Re-booting Tourist Paradises: Challenges Ahead

RMCE webinar July 02, 2020

Jaime de Melo*, Boopen Seetanah**, Verena Tandrayen-Ragoobur**

* Ferdi and IEC **University of Mauritius

Outline

- **The medical-economy loop and the containment stringency corridor**

Phase I: Applying the hammer

- **Our case study: outcomes for 19 'tourist-islands' with population in 100,000-10million population**
- **Early hard lockdown with reduced mobility essential for success**

Phase II: Navigating…

- **Short-term challenges (1): tourism**
- **Short-term challenges (2): Trade**
- **Long-term challenges**

Extra Slides

- **Data on sample of islands in our case study**
- **Case fatality rates: Islands and APEI countries**
- **Controlling the spread: which businesses to open?**
- **Cost-benefit of events (1) : Infection per event**
- **Cost-benefit of events (2) : event value per infection**
- **Spreadsheet model to control seeding from travel**

- **References**

The medical-economy loop and the containment stringency corridor

Figure 1a: The medical-economy loop

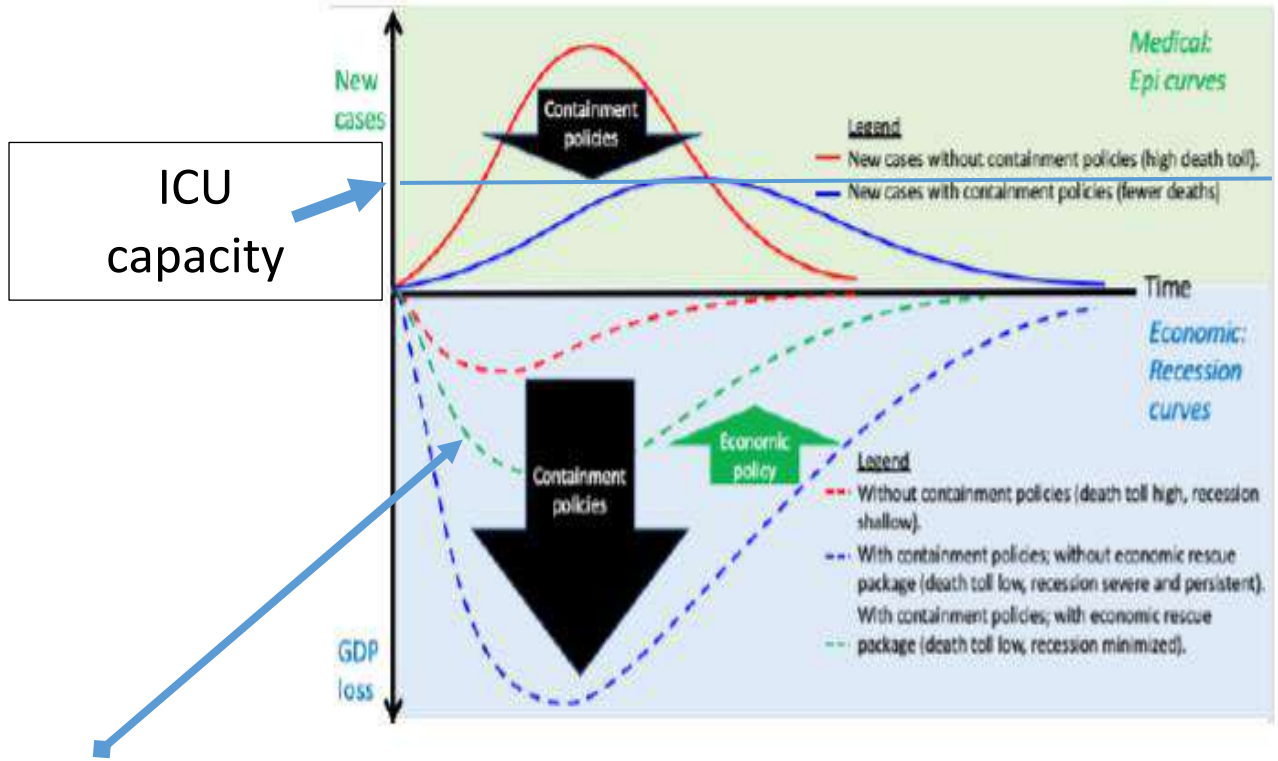
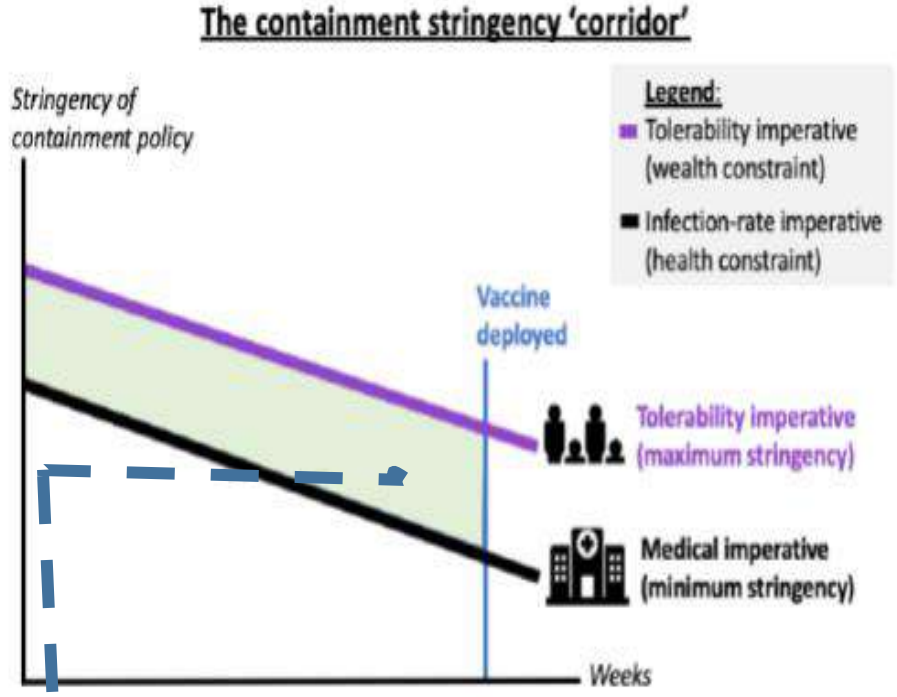


