

# The Lens

MIB Trieste  
School of  
Management



## UN DIGITAL PASSPORT PER IL POST LOCKDOWN

Giovedì 2 APRILE 2020 / ore 14:00

WEBINAR

# EMPOWERING LIVES THROUGH KNOWLEDGE AND IMAGINATION

MILANO | ITALY

## (Digital) Life After the Virus

*How the COVID-19 pandemic is changing the social and economic context*

Prof. Carlo Alberto Carnevale Maffé – SDA Bocconi School of Management

Milano, 2 aprile 2020

## 4 shocks che colpiscono tutte le economie

### Misure di contenimento provocano uno shock all'offerta...

- Chiusura di attività
- Interruzioni delle supply-chains

### ...e uno alla domanda

- La natura globale dello shock ha effetti sulla domanda (turismo, beni, etc)
- La chiusura di attività ha effetti sul reddito delle famiglie
- Le misure di contenimento hanno effetti sulle decisioni dei consumatori

### Aumento dell'incertezza colpisce aziende e consumatori

- Decisioni importanti di investimenti, aumento occupazionale, etc, verranno inevitabilmente rimandate

### Forte calo degli asset finanziari

- Flight to safety, aumento della volatilità e peggioramento delle condizioni finanziarie
- Rischio di credit crunch, aumento degli spread e dei tassi di rifinanziamento

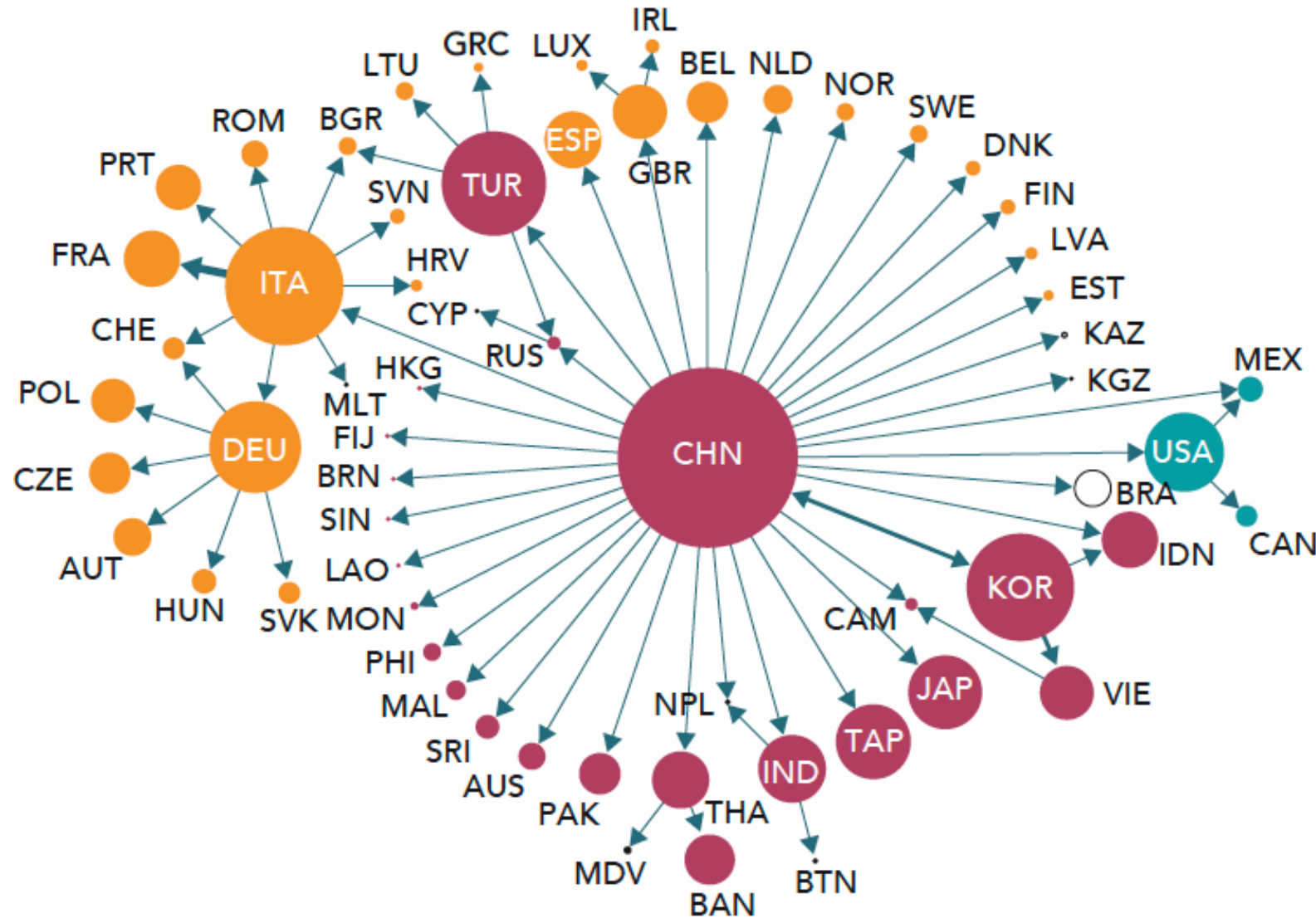
## L'impatto economico dipende dalla durata e grandezza del lockdown

	One week	Two weeks	One month	Two months	Three months
1%	0.0	0.0	0.1	0.2	0.3
3%	0.1	0.1	0.3	0.5	0.8
5%	0.1	0.2	0.4	0.8	1.3
10%	0.2	0.4	0.8	1.7	2.5
20%	0.4	0.8	1.7	3.3	5.0
30%	0.6	1.2	2.5	5.0	7.5
40%	0.8	1.6	3.3	6.7	10.0
50%	1.0	2.0	4.2	8.3	12.5

**Esempio: se 30% delle attività economiche è in lock down per due mesi (seguito da una immediata normalizzazione - ipotesi molto forte) il PIL diminuisce di 5% nell'anno.**

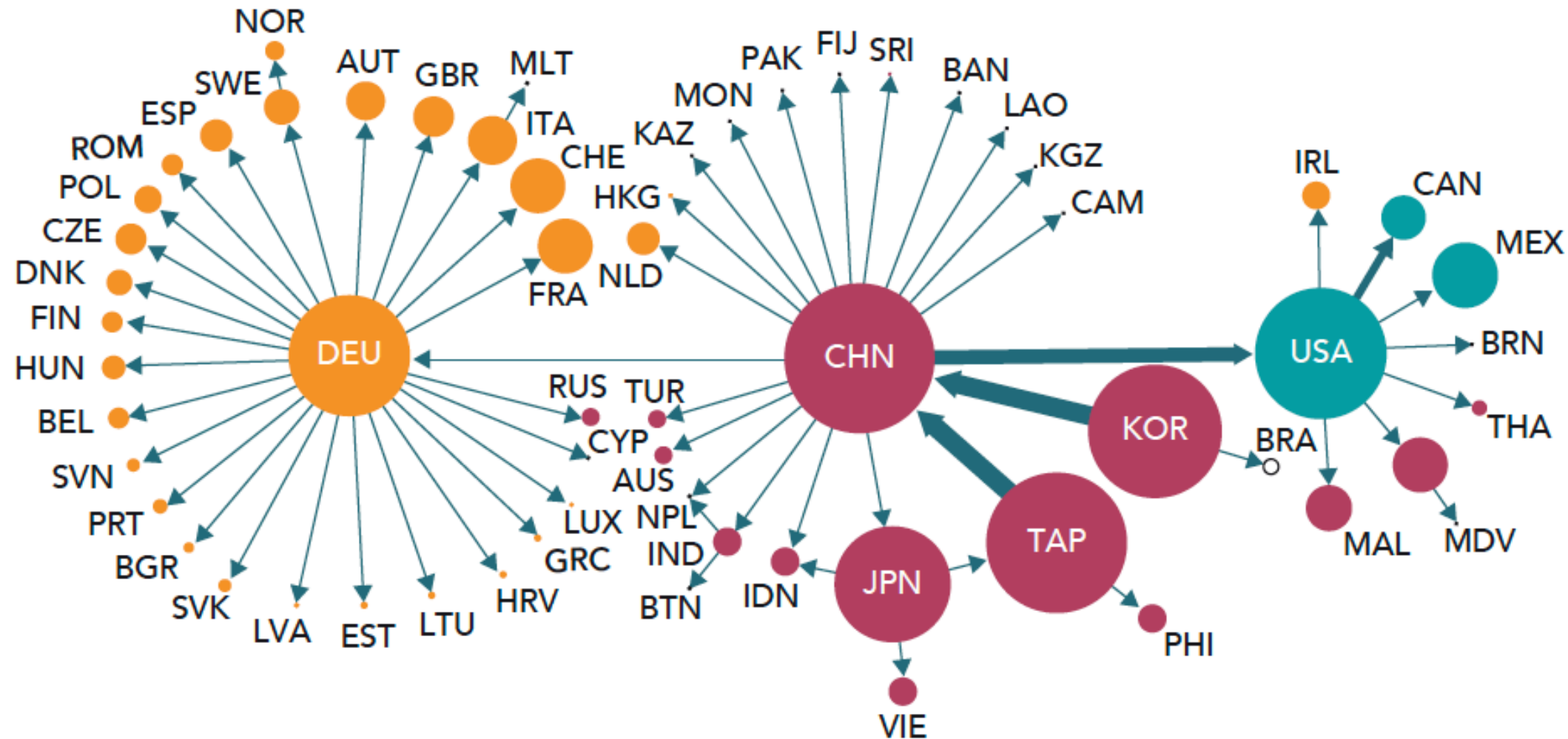


## Three interconnected hubs in the world's supply chain for textiles



Source: WTO Global Value Chain Development Report 2019.

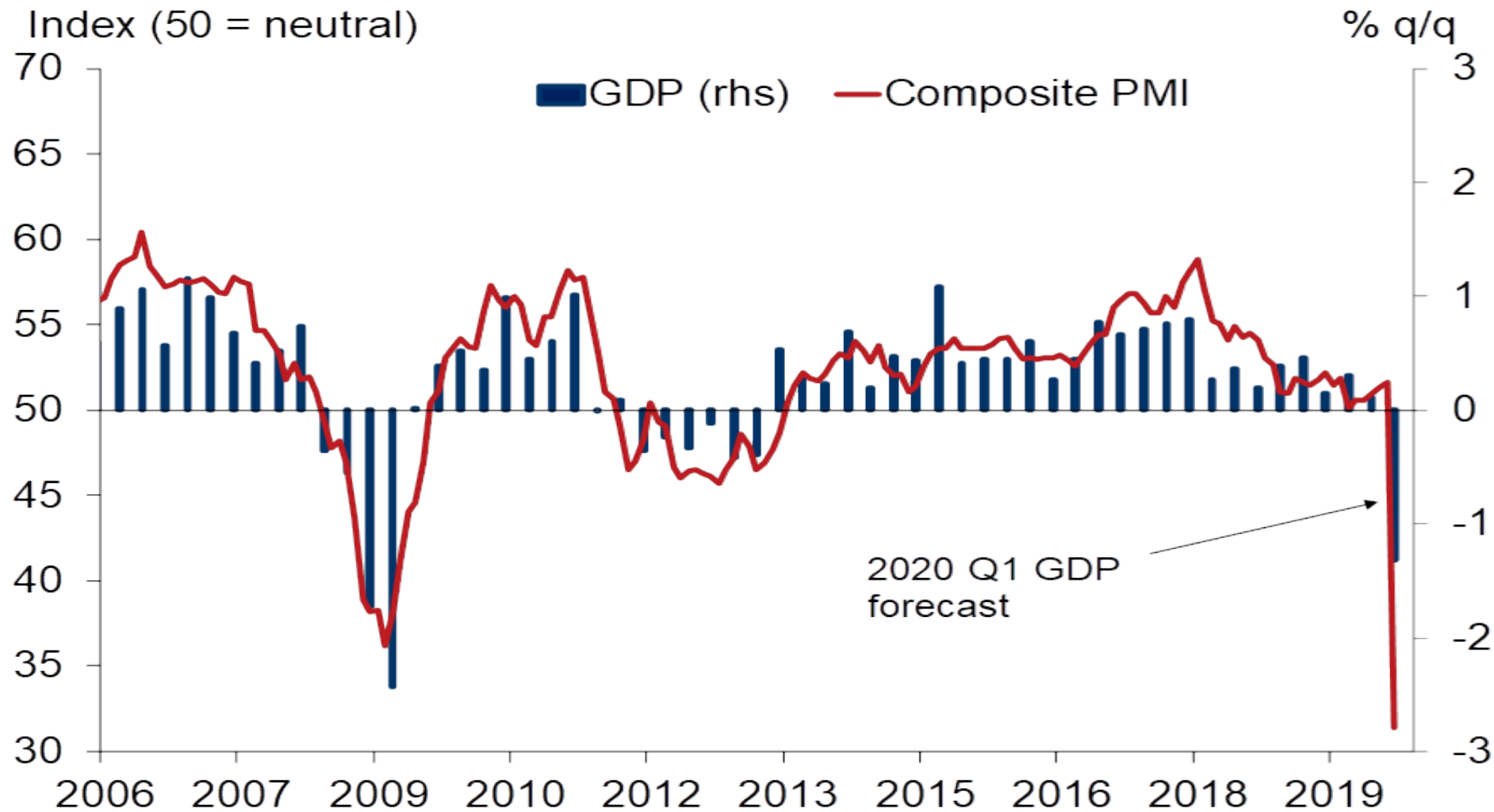
## Three interconnected hubs in the world's supply chain for ICT goods



