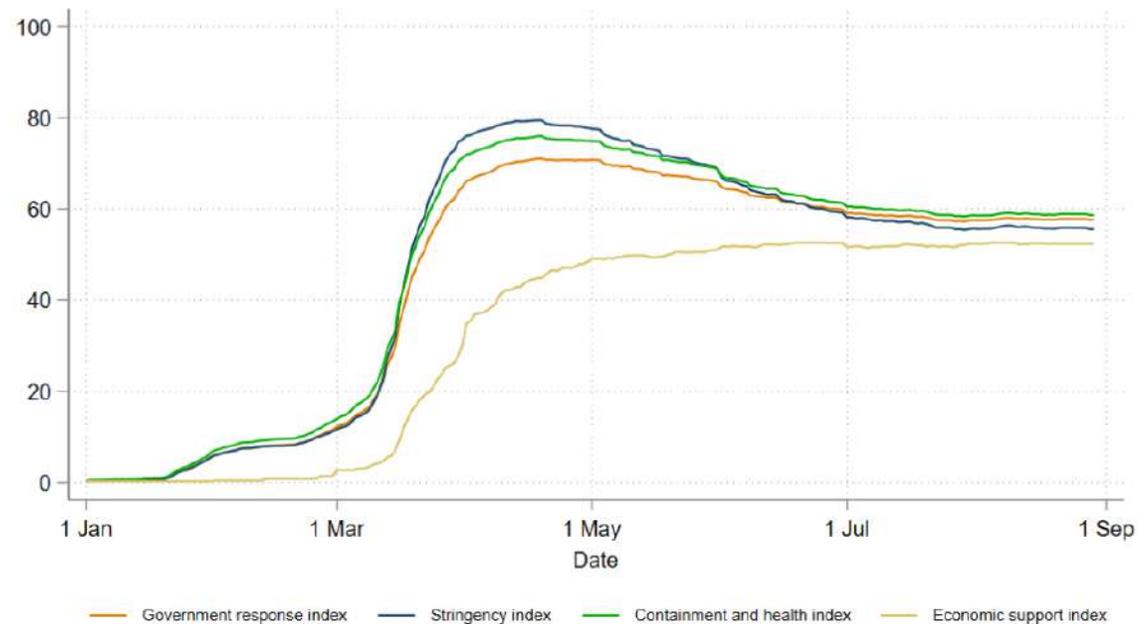
← Trends in the islands on next slides follow the average over the entire data base of 185 countries
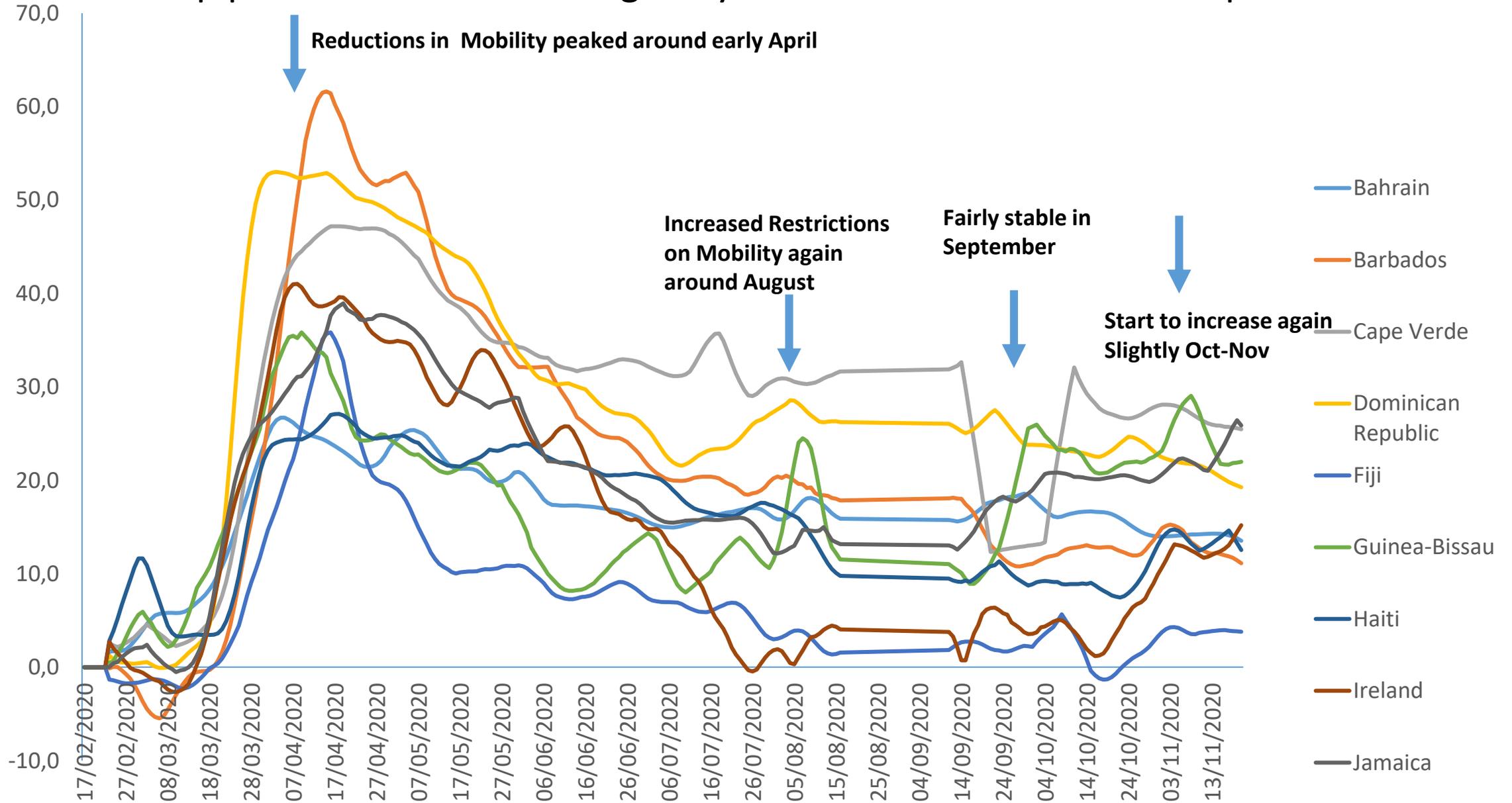
Time line: Policy-Stringency index (1)

