"Public Policies in the Coronavirus Pandemic Scenario: Some Insights from Argentine Experience"

Celeste Ratto (UNRN - IIDyPCa, CONICET); Leandro Da Rold (Instituto Balseiro, CONICET); Juan Manuel Cabrera (U.N. del Comahue); Juan Martín Azerrat (UNRN - IIDyPCa, CONICET); Daniela Zacharías (U.N. del Comahue); Alberto Baruj (Instituto Balseiro, CNEA, CONICET), Manuel de Paz (UNRN-IRNAD-CONICET)

4/28/2020

Paper to be delivered at Graduate Program and Political Science Department, Sao Paulo University

Coronavirus Pandemic Scenario

- First recorded case: 12/31/2019 in Wuhan (Hubei), China

- Probable first real case: 12/1/2019

- Identification of the new coronavirus: 1/7/2020

- First case outside of China: 1/13/2020 in Thailand

- Declaration of emergency (WHO): 1/30/2020

- First case detected in Argentina: 3/3/2020

- Pandemic Declaration (WHO): 3/11/2020

So far: 3 million confirmed cases

215 thousand deaths declared

more than 200 affected countries and territories around the world

Essential questions

- How is the pandemic progressing?

- How to compare what happens in different countries?

- How have states responded and to what extent the health systems have had enough capacity to face the pandemic?

- Most of the world is under lockdown, what is next?

Sources

- Open data

- Public information on health systems

- Public information on pandemic state policies

About data…

There are many limitations:

- Each country reports its own data to WHO
- The criteria for confirmed cases and for deaths from COVID-19 are not uniform, countries use different criteria
- In all countries there are more real cases than confirmed cases

Regarding deaths:
It seems to be a more reliable indicator. However, different countries record deaths in very different ways:

- Case 1: deaths from confirmed cases (most countries)
- Case 2: Deaths from complications of pre-existing diseases are not included (e.g. Germany)
- Case 3: unregistered deaths (for example, Ecuador, Spain) or suspicious reports (for example, Mexico)

- Alternative way: declared vs. expected deaths. Comparison between total declared deaths in e.g. March 2020 and the expected number of diseases for March 2020 based on previous years.

Confirmed cases

They are a sample of total cases

$\rightarrow$ Age (population pyramid)

$\rightarrow$ Incidence of pre-existing diseases

$\rightarrow$ Social Factors

*Two examples of total testing:*

- *Vó Euganeo (pop. 3,000): beginning, 3% infected, <u>half of them asymptomatic</u>*

- *Diamond Princess (3,700 pers.): 20% infected, <u>47% without symptoms</u>*

$\Rightarrow$
- We work under the assumption that confirmed cases are a fraction of the total cases, which we do not know, but <u>this fraction does not have large variations when the number of contagions is big</u>.

- Based on two cases of total testing, we could assume that the number of asymptomatic patients is similar to that of those who show symptoms (note, **not confirmed cases**).

Hospitalization cases → **Confirmed cases**
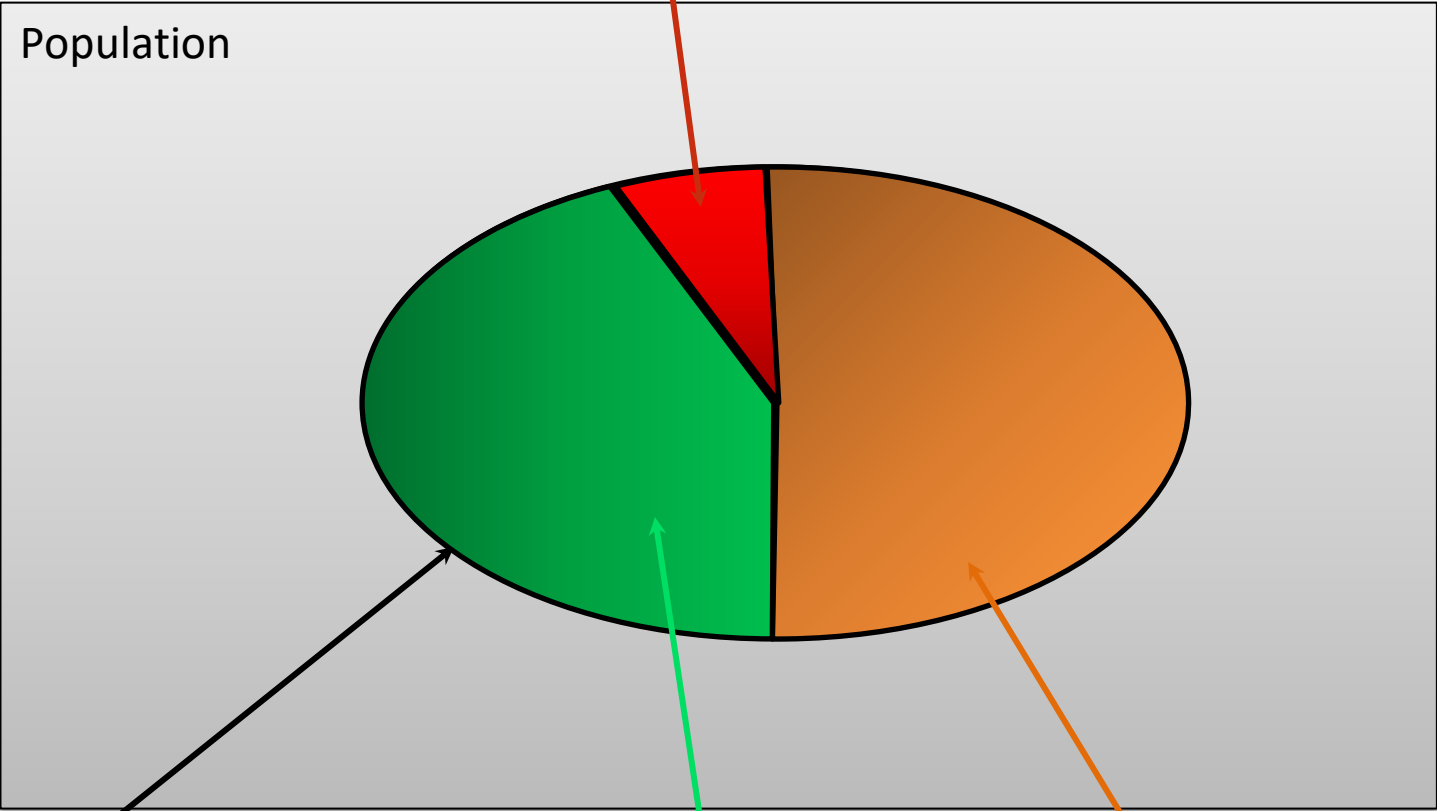
Population