Source: Global Value Chain Development Report, 2019, [www.WTO.org](http://www.WTO.org)

## Surveys dell'eurozona segnalano una forte recessione

### Eurozone composite PMI and GDP growth

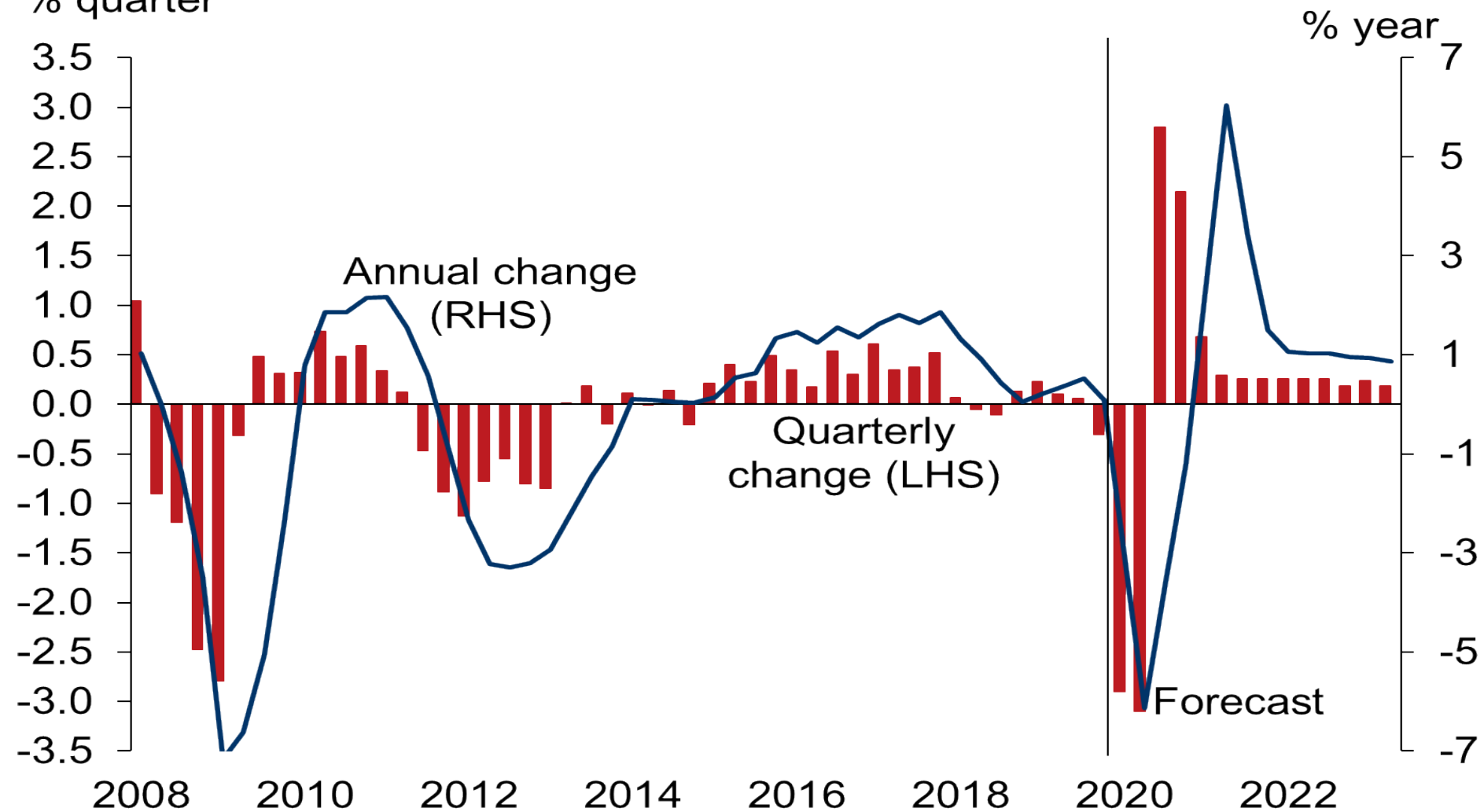


Source : Oxford Economics/Haver Analytics/Markit

## Italia: calo trimestrale del PIL più forte che nel 2009

### Italy: GDP

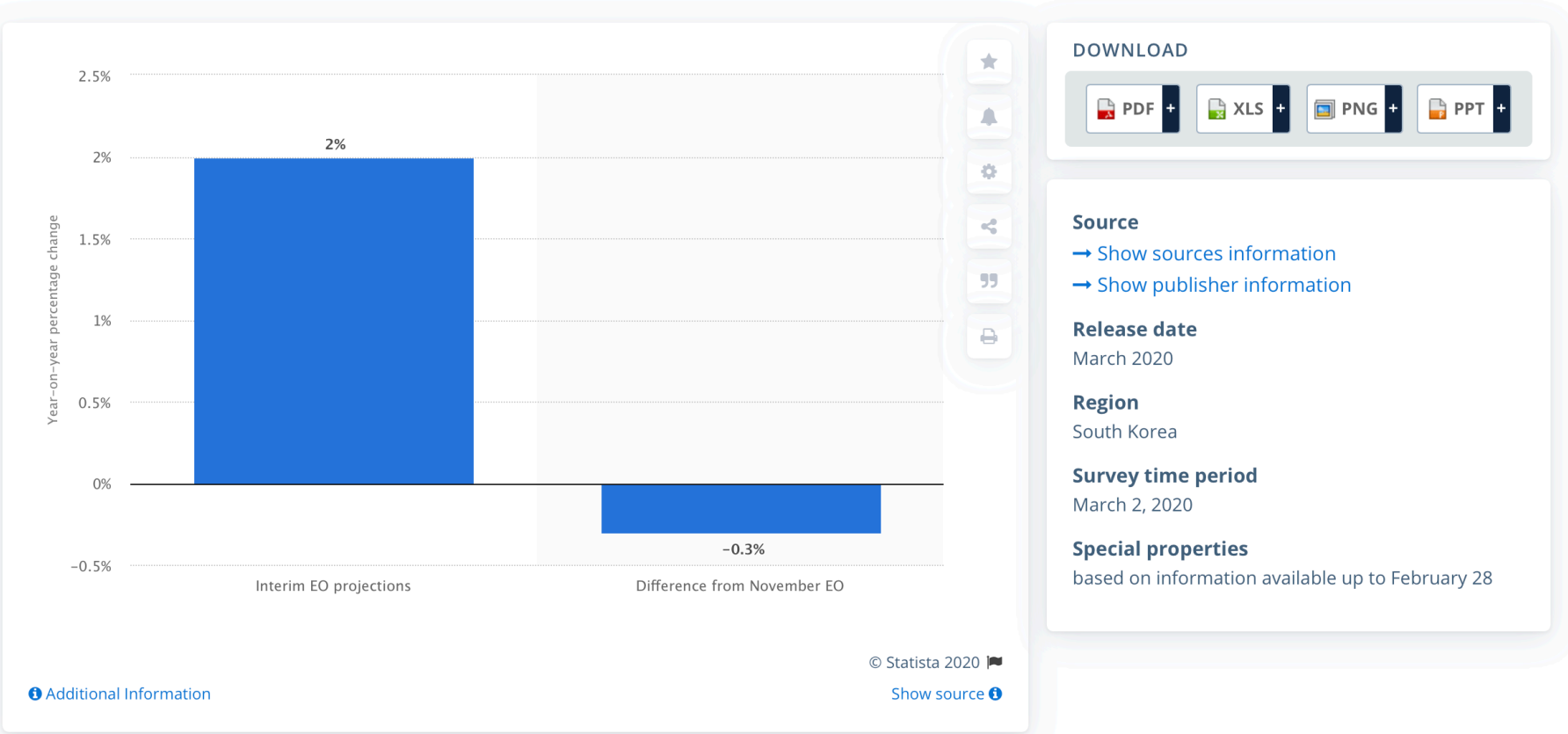
% quarter



Source: Oxford Economics, Haver Analytics

# South Korea - GDP forecast for 2020: +2.0% (difference from Nov 19: -0.3%)

Forecasted impact of the coronavirus (COVID-19) on real gross domestic product (GDP) growth in South Korea in 2020



## Forecasted impact of coronavirus on real GDP South Korea 2020

Published by [Won So](#), Mar 20, 2020

As of March 2020, it was forecasted that South Korea's real gross domestic product (GDP) growth will be two percent in 2020, decreased by 0.3 percent compared to the forecast in November. The GDP is affected by the rapidly spread of the coronavirus (COVID-19) across the world and has a great impact on South Korea's economy due to the close relations to China, for example in the manufacturing and service sector.

## Taiwan - GDP forecast for 2020: +1.5% (difference from previous: -0.7%)

Business

### Think tank cuts Taiwan's 2020 GDP growth to 1.5%

03/25/2020 03:24 PM

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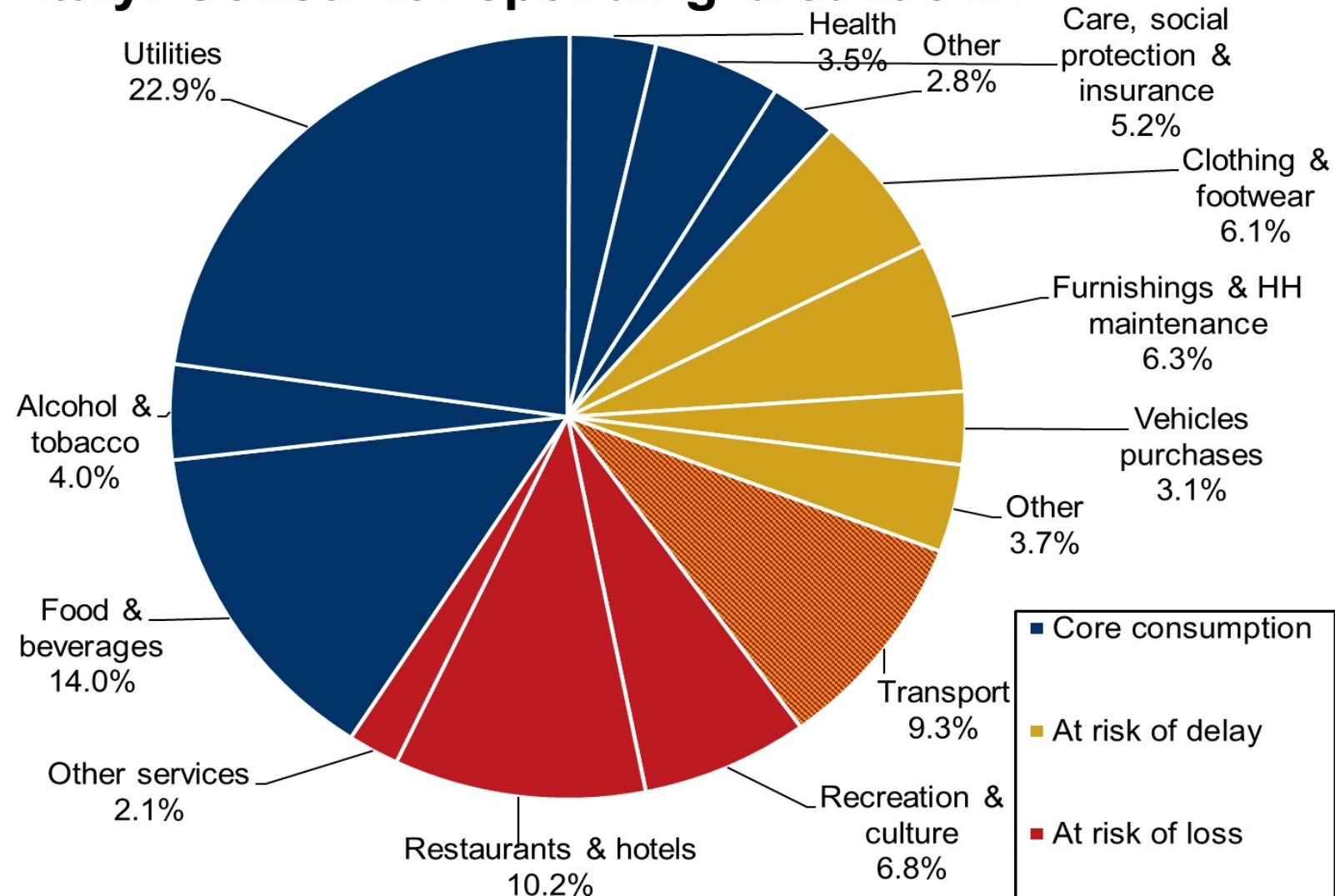


Taipei, March 25 (CNA) The Yuanta-Polaris Research Institute, one of Taiwan's leading economic think tanks, said Wednesday that it has lowered its forecast for Taiwan's gross domestic product (GDP) growth for 2020 to 1.5 percent, citing the impact of the COVID-19 coronavirus pandemic.