Figure 1b) the "2 imperatives corridor"



Many island economies hit hard (loss of tourism) Those that reacted by a sharp and early lockdown ("hammer") have exited (at arguably less economic cost— avoid soft lockdown for herd immunity à la Sweden). Social costs of Covid ≈3 times higher than private costs (Bethune and Korinek)

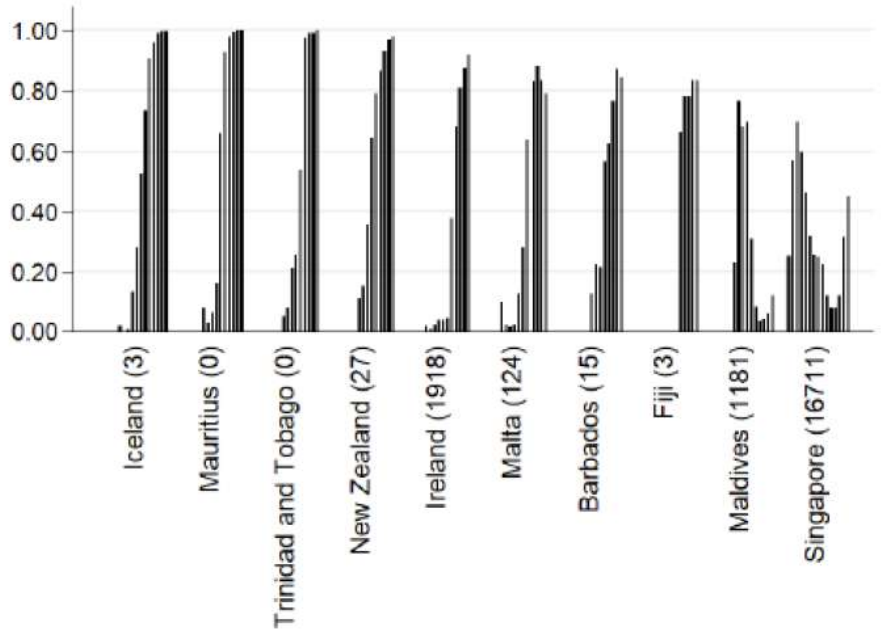
Adaptive relaxation of stringency with fiscal support policies in early stages essential and tailored to developing countries (Loayza). Navigate between the constraints or 'bend' the constraints (e.g. shielding packages, remobilize, work at home, etcs (Baldwin))

Phase I: Applying the hammer

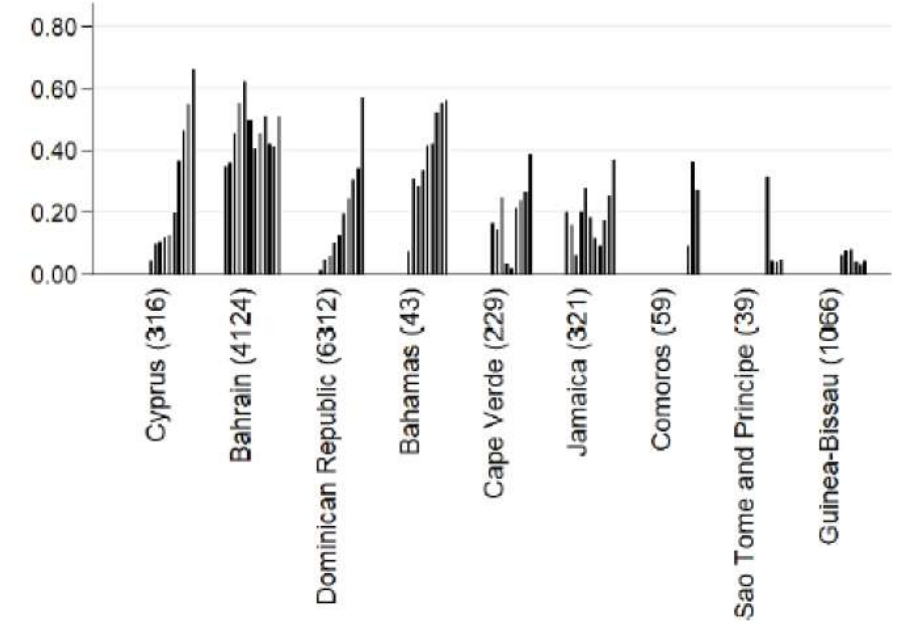
Our case study: Outcomes for 19 tourist-islands with population in 100,000-10million population