Infected people

They are registered at the beginning (containment)

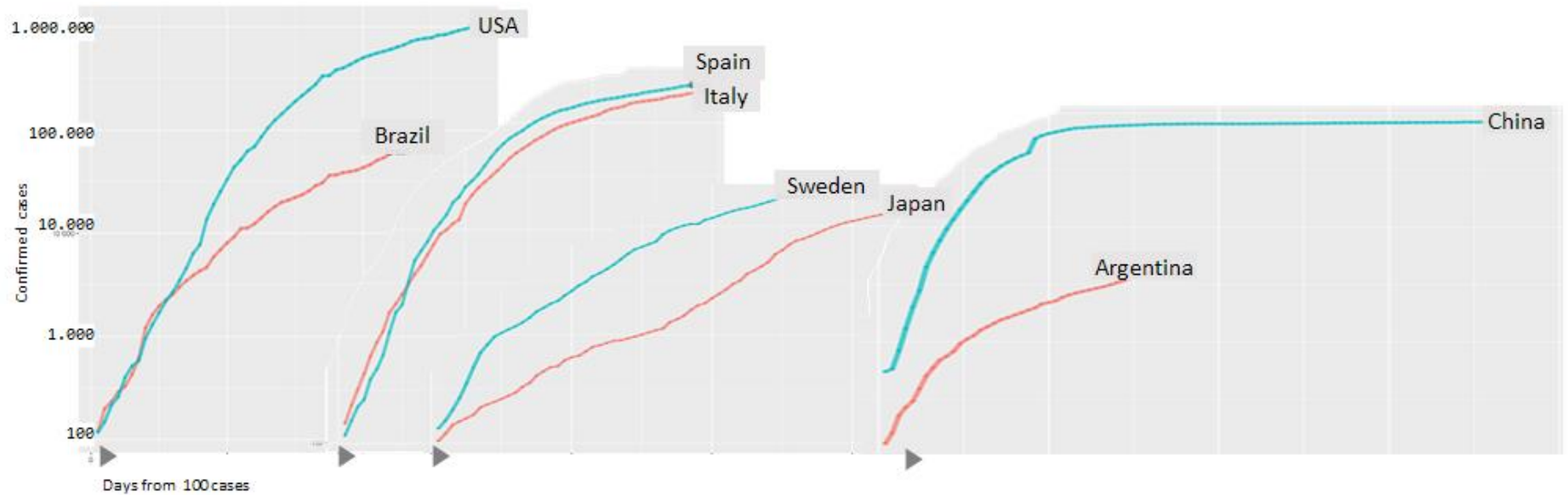Mild symptoms

Without symptoms

Argentina: confirmed case

The criteria to test (PCR, serological) in Argentina is:

Beginning : ✔ Symptoms that cannot be explained by another disease and a history compatible with possible contagion

From 4/16: ✔ Fever + 1 symptom of COVID -19

✔ contact with confirmed case or history to travel to affected areas

✔ All patients who present anosmia / dysgeusia, of recent appearance and without another defined etiology and without other signs or symptoms