## Italia: circa il 45% dei consumi rischia di essere perso o rimandato

### Italy: Consumer spending breakdown

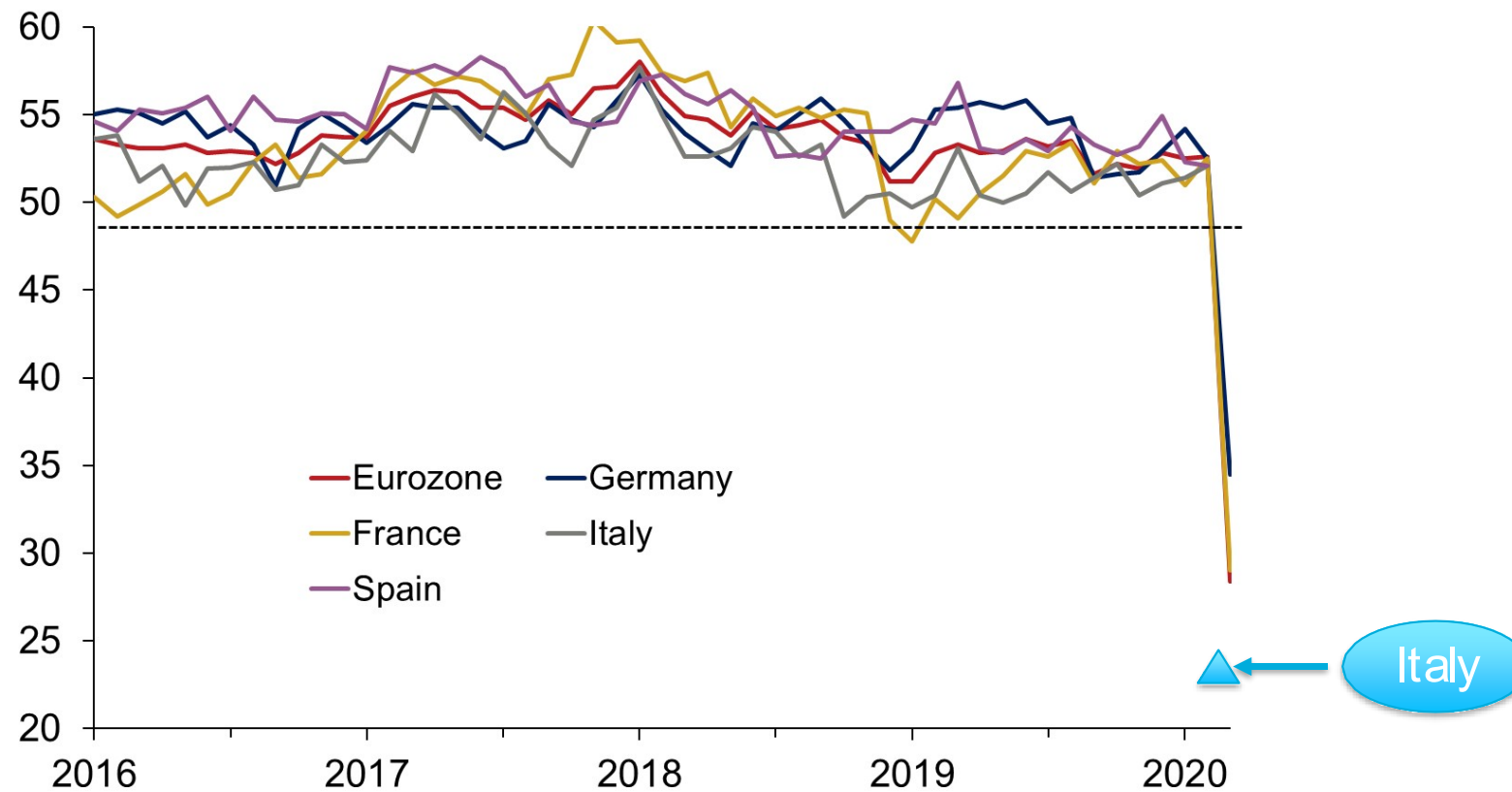


Source : Oxford Economics/Haver Analytics

## Italia: PMI per eurozona suggeriscono fortissimo calo nei servizi

### Eurozone: Service PMIs

Index, 50 = neutral

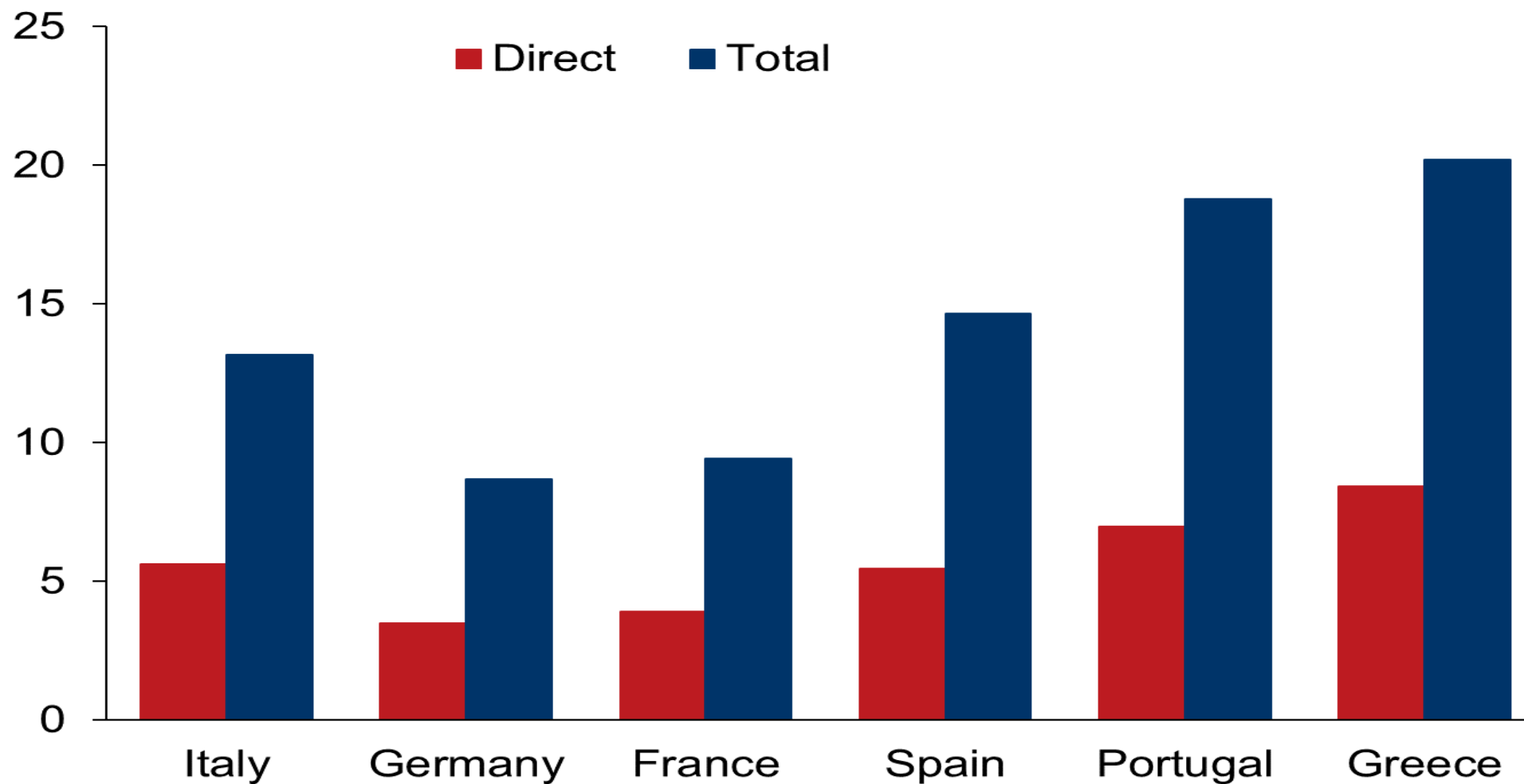


Source: Oxford Economics/IHS Markit

## Importanza del settore turistico

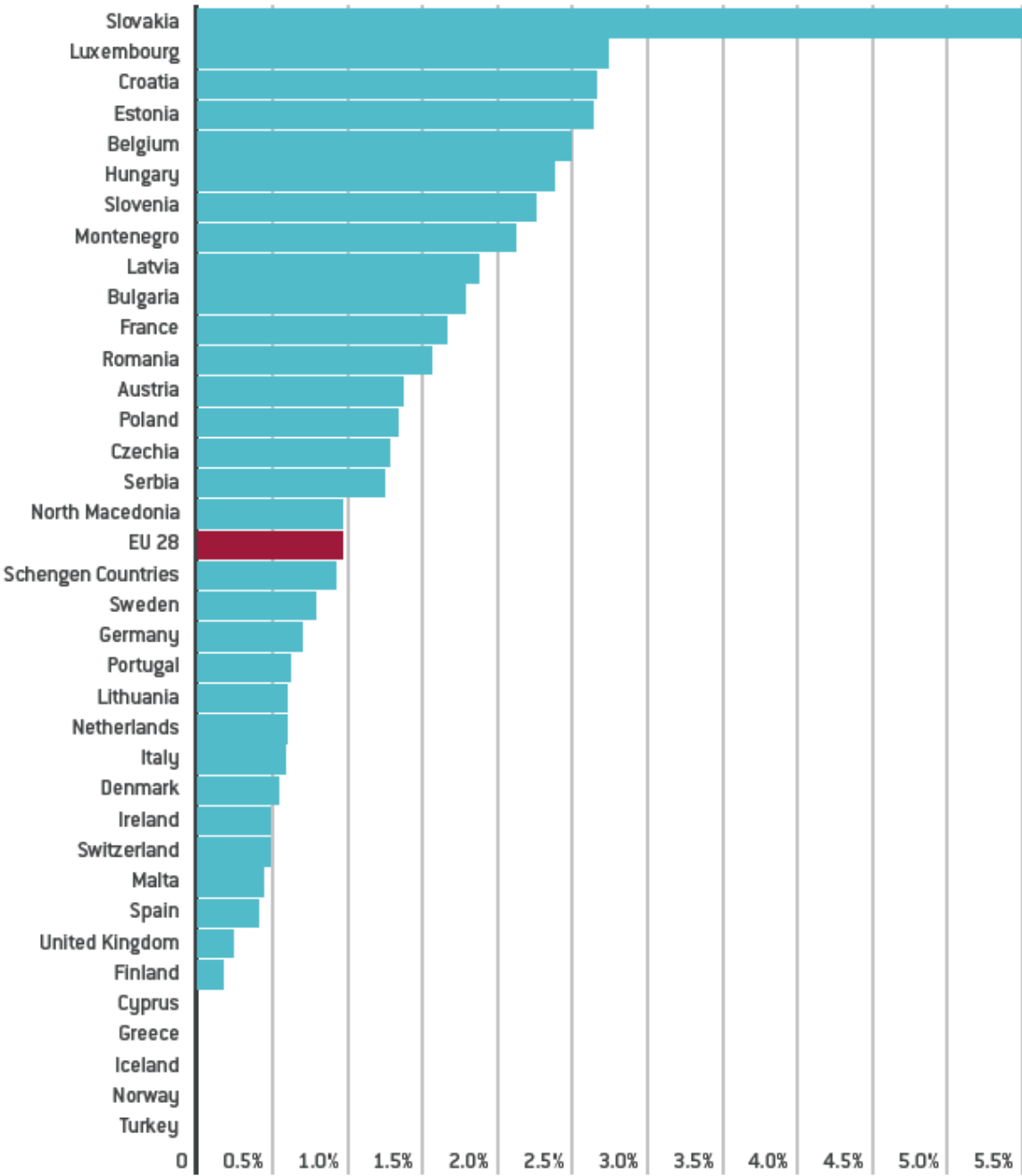
### Eurozone: Tourism sector

% of GDP, 2019 data



Source : Tourism Economics/Haver Analytics

# Cross-border commuters as a share of employed population (2018)



Source: Eurostat [lfst\_r\_lfe2emp] and [lfst\_r\_lfe2ecomm] Note: these figures represent the share of a country's employed residents who commute out of the country to go to work. Data for Cyprus, Greece, Iceland, Norway, Turkey was not available.