Share of closed cases (vertical axis)

weekly averages since first case
Number of active cases in parenthesis (as of May 24)



Countries on top left up to NZ have closed or near-closed
Countries on bottom either struggled (Bahrain), had a second wave (Singapore) or early on (Comoros)

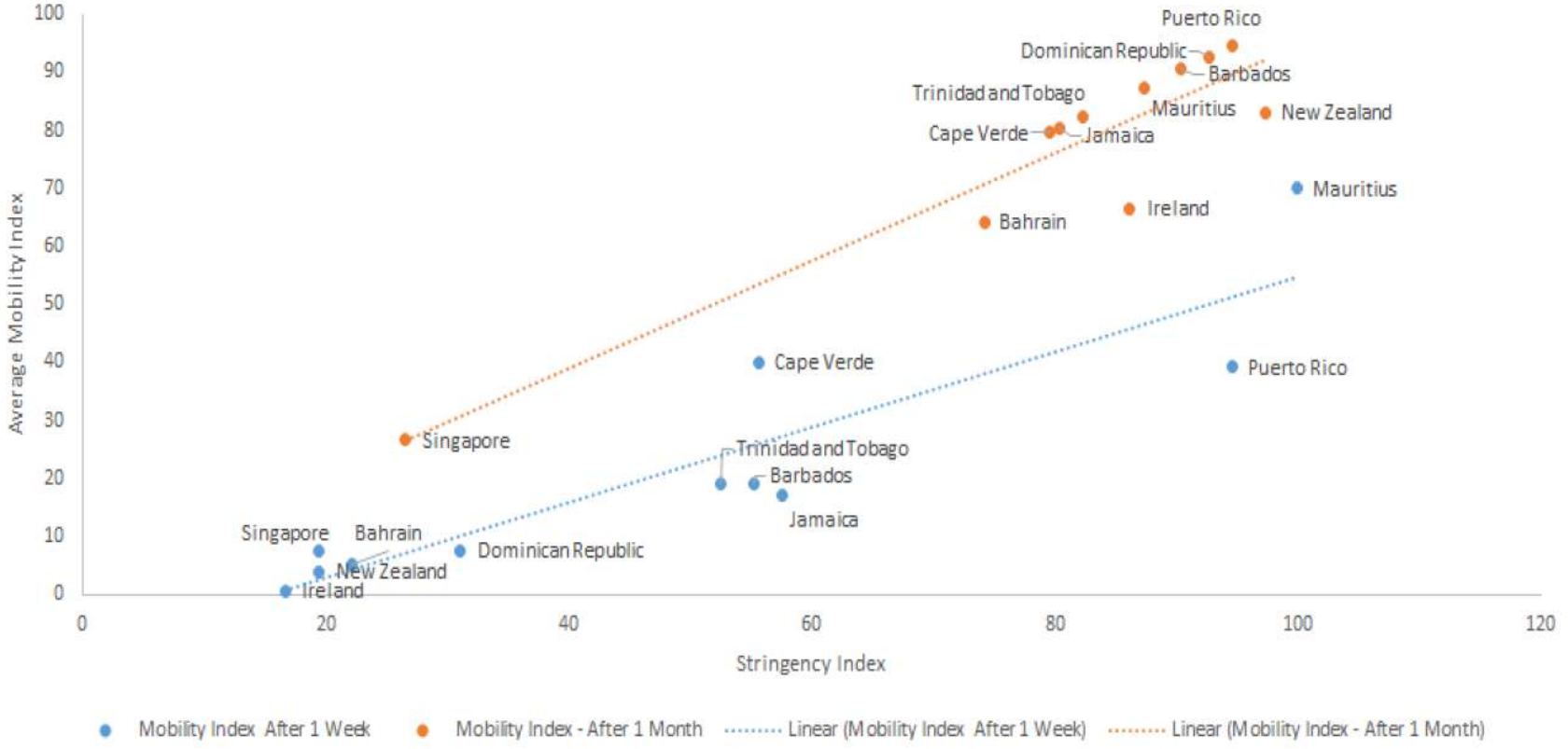


See annex for description of sample (day first case reported, population, GDP pc, number of tests, stringency index)

Early hard lockdown with reduced mobility essential for success

- Few adopted stringent policies early on.
- Few reduced mobility early on
- For East Asian countries, those that restricted travel fastest (Taiwan, Vietnam) were those with less seeding and spreading (see Pueyo (2, chart 37)

Figure 3: Stringency Index and Average Mobility reduction one week and one month after first reported Covid Case



Source: Authors' Calculation from Oxford COVID-19 Government Response Tracker, 2020 and Google Mobility Report 2020. Data on mobility is the average reduction in mobility relative to the reference period (average over Jan 3 to Feb 3). SI index ranges from 0 and 100. Higher values indicate stronger confinement measures.