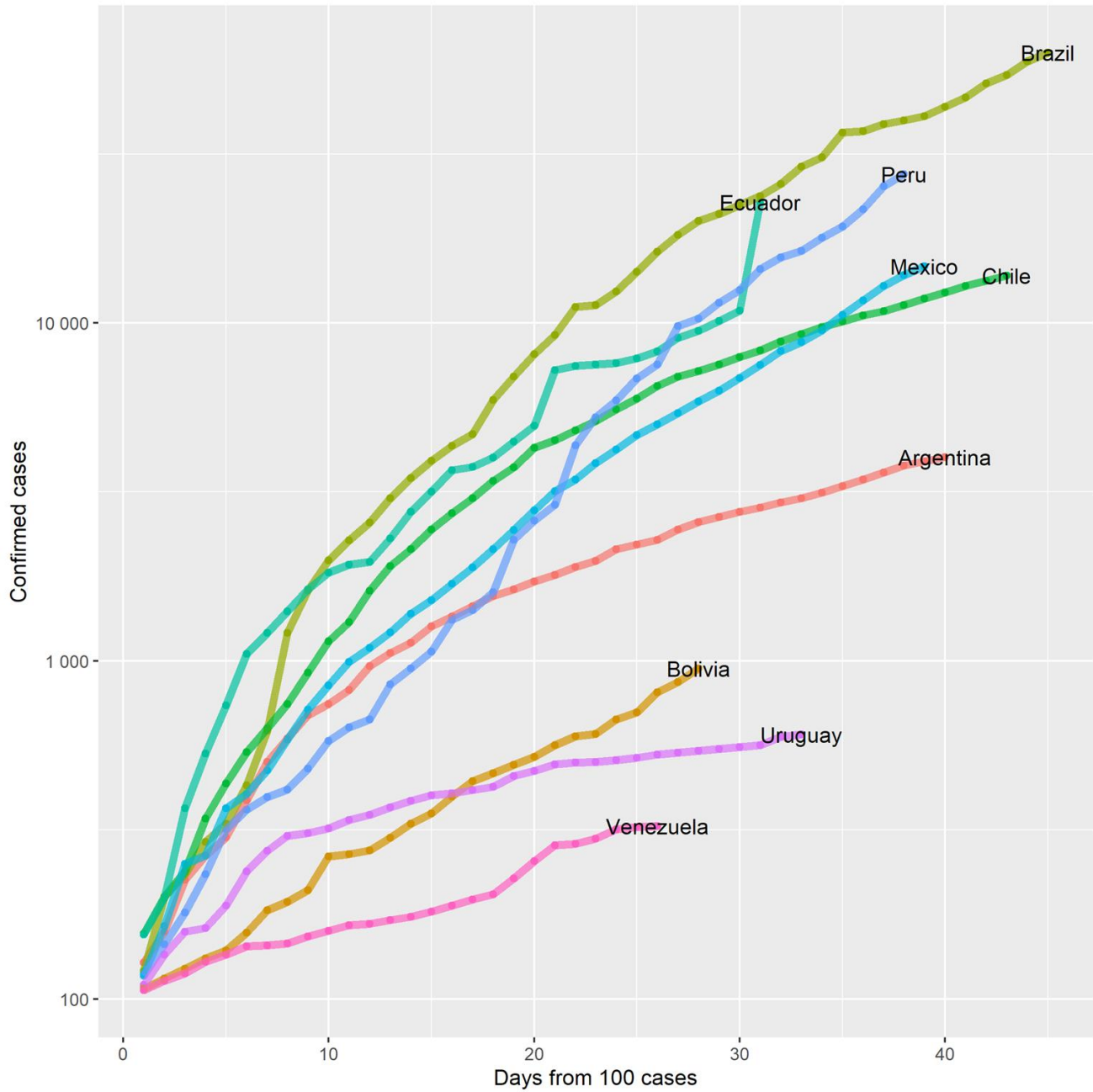✔ All staff for essential works, that have fever or two or more of Covid symptoms