## Cosa possono fare le politiche monetarie e fiscali?

### Supply shock...

- Efficacia limitata - unica possibilità è evitare crisi di liquidità delle imprese

### ... shock alla domanda...

- Banche centrali possono creare spazio fiscale intervenendo sul mercato (esempio BCE con PEPP)
- Governi possono aumentare trasferimenti, ridurre o posticipare le tasse, aumentare social security net, aumentare investimenti nel sistema sanitario

### ...Aumento incertezza colpisce aziende e consumatori...

- Politiche coordinate tra autorità monetarie e fiscali per far ripartire le economie quando le restrizioni saranno tolte o ridotte

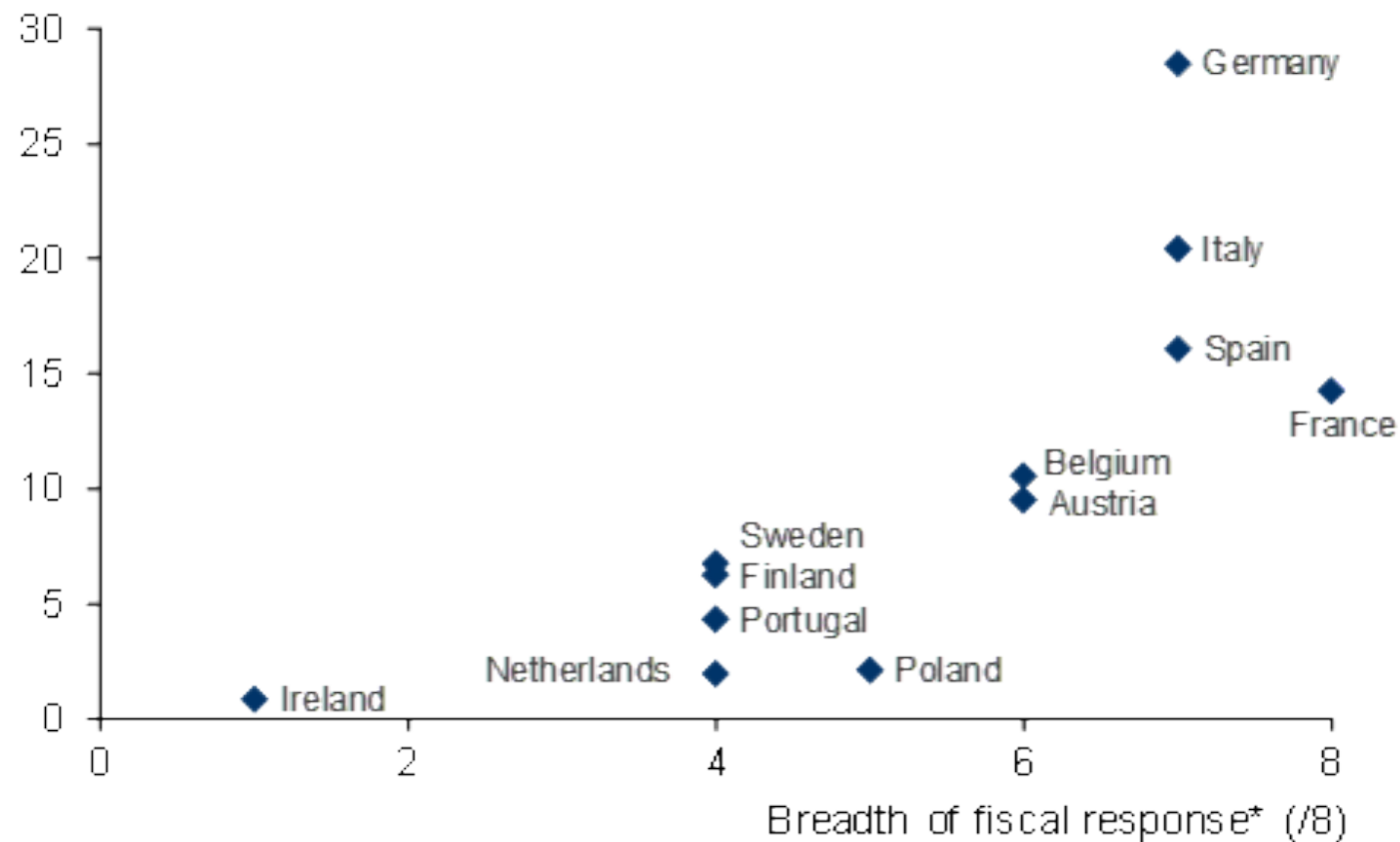
### ...mercato finanziario e banche

- Banche centrali devono inondare di liquidità e continuare con gli acquisti QE (e TLTRO) per evitare che il contagio si amplifichi dal mercato finanziario all'economia reale. Evitare rischio di credit crunch

## Politiche di bilancio in eurozona:

### Europe: Fiscal policy response to coronavirus

Size of fiscal response (% GDP)



Source : Oxford Economics

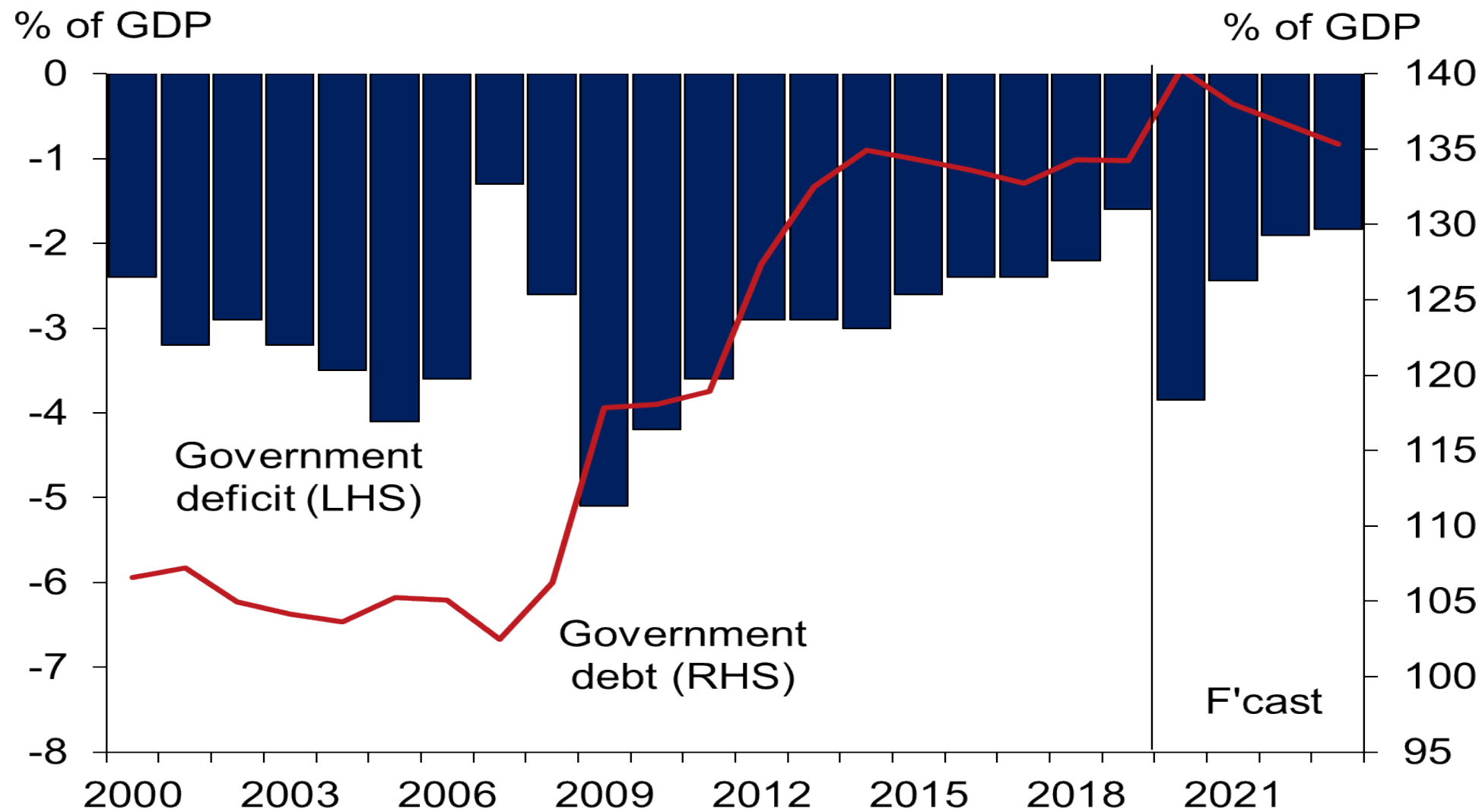
\*Number of policies implemented out of eight most common

Include anchegaranzie



## Italia: debito in forte aumento

### Italy: Government deficit and debt



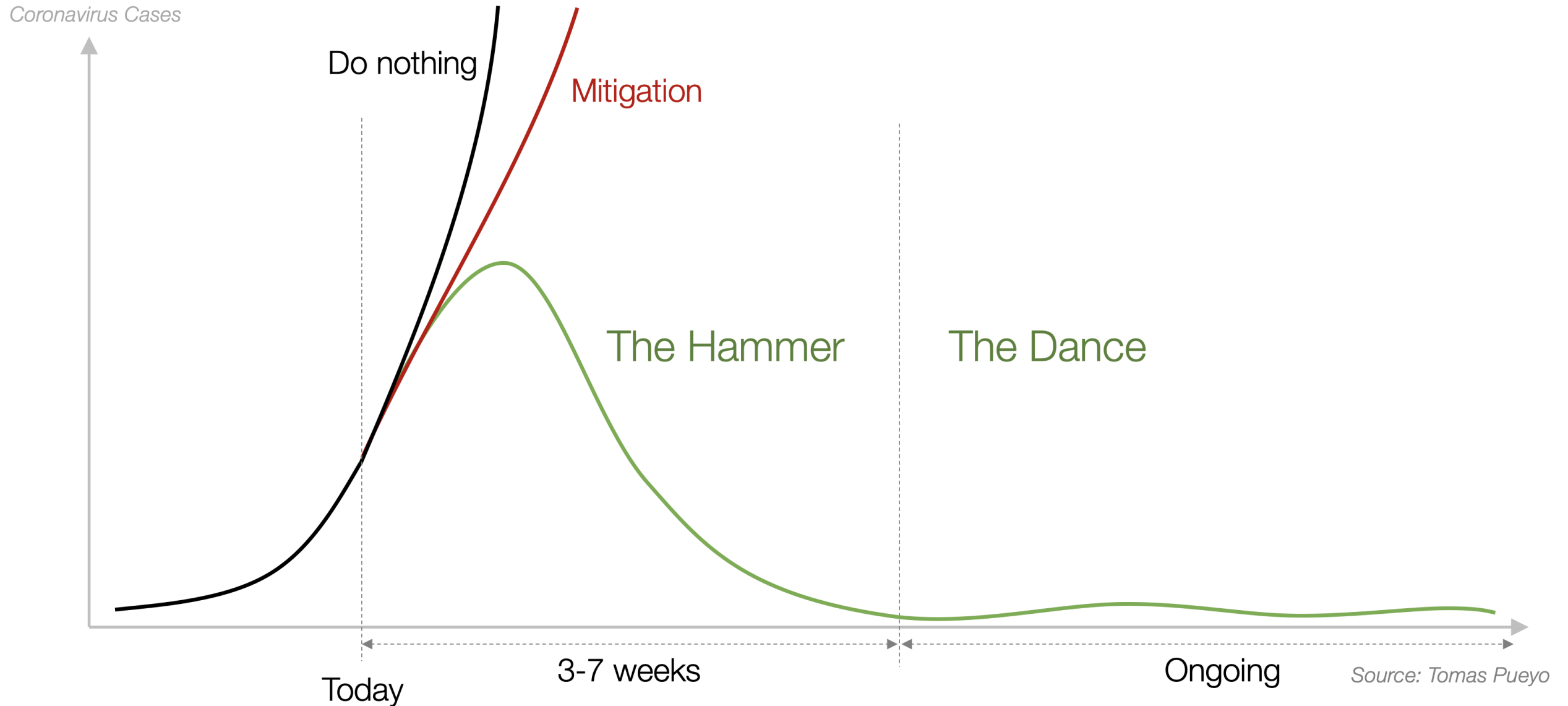
Source: Oxford Economics

# It Takes Two to Tango

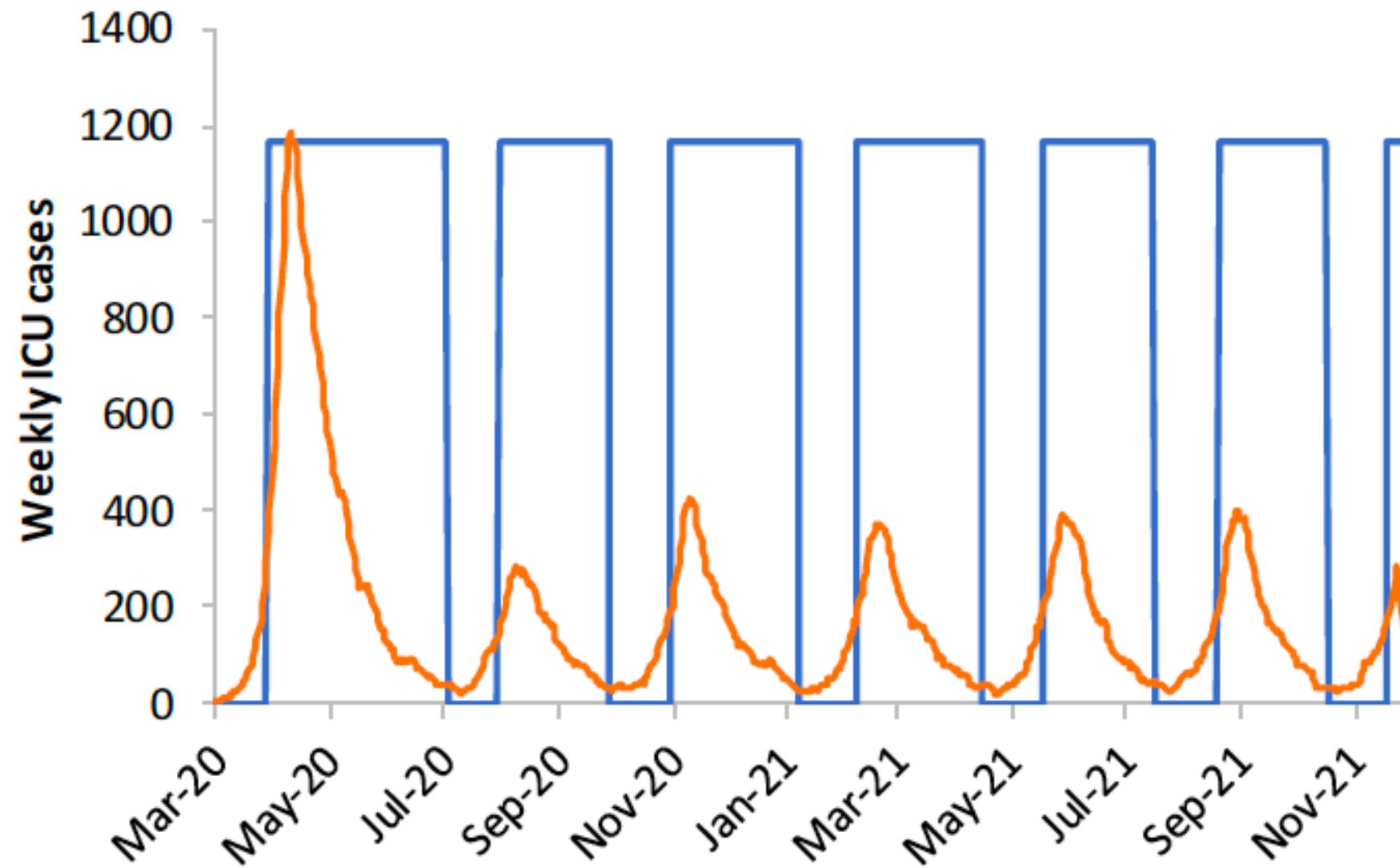
*The Hammer of  
Public Policies &  
the Dance of  
Supply Chains*