Phase II: Navigating…

Short-term challenges (1): tourism

- For islands still working to close cases (those in the bottom of slide 2), take measures to prevent the ‘spread’ and “Keep the lights on” (see extra slides).

- For islands like Mauritius, New Zealand, Iceland, do the cost-benefit on tourism to prevent the ‘seed’ recognizing the trade-offs between gains from tourism revenues and costs from medical services (see extra slides)

Short-term challenges (2): Trade

- Free for all on medical products (Evenett) and general turning inwards (see Baldwin and Evenett collection).
- Global level estimates for food: Uncooperative trade policies could multiply by 3 the initial cost of Covid shock (Espitia et. al.)

- 29 African countries are following the world-wide trend. They have reported 43 temporary trade measures on medical-related products of which 22 were liberalizing (i.e. reduction on barriers to import) and 21 were restrictive (across-the-board export restrictions/bans).

- Way ahead: Deepen cooperation in health sector to jump-start the needed collective action for an earnest start at implementing AfcFTA. (Melo)
- Develop Region supply chains for medical products to alleviate import dependence and benefit from economies of scale and scope (see examples in Spies)
- ….but resist turning inwards by raising external tariffs

Long-term challenges

- 2008-9: “rubber band” shock (economy returns to previous shape).
- Covid-19:“paper clip” shock (temporary shock has permanent effects).

Future of Work is impacted (see Baldwin 2).

- 40-70% have learnt to work from home in US, Europe, ≈ half that amount in UMIC?
- Balance sheet shocks: incentives for RI (telemigrants) and AI.
- Push for what Baldwin (2) calls “globotics”: telemigrants working for MNEs from abroad (globalization) with software robots replacing particular office tasks (robotics part).

→ Paradise islands to participate in globotics surge?

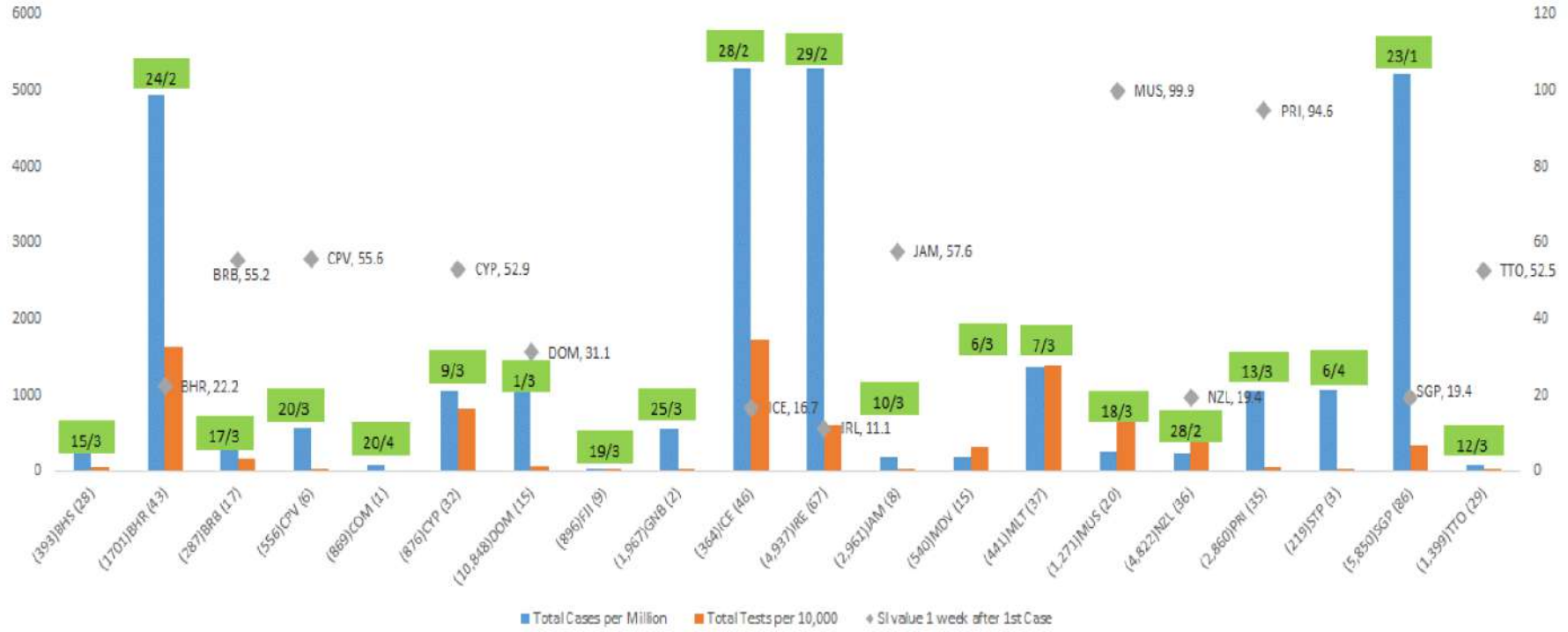
- Islands environmentally more fragile will be hardest hit by environmental problems and climate change.