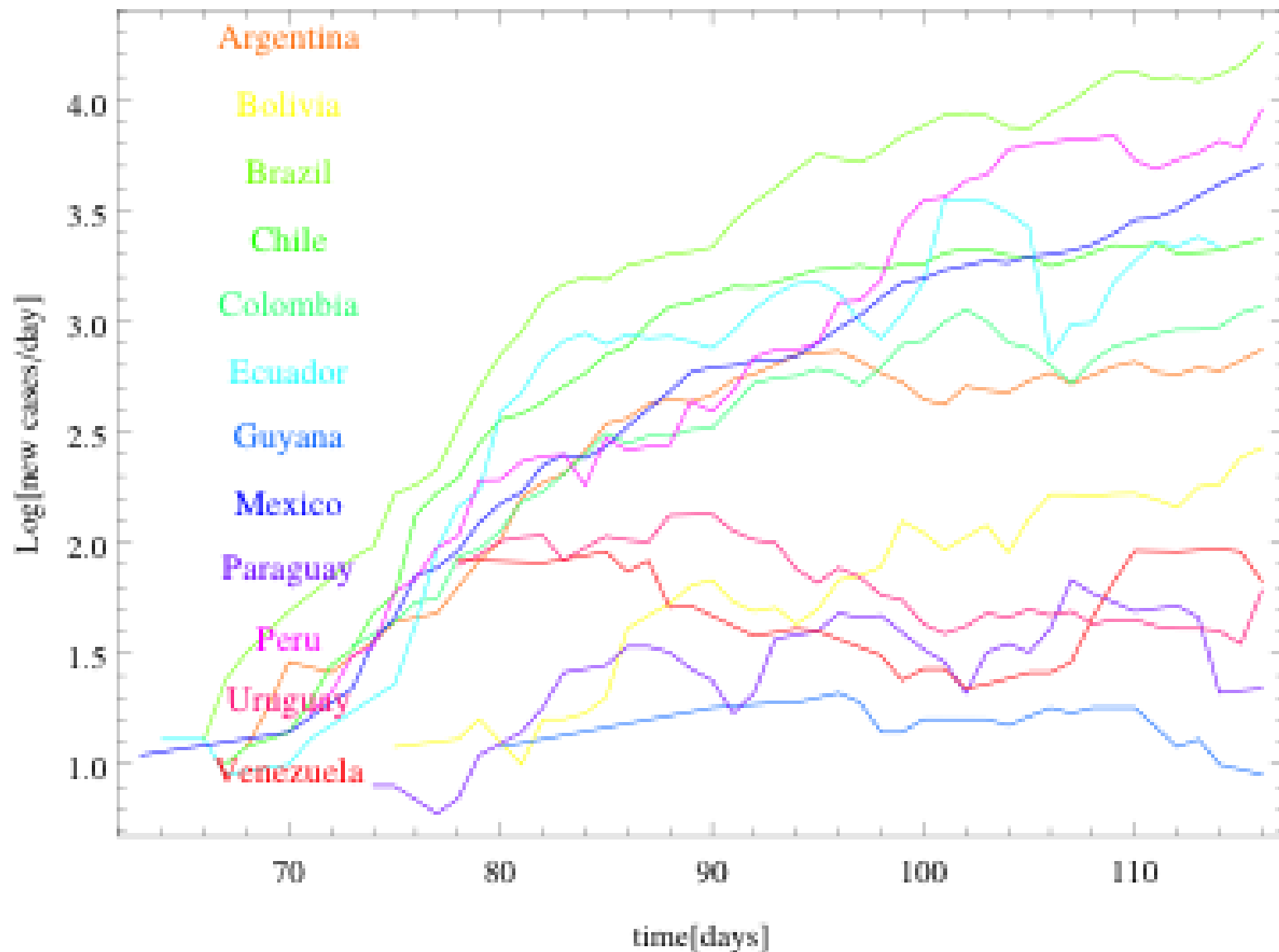|		
Lax Response Laissez faire Uncoordinated Light advice	Extended exponential phase If Intensive Care Units (ICU) collapse, mortality increases from 3-5% to 10-12% Government loses support Economic recession unavoidable	Brazil, USA
Proportionate measures Incremental Adjusts to evolution Light advice ↕ Lockdown	Distancing, limit to attendance in public events, events ban, transportation limits, home office, schools closing… Exponential phases with increased times Case number increase moderated Mortality rates between 0,5% y 4% Risk of ICU saturation	Japan, Sweden
Forced lockdown Starts lax or proportionate Lockdown by necessity	Lockdown declared after ICU collapse High mortality for 2 weeks Extended tail after peak	Italy, Spain
Early lockdown	Lockdown applied near the onset of the outbreak Low mortality - Economic stress	China, Argentina
High tech response Tracking devices Extended testing Direct police action	Contact identification and isolation Constant surveillance Privacy compromised or lost Usually successful against outbreak	South Korea - Australia