# Coronavirus: The Hammer and the Dance...

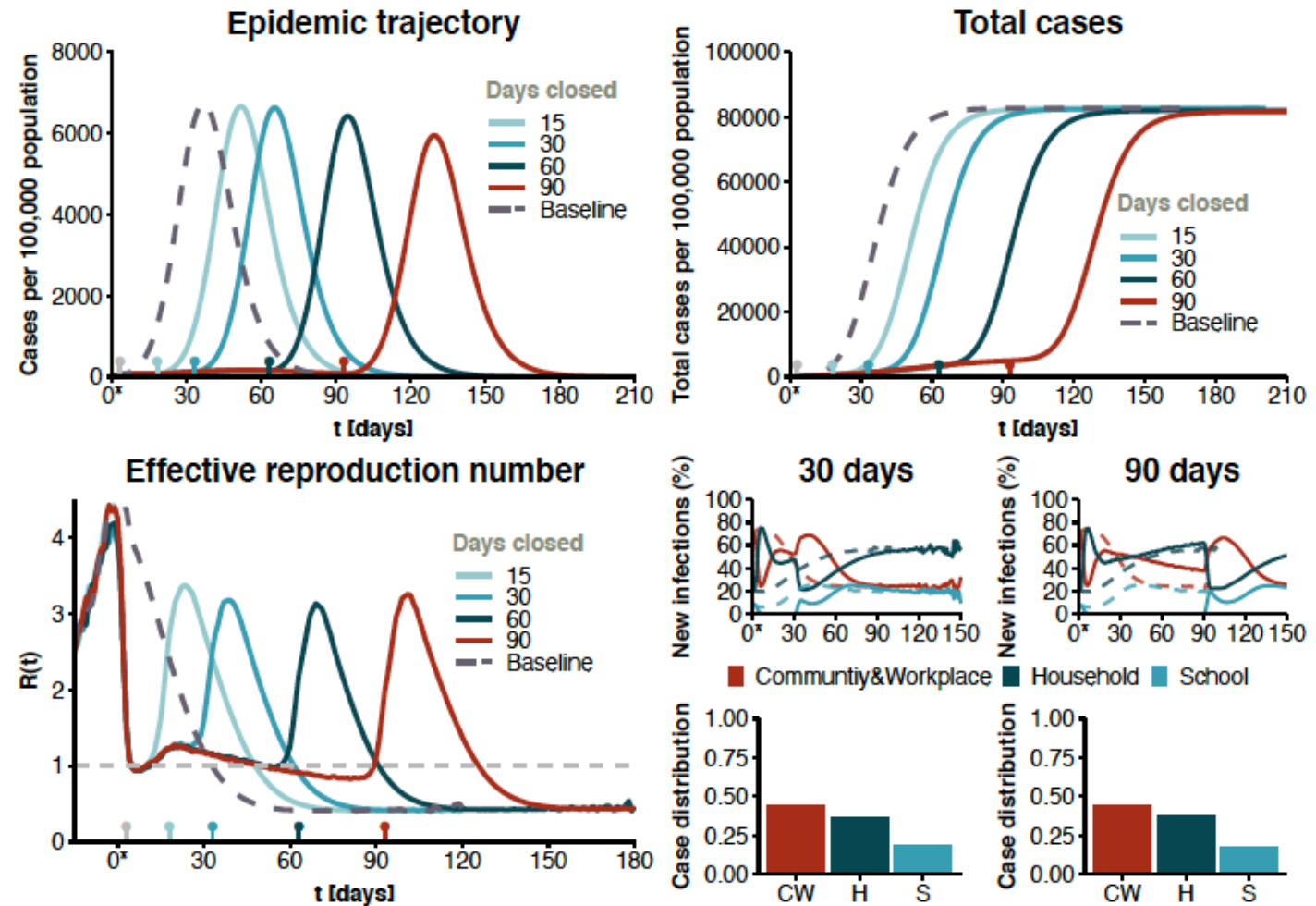


## ...or the «Tarantella».



Source: Imperial College, 16.3.2020

## Twin Peaks?



### S6. Total non-essential closure after 100 cases

#### Second peak

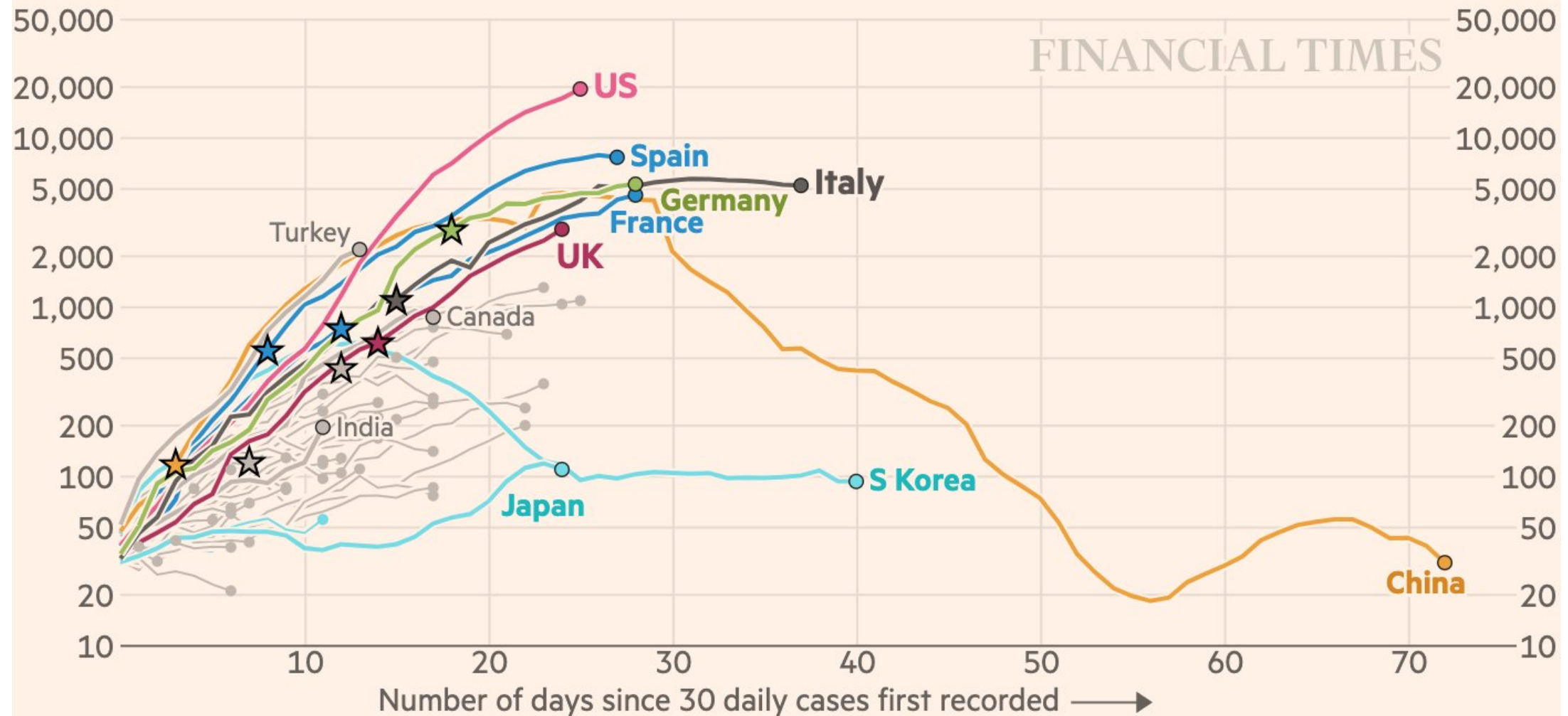
In many cases we have seen that there is a second peak after the containment measures are lifted. In this plot we show the probability of having that peak. The best strategy will be the one that has a second peak, but with low probability so that with effective contact tracing and similar measures there is a low probability of having a second peak.



# Italy has turned the corner, with numbers of new cases now in decline, following in China's footsteps

New confirmed cases per day, by number of days since 30 daily cases first recorded

Stars represent national lockdowns ★



FT graphic: John Burn-Murdoch / @jburnmurdoch

Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 01, 19:00 GMT

© FT



# Analisi comparata: Corea del Sud (sx) vs Italia (dx)

Source: <https://cmmid.github.io/topics/covid19/current-patterns-transmission/global-time-varying-transmission.html>

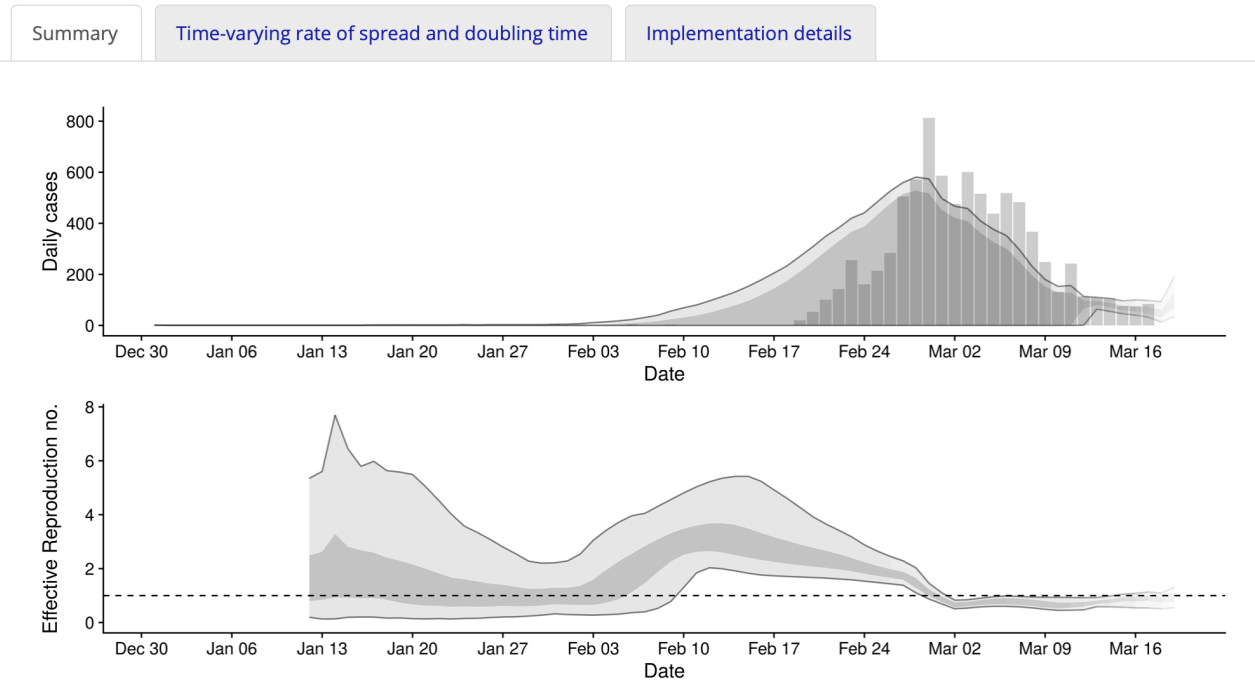


Figure 61: A.) Cases by date of report (bars) and estimated cases by date of onset. B.) Time-varying estimate of the effective reproduction number. Light grey ribbon = 95% credible interval. Dark grey ribbon = the interquartile range. Based on data from the 2020-03-19. Confidence in the estimated values is indicated by shading with reduced shading corresponding to reduced confidence.