→ Take advantage of “paper clip shock” to accelerate move towards greener growth paths (Melo (2)

Extra Slides

Data on sample of islands in Melo-Seetanah-Tandrayen-Ragoobur

Figure 2: Anatomy of Covid-19 in island nations (100,000 <population <10,000,000)



Authors' Compilation of data for 21 Islands from Our Word in Data (OWD), Worldometer and Oxford COVID-19 Government Response Tracker, 2020.

Notes:

(1) LS: Number of confirmed Covid-19 cases per million as of May 23

(2) LS: Total Cumulative tests per 10,000 as of latest date available. The data is not strictly comparable because of different reporting and multiple tests per person. Different data sources- Wikipedia, Our Word in Data (OWD) and Worldometer, 2020. Data on the number of Covid-19 tests effected is not available for Comoros. The cumulative Covid-19 tests per 10,000 are on the very low side for Suriname, Sao Tome and Principe, Guinea Bissau and Haiti.

(3) RS: Stringency Index (range: 0-100: higher values indicate stricter confinement measures). Data taken one week after first reported Covid-19 case in OWD.

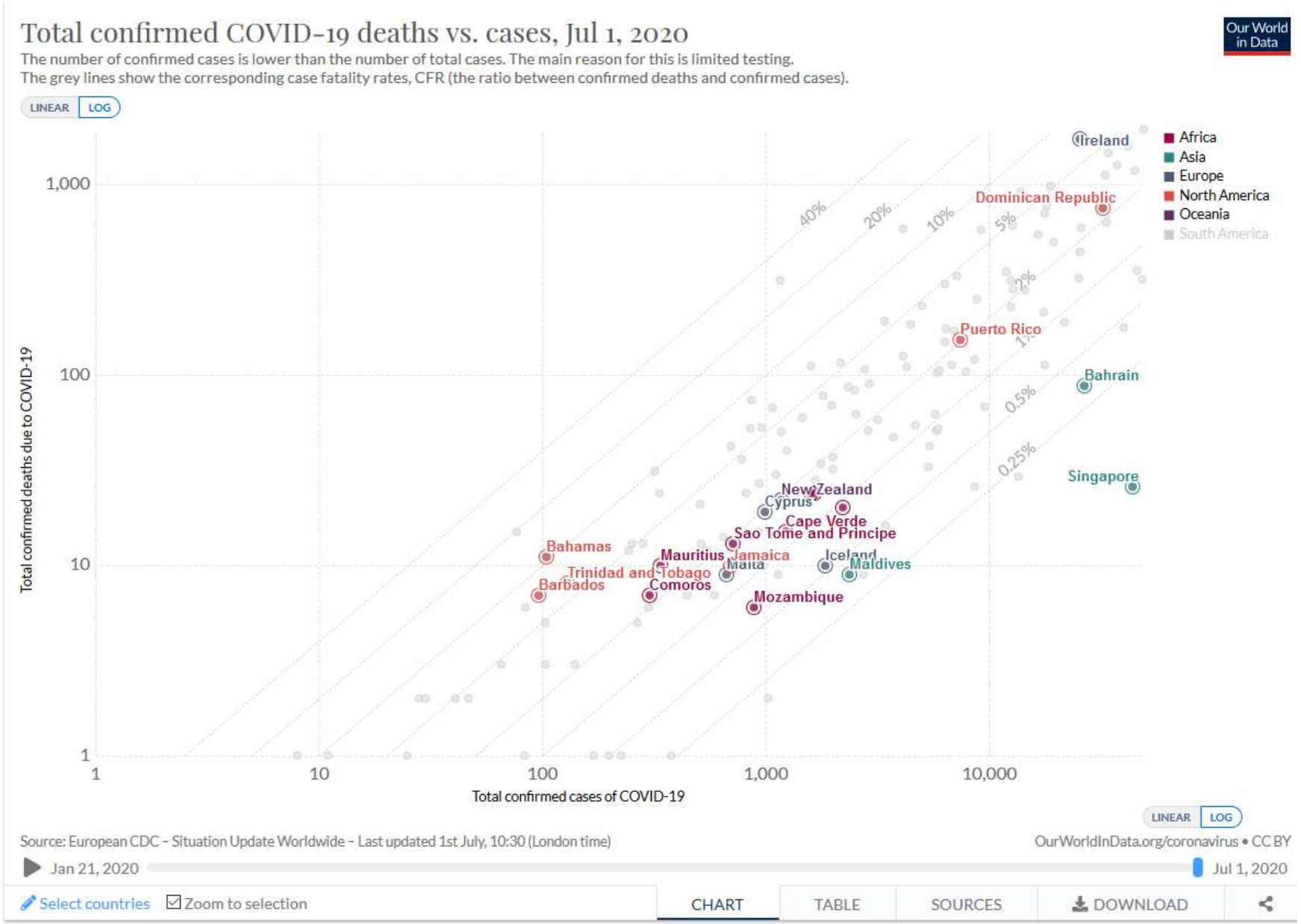
(4) Data on Stringency Index (SI) is not available for Bahamas, Fiji, Guinea Bissau, Haiti, Maldives, Malta and Sao Tome and Principe