A comparative perspective of State Responses

Public Policies in the Coronavirus Pandemic Scenario

Latin America: An Overview

Public Policies in the Coronavirus Pandemic Scenario

Public Policies in the Coronavirus Pandemic Scenario

ARGENTINA

Quick enactment of restrictive measures and early lockdown

Chronology

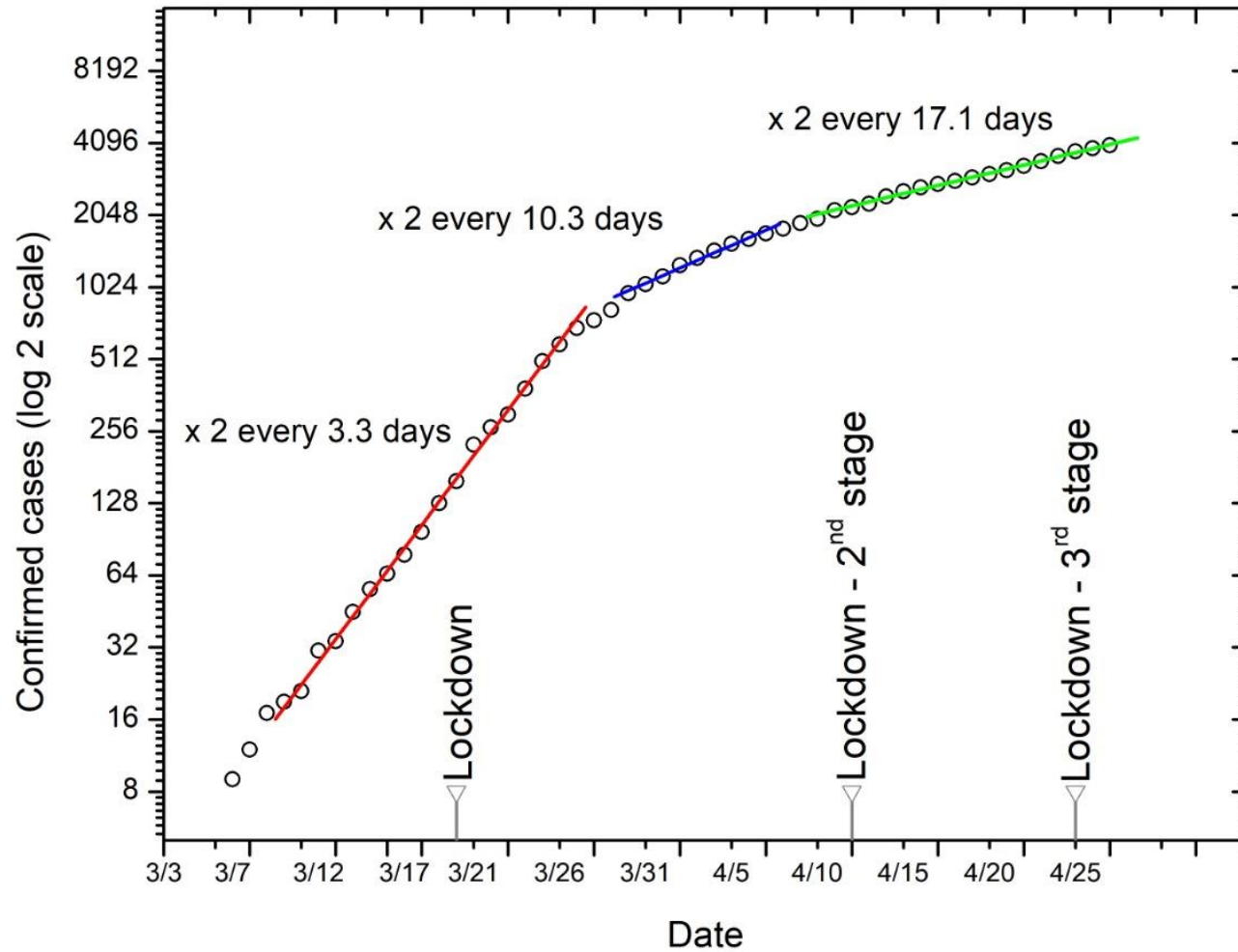| March 3rd	First case
March 7th	First death
March 12th	Suspension of cultural and sports events Mandatory quarantine for travelers from affected areas
March 15th	Closure of schools and universities Closure of borders Work leave for aged 60 or above, and for schoolchildren parents
March 17th	Flights from affected areas cancelled Home-office for public sector. Advice to private sector to do the same
March 20th	**Lockdown (compulsory social distancing - 90% pop. at home)**

at that time: 128 confirmed cases and 3 deaths

Public Policies in the Coronavirus Pandemic Scenario
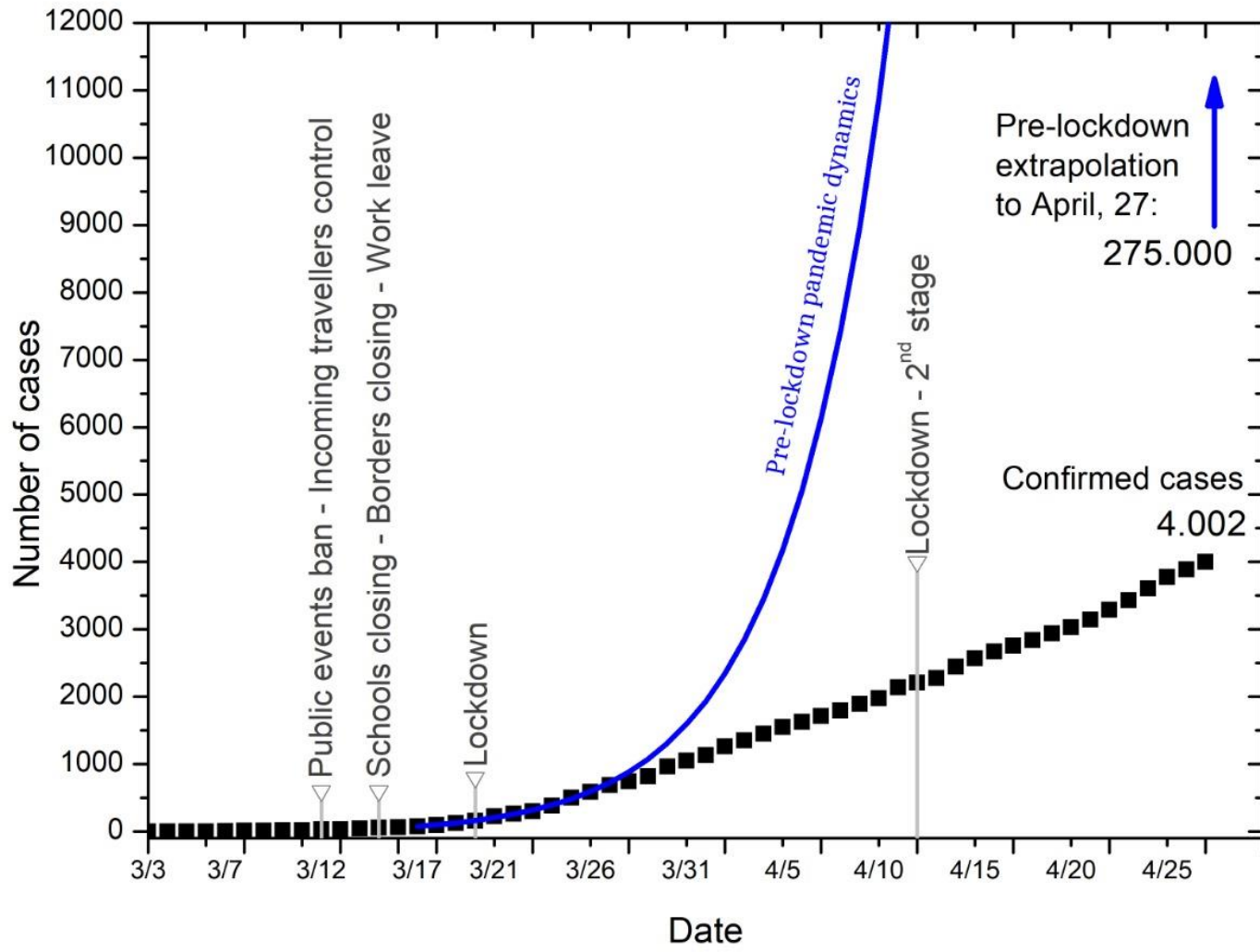
Argentina