	Estimate
Cases with date of onset on the day of report generation	34 – 191
Expected change in daily cases	Unsure
Effective reproduction no.	0.6 – 1.3
Rate of spread	-0.21 – 0.082
Doubling time (days)	8.5 – Cases decreasing
Adjusted R-squared	-0.17 – 0.78

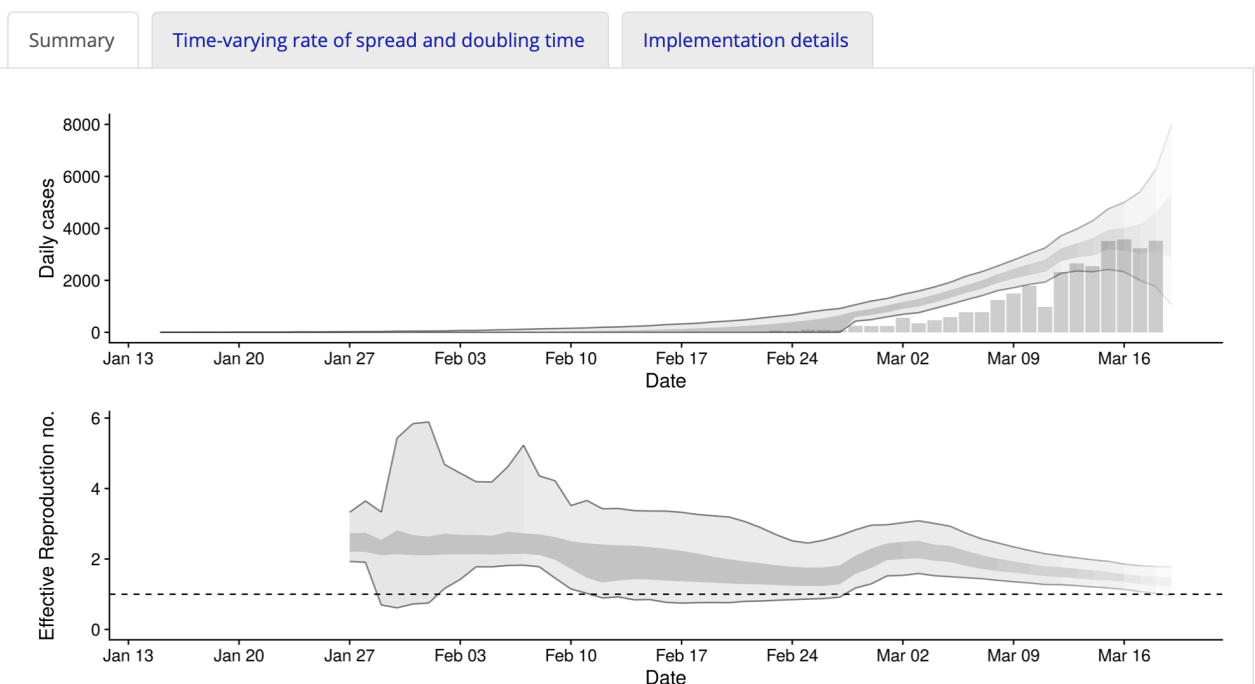


Figure 7: A.) Cases by date of report (bars) and estimated cases by date of onset. B.) Time-varying estimate of the effective reproduction number. Light grey ribbon = 95% credible interval. Dark grey ribbon = the interquartile range. Based on data from the 2020-03-19. Confidence in the estimated values is indicated by shading with reduced shading corresponding to reduced confidence.

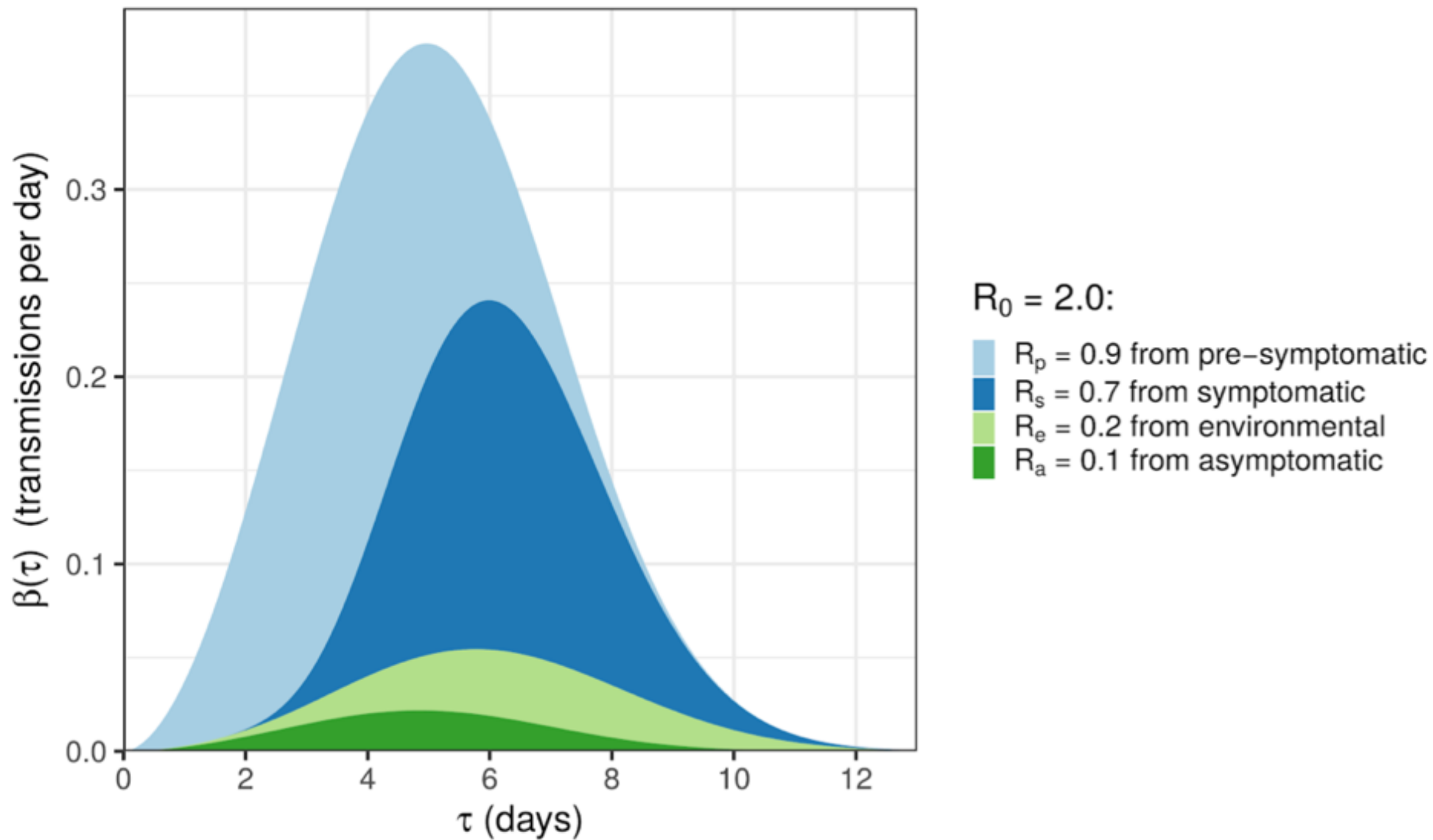
	Estimate
Cases with date of onset on the day of report generation	1042 – 7984
Expected change in daily cases	Increasing
Effective reproduction no.	1 – 1.8
Rate of spread	-0.042 – 0.2
Doubling time (days)	3.4 – Cases decreasing
Adjusted R-squared	-0.14 – 0.99

## Misure di contenimento nell'eurozona

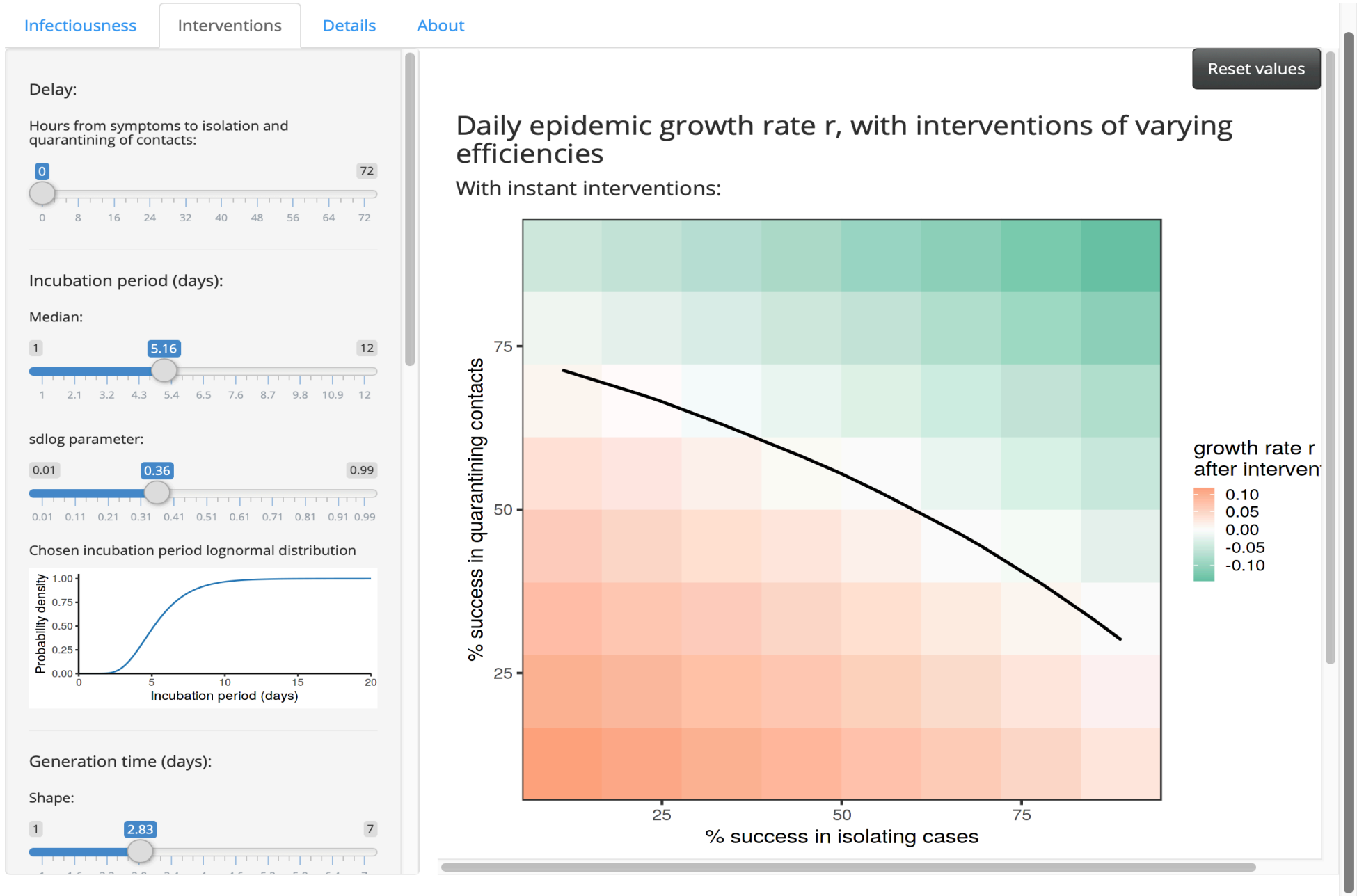
Level of containment measures										
Full or material measures (red); significant (yellow); none or limited (green)	Germany	France	Italy	Spain	Netherlands	Poland	Sweden	Belgium	Austria	Ireland
Measures taken										
Schools, universities and childcare										
Travel										
Border closures* - people										
Border closures* - goods										
Domestic travel - people										
Domestic travel - goods										
Go to work**										
Social gatherings (sports etc.)										
Curfews										
Taking strolls										
Activities										
Services										
Essentials (e.g. food, pharma)										
Other client facing (bars, restaurants etc)										
Other (banks etc.)										
Industry										
Construction										

\*excl. increased border checks; \*\*allowed, but asked to work from home, if possible