(5) First Covid-19 Case for each country is included at the top of each bar chart

(6) X-axis Population in thousand, Country Code, GDP per capita in thousand (USD)). Figures rounded to nearest thousand for population and GDP per capita.

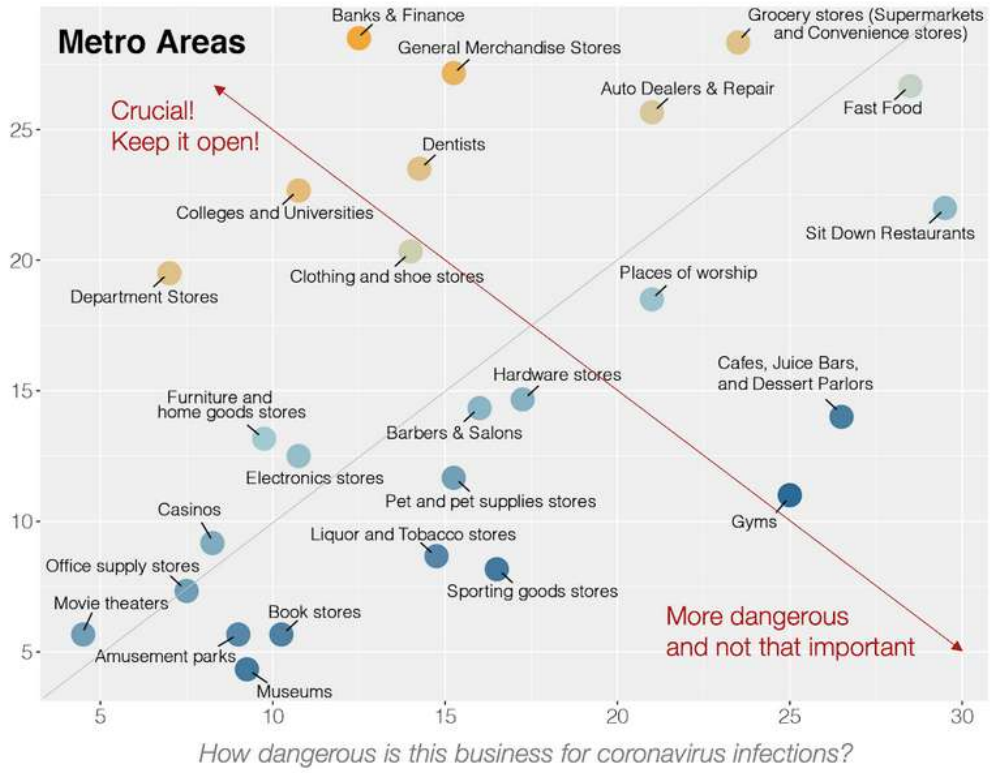
(7) Country Codes and Names: BHS- Bahamas; BHR- Bahrain; BRB – Barbados; CPV- Cape Verde; COM- Comoros; CYP- Cyprus (excluding North); DOM- Dominican Republic; FJI – Fiji; GNB- Guinea Bissau; HTI- Haiti; ICE- Iceland; IRE- Ireland; JAM- Jamaica; MDV- Maldives; MLT – Malta; MUS- Mauritius; NZL- New Zealand; PRI- Puerto Rico; STP- Sao Tome and Principe; SGP- Singapore; SUR- Suriname; TTO- Trinidad and Tobago.

Case fatality rates: Islands and APEI countries



Controlling the spread: which businesses to open?

Chart 33.a: How Should We Prioritize the Opening of Businesses?



Source: Tomas Pueyo Analysis on top of full graph from Paper: Rationing Social Contact During the COVID-19 Pandemic: Transmission Risk and Social Benefits of US Locations, Seth Benzell, Avinash Collis, Christos Nicolaides, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3579678

Source. Notes: danger is calculated taking into account the number of visits, the number of unique visitors, and person-hours of visits above two density thresholds. So banks are quite safe because few people visit, those who do tend to be the same all the time, and they don't spend a lot of time. Conversely, lots of different people go to gyms and cafes, and they spend a long time there — in the case of cafés, talking a lot face to face. The importance comes from a combination of how much people care about different businesses based on surveys, and how much wealth they generate based on employment and receipts. Note that this model isn't perfect because it doesn't account for face-to-face conversations or singing. Further models should account for that, and ideally for other things such as empirical evidence.