Time line: Policy-Stringency index (2)

Rise in SI in mid- March 2020

Rise in SI around August 2020

SI falls around end of Sept but peaks again as from November 2020
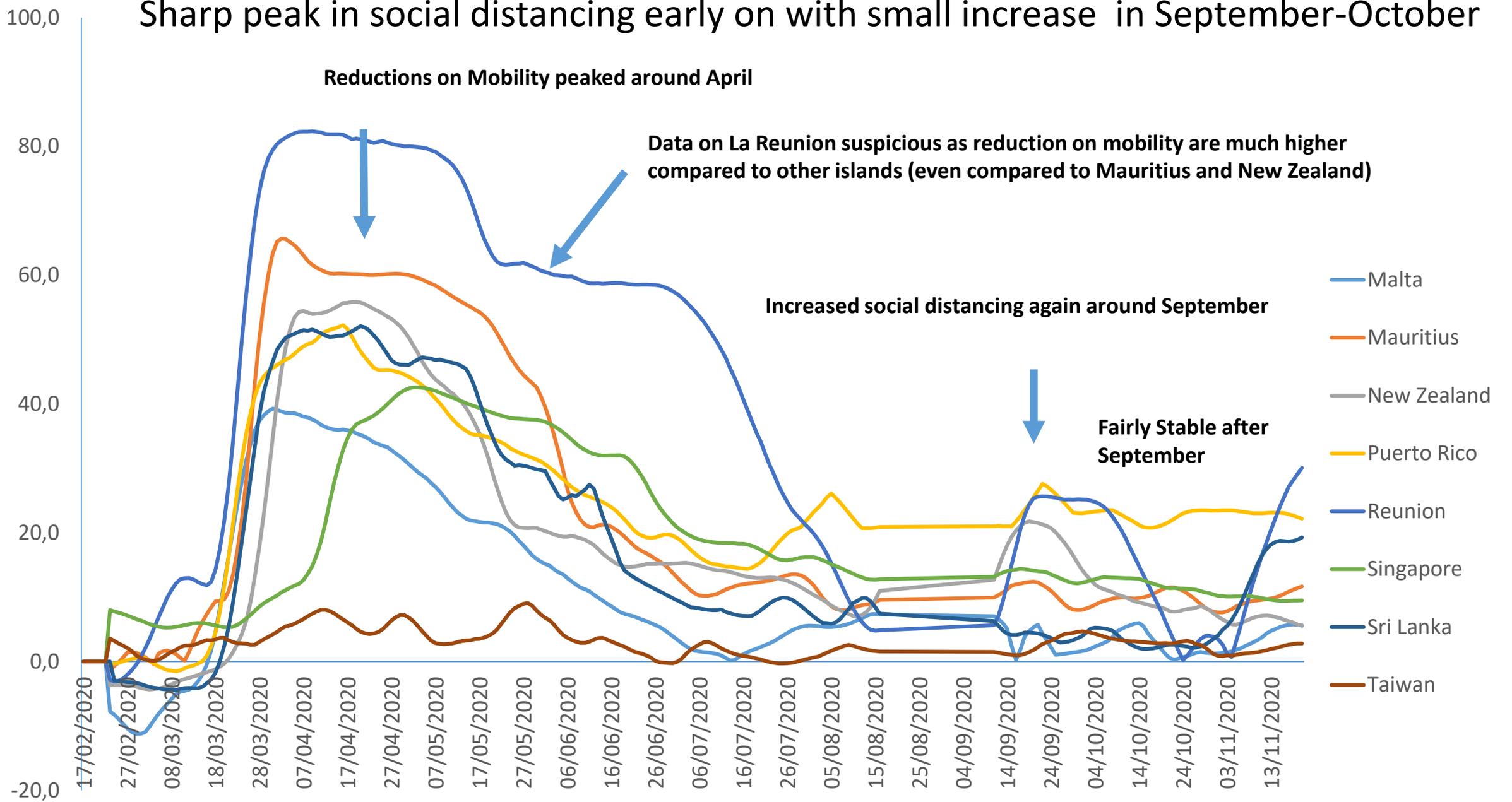
Fiji
Haiti
Iceland
Ireland
Jamaica