Source: Min. of Health - Argentina - Compiled by Dr. Jorge Aliaga

Argentina

Source: Min. of Health - Argentina - Compiled by Dr. Jorge Aliaga

Public Policies in the Coronavirus Pandemic Scenario

Argentina: Lockdown management (phases)

Criteria	Strict Lockdown	Managed Lockdown	Geographical Segmentation	Progressive reopening	New Normal
Authorized	Only essential services	More activities are allowed	Province/states exceptions	Province/states exceptions	Hygiene habits and sustained care
Restricted	All the rest	National restrictions	National restrictions	National - local restrictions	
Mobility limits	Up to 10%	Up to 25%	Up to 50%	Up to 75%	More than 75%
Duplication time	Less than 5 days	From 5 to 15 days	From 15 to 25 days	More than 25 days	
Geographical	Homogeneous	National exceptions	Segmentation by epidemiological criteria	Local restrictions	Homogeneous

Public Policies in the Coronavirus Pandemic Scenario

Another way to see the numbers: "The chopsticks"
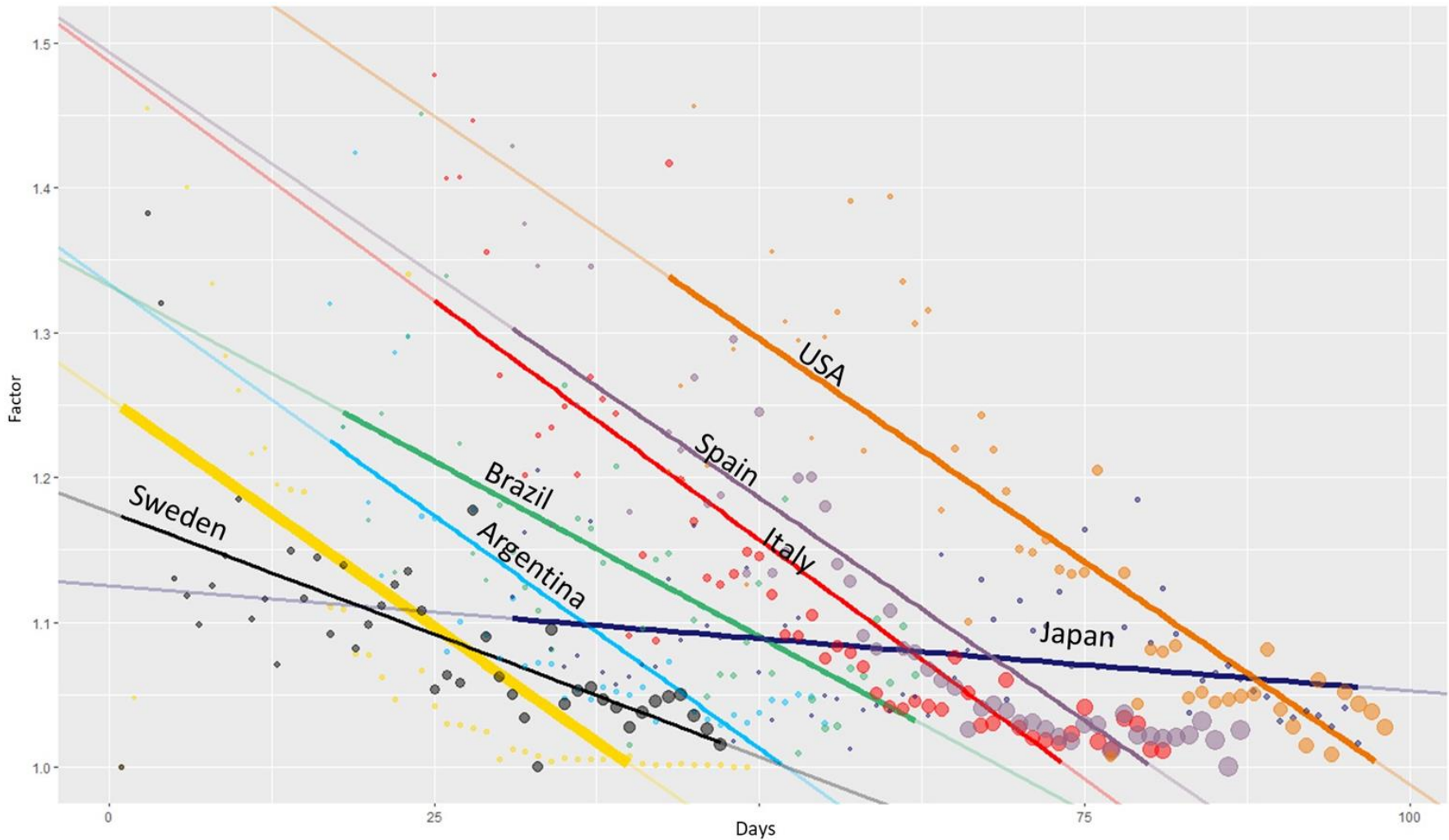
$$Factor = \frac{Total\ confirmed\ cases\ [day\ n]}{Total\ confirmed\ cases\ [day\ n-1]}$$