Source: Oxford Economics



# Non è una guerra sanitaria. E' una guerra logistica e organizzativa



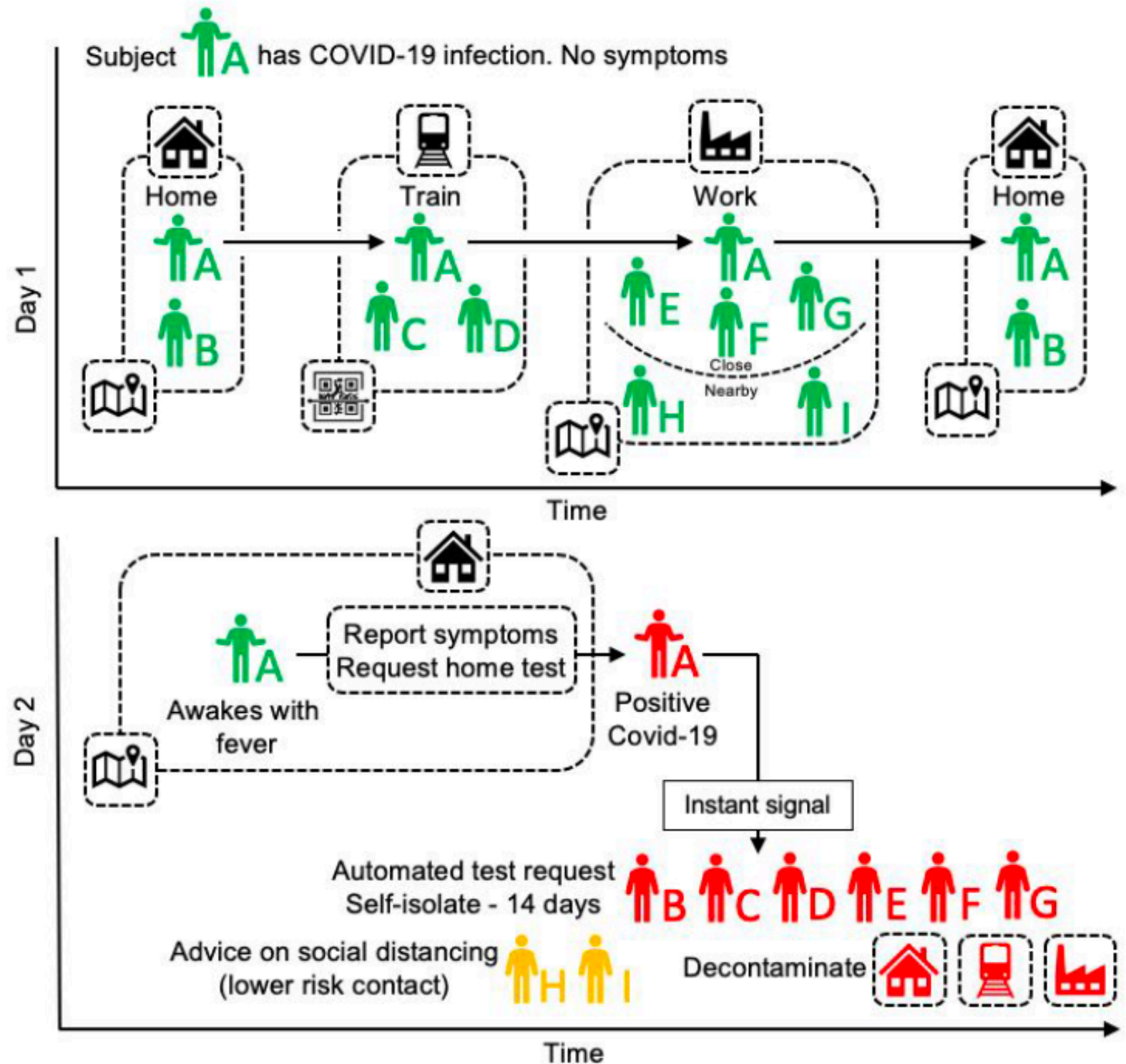
**Table 1. Estimated resources needed for contact tracing**

Activity	Human resources			Material
	Staff profile	Number of staff	Time (per staff)	
Interview case (*)	HCW/public health staff	One	Two hours	<ul style="list-style-type: none"> <li>• Phone</li> <li>• Questionnaire</li> <li>• Translation services (if necessary)</li> </ul>
Create contact list and retrieve personal information. This may require collaboration with other entities, including transport authorities, companies, and hospitals.	Administrative or other services	One	Six hours	
Enter interview in the system (e.g. electronic information system or excel file)	HCW/ public health staff	One	One hour	<ul style="list-style-type: none"> <li>• Database</li> </ul>
Classification of contacts as high or low-risk exposure; including prioritisation of whom to contact.	Two HCW/ public health staff One administrative or other services	Three	Two hours	
Initial interview by phone with contacts. Through this interview, staff will establish the contacts' level of exposure, ask about symptoms and other personal information. Staff will also provide information about infection control measures, symptom monitoring and other precautionary measures.	HCW/ public health staff	One	45 min.	<ul style="list-style-type: none"> <li>• Phone</li> <li>• Questionnaire</li> </ul>
Enter information from interview into database	HCW/ public health staff	One	15 min.	<ul style="list-style-type: none"> <li>• Database</li> </ul>

**Total time needed to manually assess the contact history for ONE case of COVID19 + delay in interviewing contacts**

**(3 specialized staff involved)**

# Digital Contact Tracing Workflow



Fonte: Sustainable containment of COVID-19 using smartphones in China: Scientific and ethical underpinnings for implementation of similar approaches in other settings, David Bonsall, Michael Parker, Christophe Fraser, Big Data Institute, 16 February 2020

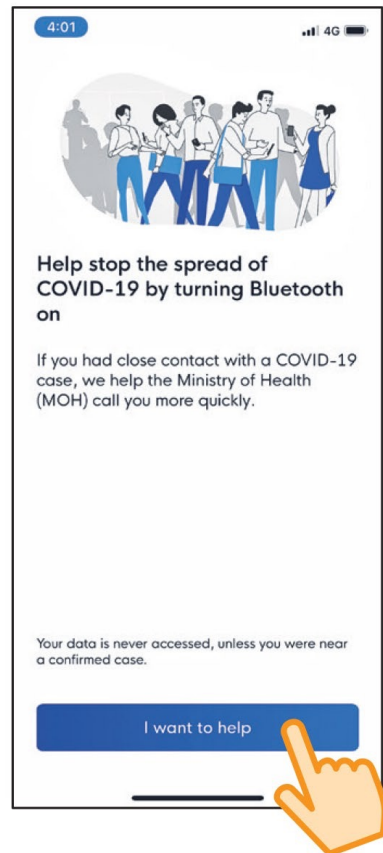


# What is TraceTogether and how does it work?

TraceTogether is a contact-tracing smartphone app that enables the Ministry of Health (MOH) to quickly track people who have been exposed to confirmed coronavirus cases.

**1** Users here can download the app on the Apple App Store or the Google Play Store.

SCAN TO DOWNLOAD



**2** Users have to input their mobile phone number for MOH to be able to contact them quickly. The number is the only data collected by the Government through the app.

Enter your mobile number to be contacted

+65

We'll text you a One-Time Pin (OTP).

Setting up for your family? Use their number instead of yours.

Enter OTP that was sent to +65

[Wrong number?](#)

Your code will expire in 1:57. [Resend Code](#)

**3** During the initial set-up, users have to give their explicit consent to be able to use the app.

Your consent is needed for the following:

- To store your mobile number in a secured TraceTogether registry
- For TraceTogether users who are COVID-19 cases to share information about their possible encounters with you — so that we can call your mobile phone about next steps

I agree

**4** Users will then have to enable push notifications and location permissions, and keep the Bluetooth function on their phones turned on.

Set up app permissions

Select 'Yes' for the next 2 screens to set up.

- Bluetooth
- Push notifications

Both are needed for the app to work. Your battery usage may increase.

Proceed

"TraceTogether" Would Like to Use Bluetooth

TraceTogether exchanges Bluetooth signals with nearby phones running the same app. These signals contain an anonymised ID, which is encrypted and changes continually to ensure your privacy.

Don't Allow OK

"TraceTogether" Would Like to Send You Notifications

Notifications may include alerts, sounds and icon badges. These can be configured in Settings.


Don't Allow Allow

**5** This is because the app uses short-distance Bluetooth signals that are exchanged between phones to detect other TraceTogether users in close proximity.



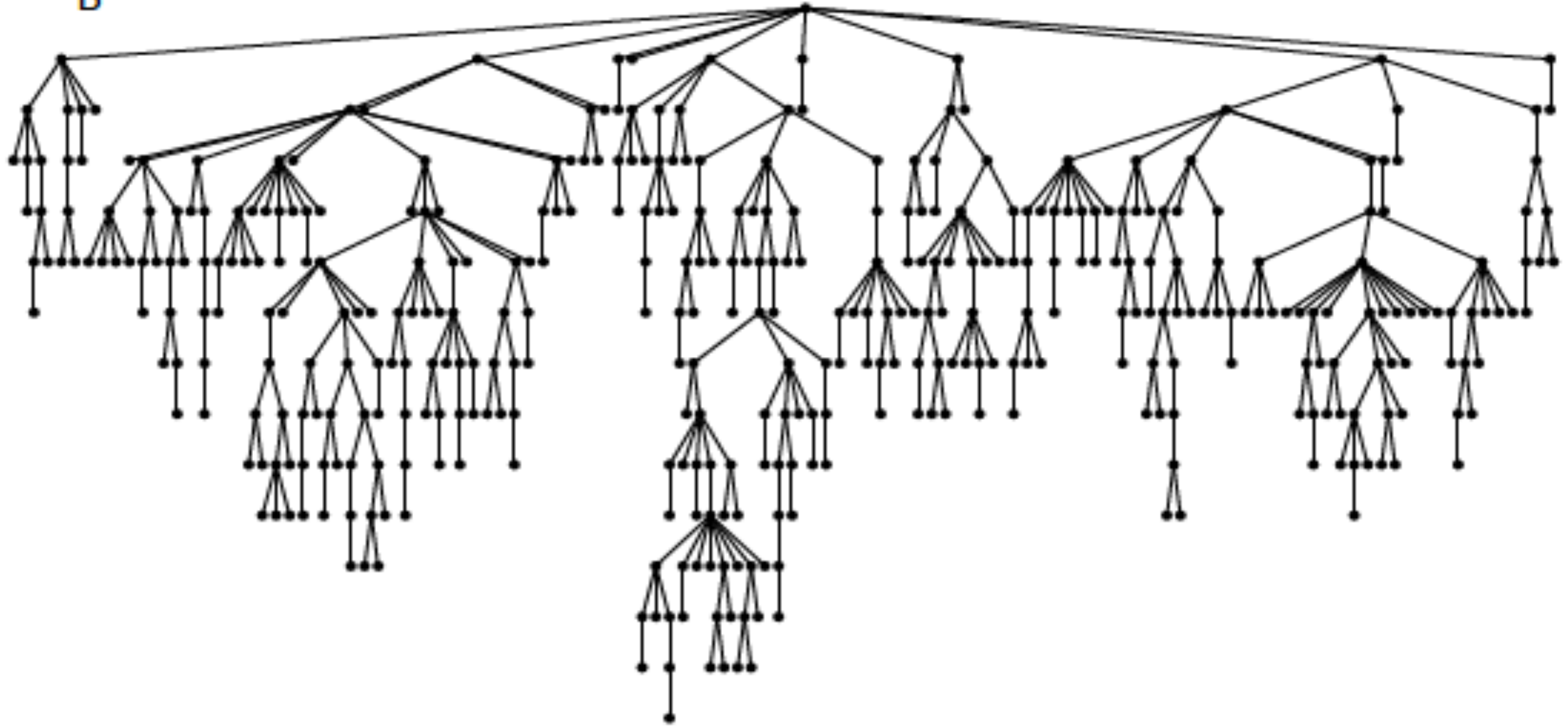
**6** • Official contact tracers who call users will provide a code that users can match with a corresponding verification code on their app.

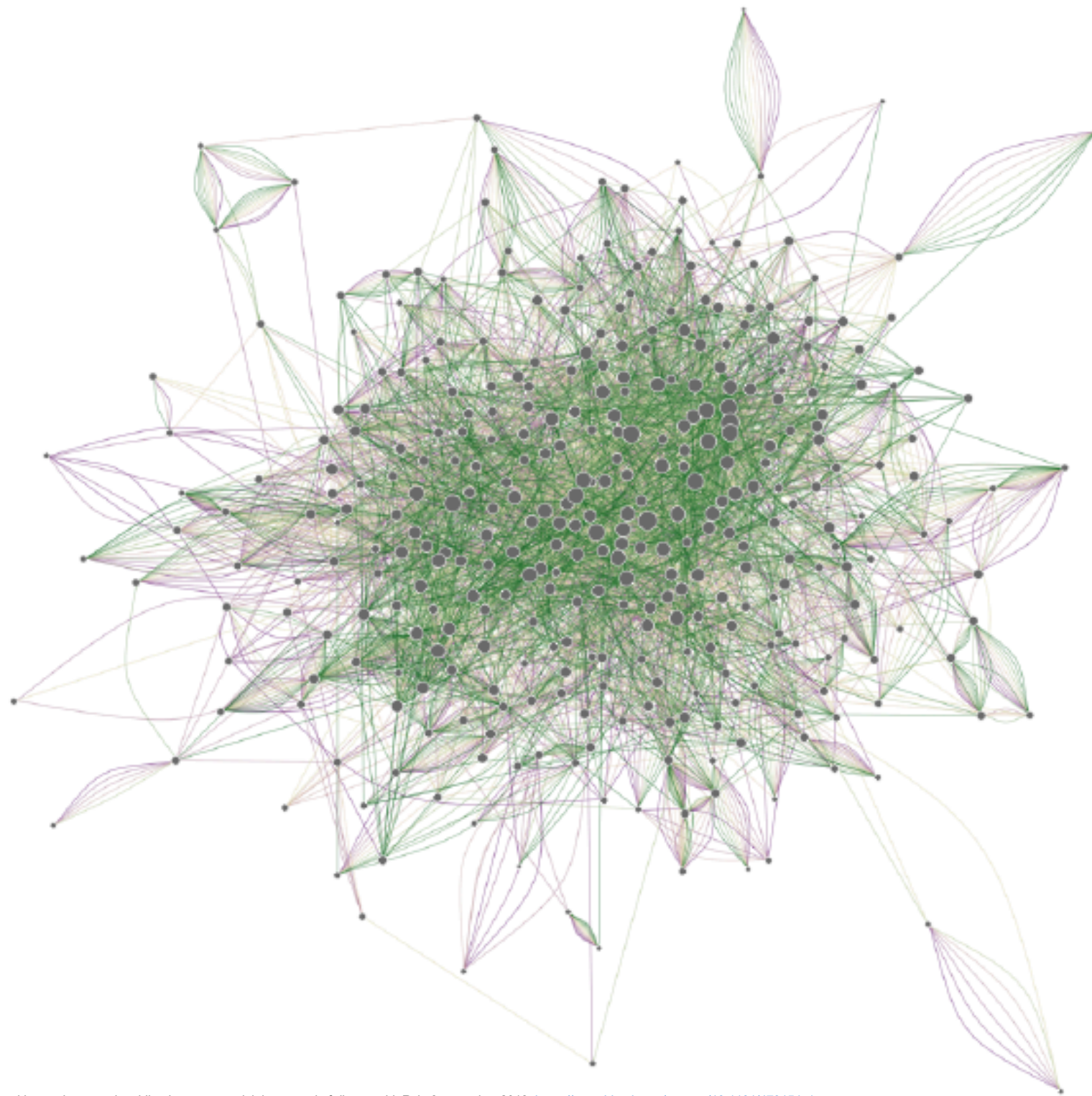
- Once authenticated, users will be given a PIN number that allows submission of logs when entered.
- Official contact tracers will not ask for personal financial details or transfer of money.