Social distancing patterns

- 7 day moving average of Google mobility index for 17 islands: Percentage change from base line
- Note: negative values converted to positive values so positive values show less mobility (interpreted as restrictions on mobility
- Mobility is average of the following: (1) retail and recreation; (2) grocery and pharmacy; (3) parks; (4) transit stations; (5) workplaces; (6) residential
- Reductions peaked around end of March in most islands
- Patterns are very similar over 4 week period in March-April
- Slight increase in September-November period, but more disparate.
- For almost all islands, mobility is still less than in January. For Mauritius, 10% less than in January, perhaps combination of no tourists and some WFH?
- Taiwan with virtually no cases, displays no change in mobility during the whole period.
- Social distancing trajectories quite similar to those in Lombardy (The Economist, October 31)

Sharp peak in social distancing early on with small increase in September-October

Sharp peak in social distancing early on with small increase in September-October

Reductions on Mobility peaked around April

Data on La Reunion suspicious as reduction on mobility are much higher compared to other islands (even compared to Mauritius and New Zealand)

Increased social distancing again around September

Fairly Stable after September

Malta
Mauritius
New Zealand
Puerto Rico
Reunion
Singapore
Sri Lanka
Taiwan

Long-term challenges

2008-9: "rubber band" shock (economy returns to previous shape).
Covid-19:"paper clip" shock (temporary shock has permanent effects).
Jobs landscape to change permanently

- **Industrial revolution 3.0** Push for what Baldwin calls "globotics": telemigrants working for MNEs from abroad (globalization) with software robots replacing particular office tasks (robotics part). But globotics could be a boon for island economies when hardware connectivity there to boost services-led industrialization (Ghani and O'Donnell 2016)
- **Industrial revolution 4.0 E**merging technologies (RI, AI, IOT), a challenge for jobs
- ➤

Accelerate move towards greener growth path

- Islands (SIDS) have relatively low EPI (environmental protection index) values.
- SIDS, more fragile will be hardest hit by environmental problems and climate change (while contributing the least...).
- ➤ Move towards an environmentally trade policy (Melo)