Discussion

- There is no ideal recipe for every country every time.
- Different approaches might adapt to different realities
- It is crucial to avoid reaching the health system saturation
- Lockdown breaks the pandemic exponential growth

- Argentina: considering the health system weakness, lockdown combined with economic support, has produced good results

  But

- **The central point of Today is:**

  Most of the world is under lockdown, how do we exit from that? How can we manage the relaxing of lockdown?

  We see 3 types of State responses for exit:

Lockdown exit strategies

**Do nothing (the Free Market Strategy, liberal strategy)**

- This strategy simply needs the will to lift the restrictions
  - Most examples and numerical simulations show that it leads to a rapid surge in the number of contagions and to an extremely high mortality rate. A fast collapse of the Health System
  - Highly unequal economies would replace deceased or absent workers with new labor from a large pool of desperate people
  - Efficiency fanatics would consider losing a large fraction of older or retired people as beneficial to the economy
  - It is unclear how a political system could adapt to the ensuing catastrophic loss of human life
  - For example, in a country of 100 million people, deaths in excess of 5 million could be expected
- This is a controversial exit strategy

Lockdown exit strategies

High tech (The Hammer and The Dance, Tomás Pueyo)

- It is effective (e.g. South Korea, Australia and China)
- It requires a large electronic surveillance network
  - Absent in most cases - Companies will see business opportunities
  - Under a recession scenario: loans - Creates dependence
  - Asymmetry between technology owners and adopters
- Compromised or lost privacy
  - The harder the measures, the shorter the hammer period (monitoring/tracking, control and discipline)
  - Who owns the data?
  - Gives the state an enormous amount of control (dangerous in low intensity democracies)
  - Stress democratic values, a threat to democracy?
- One size fits all?