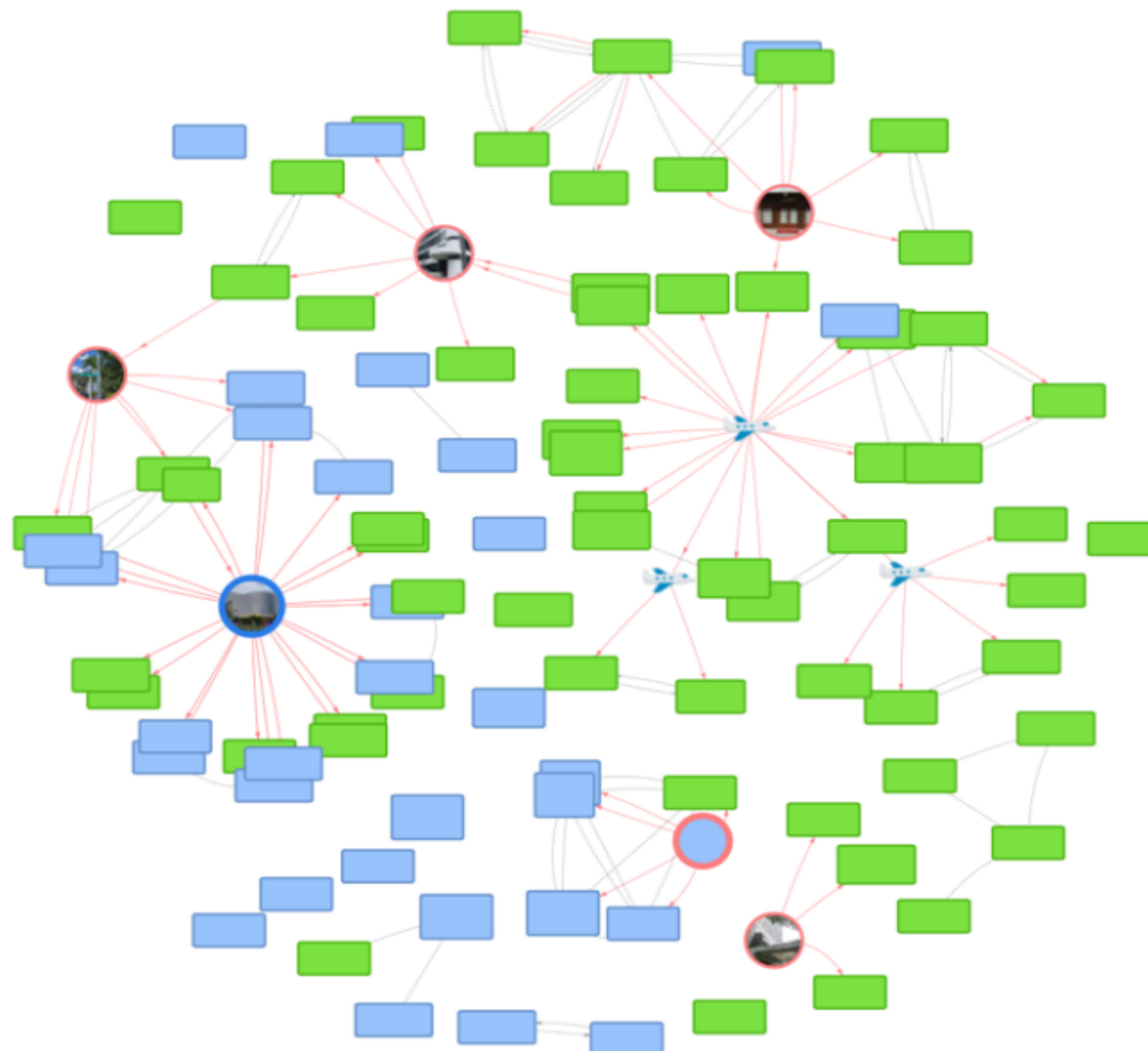
Sources: GOVTECH, MINISTRY OF HEALTH PHOTOS: GOVTECH STRAITS TIMES GRAPHICS

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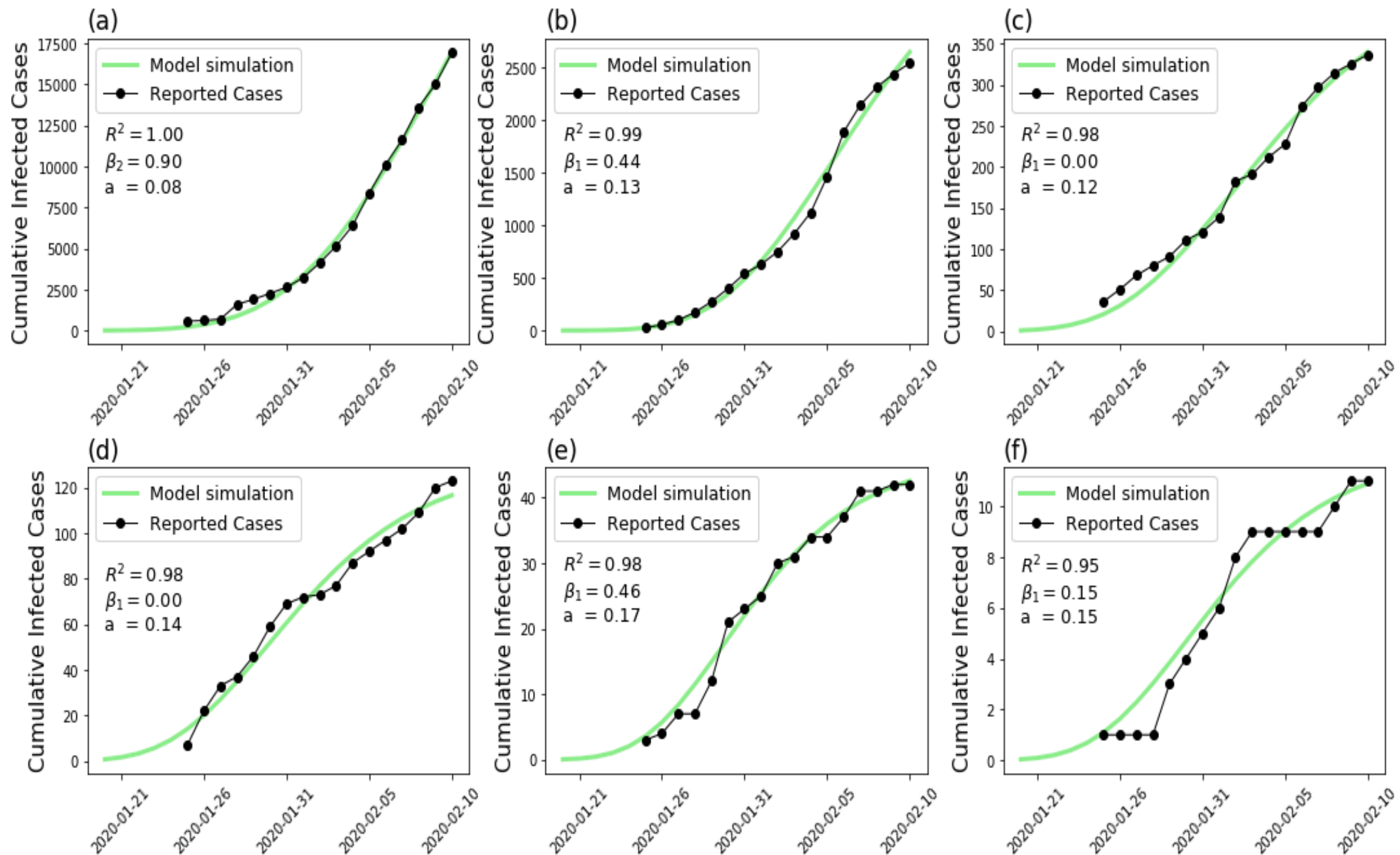






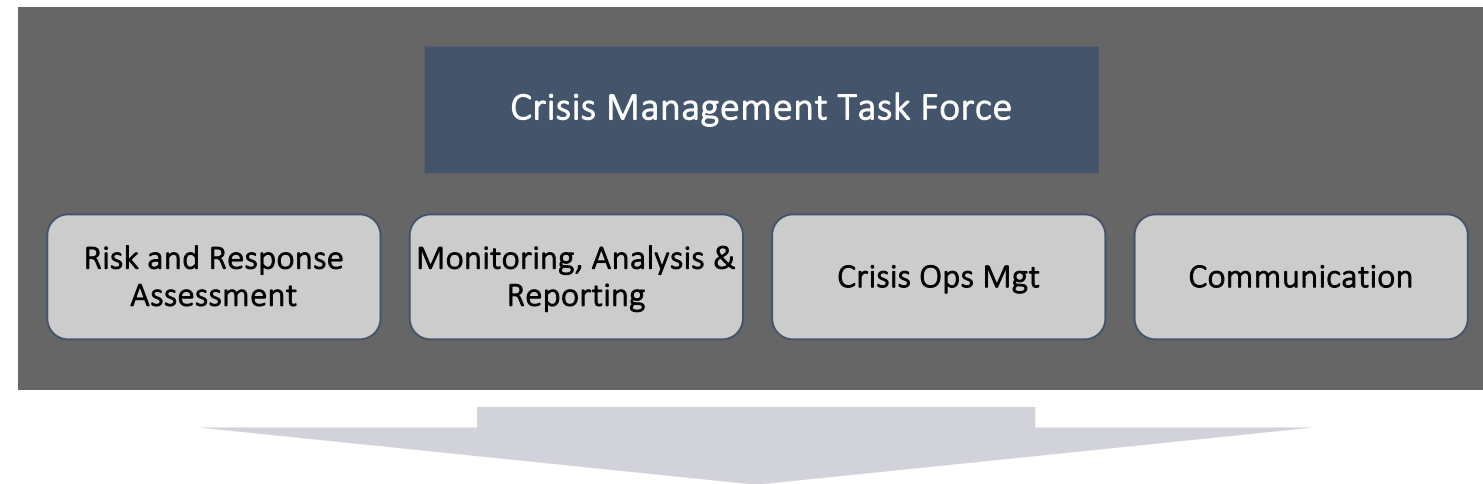


Source: *dashboard di mappatura puntuale dei focolai epidemici COVID-19, su dati del Ministero della Salute, Singapore – Febbraio 2020*



Comparison between the number from model simulation and reported cases in cities with representative severity of disease spreading: (a) Wuhan, (b) Xiaogan, (c) Beijing, (d) Chengdu, (e) Kunming, and (f) Datong - Source: Xiaolin Zhu & al, Spatially Explicit Modeling of 2019-nCoV Epidemic Trend Based on Mobile Phone Data in Mainland China, MedRxiv, 9 February 2020

# Una Bella Task Force per contrastare la Bestia



## Workforce Mgt & Employee Health

- Plan & execute employee health plan following guidance
- Identify contingency working arrangements for business continuity
- Strong communications and employee support programs
- Local labour law

## Customer & Brand Protection

- Conduct customer risk assessment
- Ensure adequate credit where needed
- Create product shortage allocation plans based on customer priorities
- Look at product alternatives
- Review competitor situations

## Short-term Finance Management

- Revenue forecasting & impact assessment
- Liquidity risk assessment & contingency planning
- Cash forecasting & intervention actions
- Customer / Supplier financial health monitoring – identify financial support needed

## Supply and Service Chain Management

- Conduct E2E SC risk assessment
- Identify critical components and review extended risk
- Review demand & supply – S&OP - inventory
- Identify SC network flexibility & alternatives
- Connecting customers
- Customs & indirect taxes

## Legal & Contract Dispute Resolution

- Contract risk assessment & identify prevention actions
- Managing customer / suppliers contract disputes due to economic impacts or supply disruptions
- Identify 'Force Majeure' and hardship causes



# EMPOWERING LIVES THROUGH KNOWLEDGE AND IMAGINATION

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## Thanks!

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