Emerging technologies: Challenges for jobs

These jobs are in great peril

These jobs are in less peril

Table 15.1. The Disappearance of Jobs

Increasingly Difficult to Program →

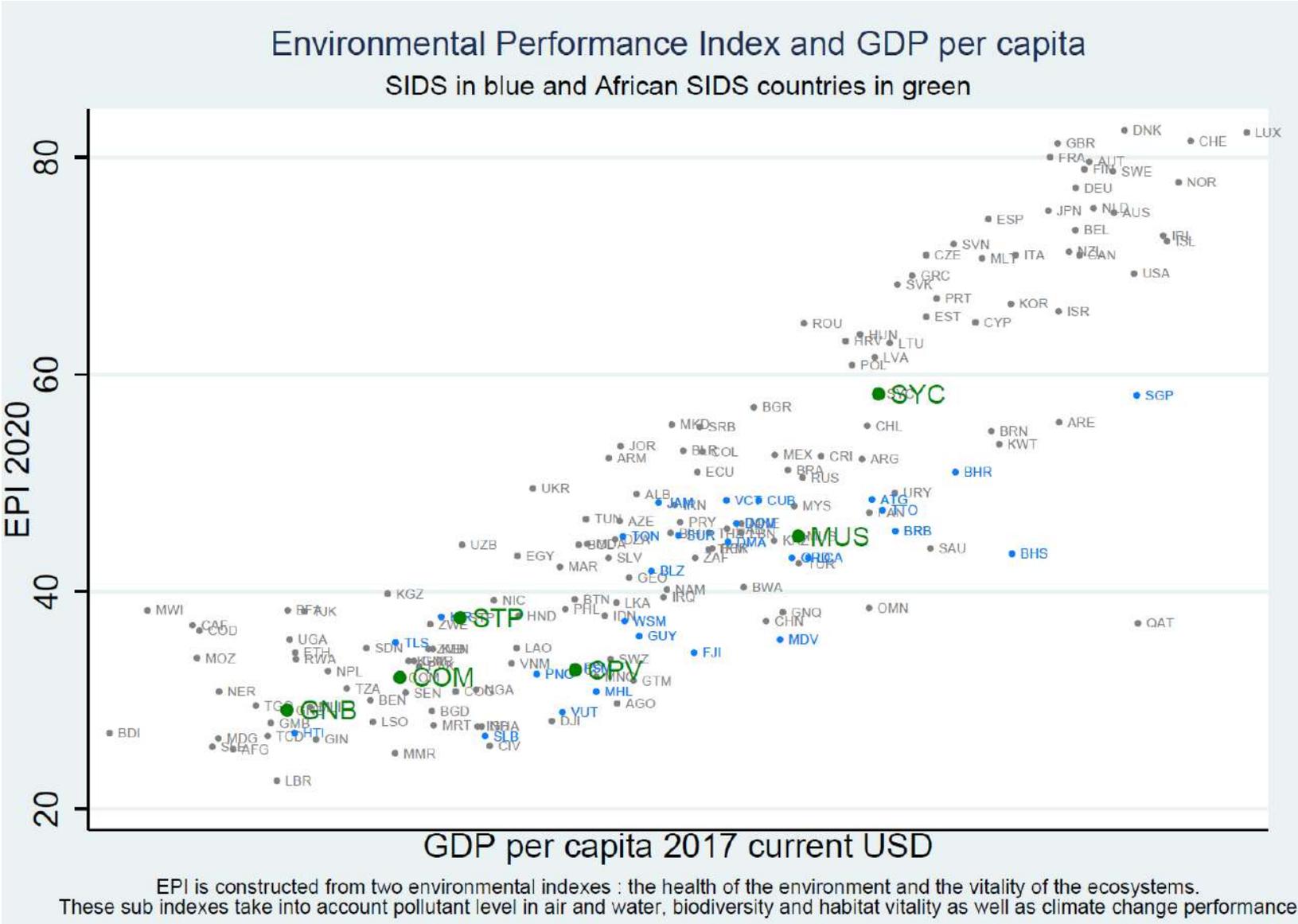|	Rule-based logic	Pattern recognition	Human work
Variety	Computer processing using deductive rules	Computer processing using inductive rules	Rules cannot be articulated and/or necessary information cannot be obtained
Examples	Calculate basic income taxes	Speech recognition	Writing a convincing legal brief
	Issuing a boarding pass	Predicting a mortgage default	Moving furniture into a third-floor apartment

Source: Frank Levy and Richard Murnane, Dancing with Robots, NEXT report 2013, Third Way.

Telemigration, a pillar of Mauritian success is much based on rules-based logic so in peril

Applications of nanotechnology (See UNECA (2020) give examples of the potential for disruption of jobs

COVID: an opportunity to address sustainability challenge in SIDS

Environmental Performance Index and GDP per capita
SIDS in blue and African SIDS countries in green

EPI is constructed from two environmental indexes : the health of the environment and the vitality of the ecosystems.
These sub indexes take into account pollutant level in air and water, biodiversity and habitat vitality as well as climate change performance

SIDS have relatively low score on Environmental Protection index.

This remark applies to all islands that have more fragile and vulnerable ecosystems

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