Next slides on costs and benefits per activity

Source: Pueyo (2)

Cost-benefit of events (1) : Infection per event

Chart 32.a: Cost in Infections per Event – ILLUSTRATIVE

	Size	Event Cost in Terms of Infections						
		Average # infected going to the event	Social commingling	Speaking and singing	Ability to enforce masks	Ability to distance physically	Potential infection multiplier	**Total infected because of the event (1)**
Big music events	40,000	800	5	10	3	0	25	**20,000**
Small music event	200	4	7	10	2	2	10	**40**
Small nightclub, dancing, bar	200	4	8	7	1	2	5	**20**
Big nightclub, dancing, bar	10,000	200	7	[illegible]	1	0	12	**2,400**
Small sports event	200	4	7	[illegible]	2	2	7	**28**
Big sports events	50,000	1,000	5	8	4	0	25	**25,000**
Big fair or exhibition	20,000	400	10	10	6	5	50	**20,000**
Small conference and congress	50	1	[illegible]	8	6	6	1	**1**
Wedding / Party	150	3	10	10	6	4	20	**60**
Small fair or exhibition	1,000	20	10	10	6	6	10	**200**
Big conference and congress	10,000	200	10	8	6	5	3	**600**
Cinema	500	10	2	1	10	10	0.1	**1**
Theaters	500	10	2	2	10	10	0.2	**2**
Opera	2,000	40	2	1	10	10	0.3	**12**
		Prevalence	*2%*					

(1) This is not the total people infected at the event, but rather the people who end up infected because of the event. A multiplier of 50 means that every infected person that comes to the event might end up ultimately causing 50 infections after several generations.
Note: all the numbers above are illustrative. They are very rough guesses based on my personal review of scientific papers. That means they are very likely wrong. What matters here is the concept: The fact that what we're trying to assess is how many new cases we will have based on any given event. This will help us have an educated guess on which events are most expensive
Source: Tomas Pueyo Analysis, heavily influenced by Barthold Albrecht

Source: Pueyo (2)

Cost-benefit of events (2) : event value per infection

Chart 32.b: Cost-Benefit of Infections per Event – ILLUSTRATIVE

	Size	Event Cost in Terms of Infections: Average # infected going to the event	Social commingling	Speaking and singing	Ability to enforce masks	Ability to distance physically	Potential infection multiplier	Total infected because of the event (1)	Event Benefit: Event value per attendee	Value per event	Total: Value per Infection (event value/infections)
Big music events	40,000	800	5	10	3	0	25	20,000	$ 200	$ 8,000,000	$ 400
Small music event	200	4	7	10	2	2	10	40	$ 80	$ 16,000	$ 400
Small nightclub, dancing, bar	200	4	8	7	1	2	5	20	$ 40	$ 8,000	$ 400
Big nightclub, dancing, bar	10,000	200	7	7	1	0	12	2,400	$ 120	$ 1,200,000	$ 500
Small sports event	200	4	7	8	2	2	7	28	$ 80	$ 16,000	$ 571
Big sports events	50,000	1,000	5	8	4	0	25	25,000	$ 300	$ 15,000,000	$ 600
Big fair or exhibition	20,000	400	10	10	8	5	50	20,000	$ 5,000	$ 100,000,000	$ 5,000
Small conference and congress	50	1	10	8	7	6	1	1	$ 100	$ 5,000	$ 5,000
Wedding / Party	150	3	10	9	6	4	20	60	$ 3,000	$ 450,000	$ 7,500
Small fair or exhibition	1,000	20	10	9	6	6	10	200	$ 2,000	$ 2,000,000	$ 10,000
Big conference and congress	10,000	200	10	8	6	5	3	600	$ 700	$ 7,000,000	$ 11,667
Cinema	500	10	2	1	10	10	0.1	1	$ 30	$ 15,000	$ 15,000
Theaters	500	10	2	2	10	10	0.2	2	$ 120	$ 60,000	$ 30,000
Opera	2,000	40	2	1	10	10	0.3	12	$ 200	$ 400,000	$ 33,333
	Prevalence	*2%*									

(1) This is not the total people infected at the event, but rather the people who end up infected because of the event. A multiplier of 50 means that every infected person that comes to the event might end up ultimately causing 50 infections after several generations.
Note: all risk numbers above are illustrative. They are very rough guesses based on my personal review of scientific papers. That means they are very likely wrong. What matters here is the concept: The fact that what we're trying to assess is how many new cases we will have based on any given event. This will help us have an educated guess on which events are most expensive.
Note: The same is valid for value per person. It is all made up. Governments need to create this with their own economists.
Source: Tomas Pueyo Analysis, heavily influenced by Barthold Albrecht

Source: Pueyo (2)

Spreasheet model to control seeding from travel

- Model: Hypothetical country to choose which country to open travel
- Ballpark probabilities and costs per infection chosen by user.