Leaving lockdown: the high tech strategy (The Dance)
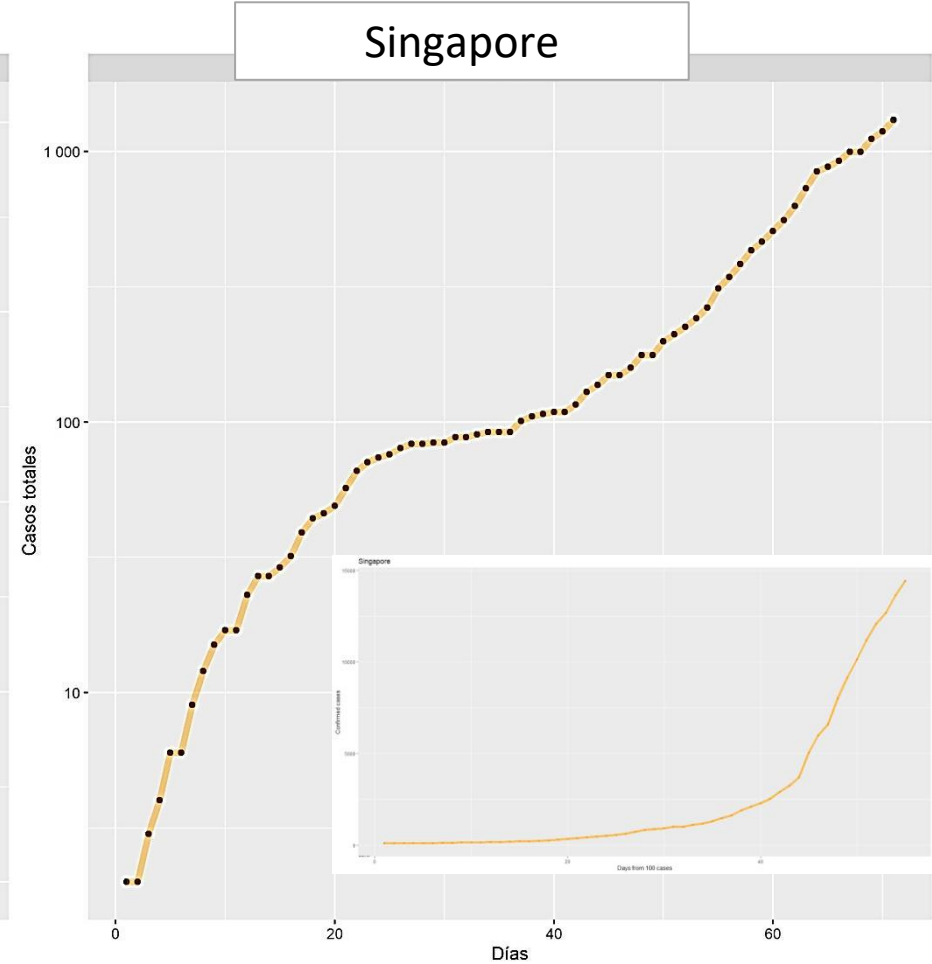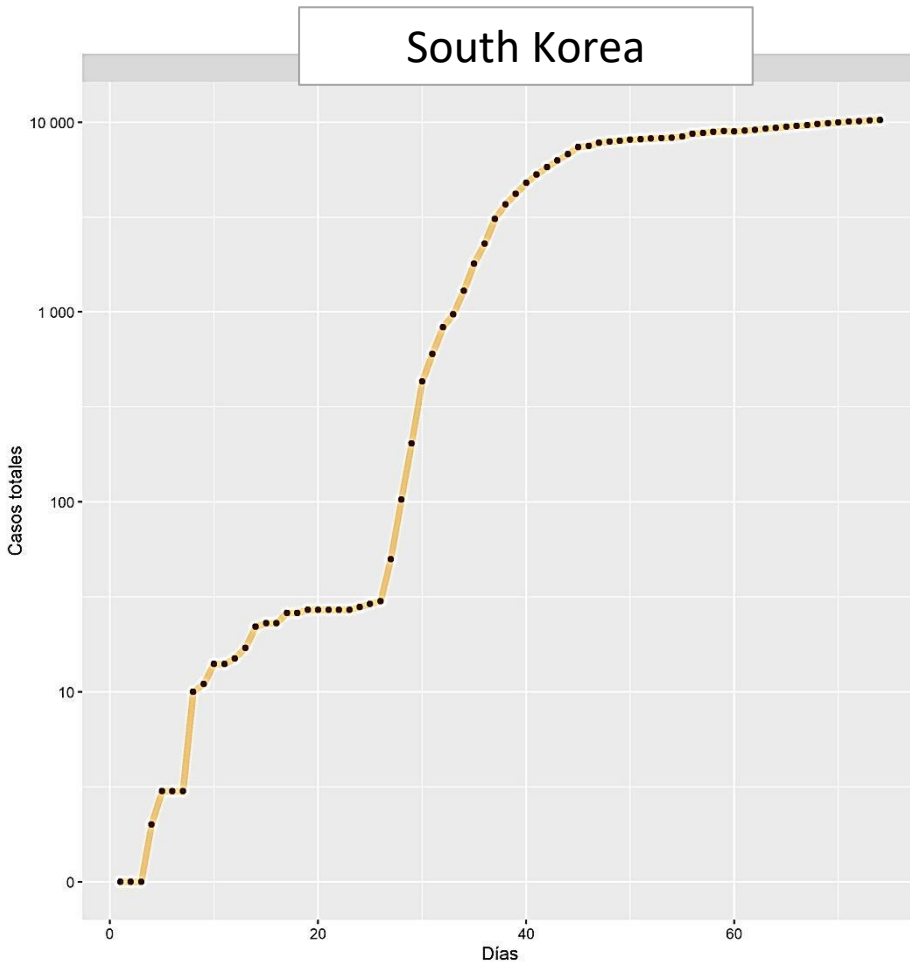
Extended track and trace - Police enforcement - State tight control
Rapid isolation of cases and contacts - Unforeseen events trigger quick mini-outbreaks

Lockdown exit strategies

Managed exit (The Equilibrist)

- It requires a state present and resourceful
  - Identify stages and geographical zones
  - Political will to go forward or go back if necessary
  - Outbreaks must be quickly identified and managed
  - Economies under lockdown have to be assisted
- It requires social legitimacy
  - People will not comply unless the whole operation is transparent
  - State tools will not be strong enough to track and punish every infractor
- Ultimately, this strategy rests on politics

Lockdown exit strategies

Managed exit (The Equilibrist)

This lay on the idea of Public Policy as an equilibrium between several elements, that constitute the state capacity:

- The Rope: is the capacity of the health system (infrastructure, beds, ventilators, intensive care units, medical staff) More time to improve the HS

- The equilibrist: are the main authorities of the country. (Political system: relationship between presidents and governors, scope of national measures, distribution of economical resources, responsibility and responsiveness) More space to bargaining and agreement

- Equilibrium: are public policies (strategic planning, expert advice, clear diagnosis, early decisions, social legitimacy)

Thank you all of you for listening!!!
Comments and questions are welcome