Chart 39.d: Model for Travel Restrictions

Infected Visitors	Country H Herd Immunity	Country D Successful Dance	Country O Rich with Outbreak	Country W Workers
Incoming travelers per year	10,000,000	6,000,000	15,000	2,000,000
Estimated coronavirus prevalence	5%	0.01%	1%	0.5%
Correction for likelihood to travel while sick	3.5%	0.01%	0.7%	0.4%
Total estimated cases imported per year	350,000	420	105	7,000
Long-Term Visitors				
% travelers who would be willing to quarantine for 2 weeks	10%	20%	15%	70%
Long-term travelers	1,000,000	1,200,000	2,250	1,400,000
Infected long-term travelers	35,000	84	16	4,900
Infected long-term travelers who leak into the community	8,750	21	4	1,225
Value per traveler who can be quarantined	$15,000	$12,000	$20,000	$9,000
Total value captured through quarantined travelers	$15,000,000,000	$14,400,000,000	$45,000,000	$12,600,000,000
Value brought to the country per infected LT traveler	$1,714,286	$685,714,286	$11,428,571	$10,285,714
Tourists				
Share of tourists (ie, wouldn't be willing to quarantine)	90%	80%	85%	30%
Number of tourists	6,300,000	4,800,000	12,750	600,000
Infected tourists	315,000	480	128	3,000
Value per tourist	$2,300	$2,500	$20,000	$500
Total value coming from tourists	$14,490,000,000	$12,000,000,000	$255,000,000	$300,000,000
Value brought to the country per infected tourist	$46,000	$25,000,000	$2,000,000	$100,000

	How much less likely are sick people to travel	30%
	% infected long-term visitors successfully quarantined	75%

Prioritization		Value per infection	Infections	Remaining infections allowed (annual)
1	Quarantines - Country D: Successful Dance	$685,714,286	21	3,629
3	Quarantines - Country O: Rich with outbreak	$11,428,571	4	3,625
2	Quarantines - Country W: Workers	$10,285,714	1,225	2,400
5	Tourism - Country D: Successful Dance	$25,000,000	480	1,920
4	Quarantines - Country H: Herd Immunity	$1,714,286	8,750	-6,830
6	Tourism - Country O: Rich with Outbreak	$2,000,000	128	-6,957
8	Tourism - Country W: Workers	$100,000	3,000	-9,957
7	Tourism - Country H: Herd Immunity	$46,000	315,000	-324,957

	Healthcare + Contact Tracing system capacity for new daily seeds	10

Source: Pueyo (2)

References

Baldwin, R (1). “Covid, remobilization, and the ‘stringency possibility corridor’: creating wealth while protecting health”, https://voxeu.org/article/covid-remobilisation-and-stringency-possibility-corridor

Baldwin, R.(2) “Covid, hysteresis, and the future of work”, https://voxeu.org/article/covid-hysteresis-and-future-work

Baldwin, R. and S. Evenett eds. “Covid19 and Trade Policy: Why Turning inwards won’t work” https://voxeu.org/content/covid-19-and-trade-policy-why-turning-inward-won-t-work

Bethune, Z and A. Korinek “Covid-19 infection externalities: Herd Immunity vs. containment strategies”, https://voxeu.org/article/covid-19-infection-externalities-herd-immunity-versus-containment-strategies

Espitia, A. N. Rocha, M. Ruta “Covid-19 and Food Protectionism”, https://voxeu.org/article/covid-19-and-food-protectionism

Evenett, S. “Sicken Thy Neighbor: The Initial Trade Policy Respons to Covid-19”, *The World Economy*

Loayza, N. “Smart containment and mitigation measures to confront the COVID-19 pandemic: Tailoring the pandemic response to the realities of developing countries” https://blogs.worldbank.org/developmenttalk/smart-containment-and-mitigation-measures-confront-covid-19-pandemic-tailoring

Melo, J. (1) “Covid-19: An Opportunity to jump-start collective action in Africa” https://mailchi.mp/c71d358901a9/new-blog-covid-19-an-opportunity-to-jump-start-collective-action-in-africa?e=d34aa3f086

Melo, J. (2) “For an environmentally friendly trade policy in Mauritius”, https://www.entreprenanteafrique.com/en/for-an-environmentally-friendly-trade-policy-in-mauritius/

Melo, J. de, V. Tandrayen-Ragoobur, B. Seetanah, “Covid19 in Mauritius and other tourist paradises: A Progress Report” https://voxeu.org/article/covid-19-mauritius-and-other-tourist-paradises

Ornelas, E., “Managing economic lockdowns in an epidemic”, https://voxeu.org/article/managing-economic-lockdowns-epidemic

Pueyo(1), T. “The Hammer and the Dance”, https://medium.com/@tomaspueyo/coronavirus-the-hammer-and-the-dance-be9337092b56

Pueyo,(2)T. “Coronavirus: Prevent Seeding and Spreading” https://medium.com/@tomaspueyo/coronavirus-prevent-seeding-and-spreading-e84ed405e37d

Spies, Julia, “Strenghtening African value chains in medical supplies” http://www.intracen.org/covid19/Blog/Strengthening-African-value-chains-in-medical-supplies/