Impacts of **COVID-19** on the Transport Sector and Measures Against Public Health Threats: Policymaking Based on a **PASS** Approach

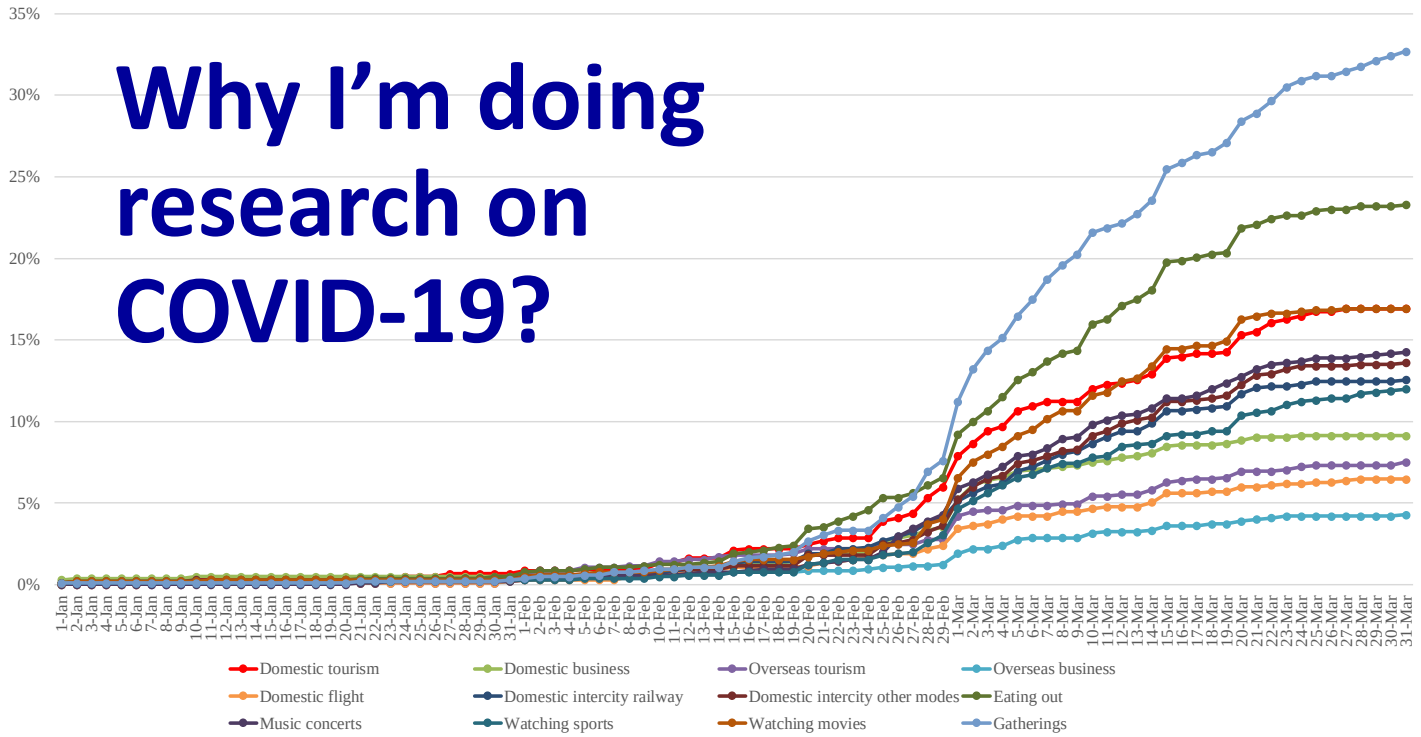
Junyi Zhang Prof. Dr. Eng.
Mobilities and Urban Policy Lab, Hiroshima University
Co-chair of WCTRS COVID-19 Task Force

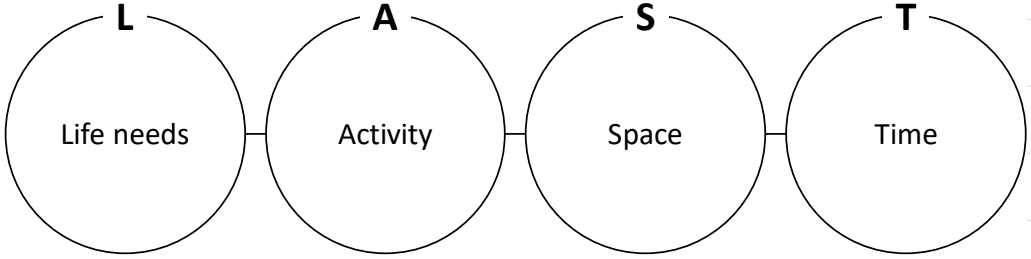
Yoshitsugu Hayashi Prof. Dr. Eng., Chubu University
WCTRS Ex-President & Chair of WCTRS COVID-19 Task Force

Why I'm doing research on COVID-19?

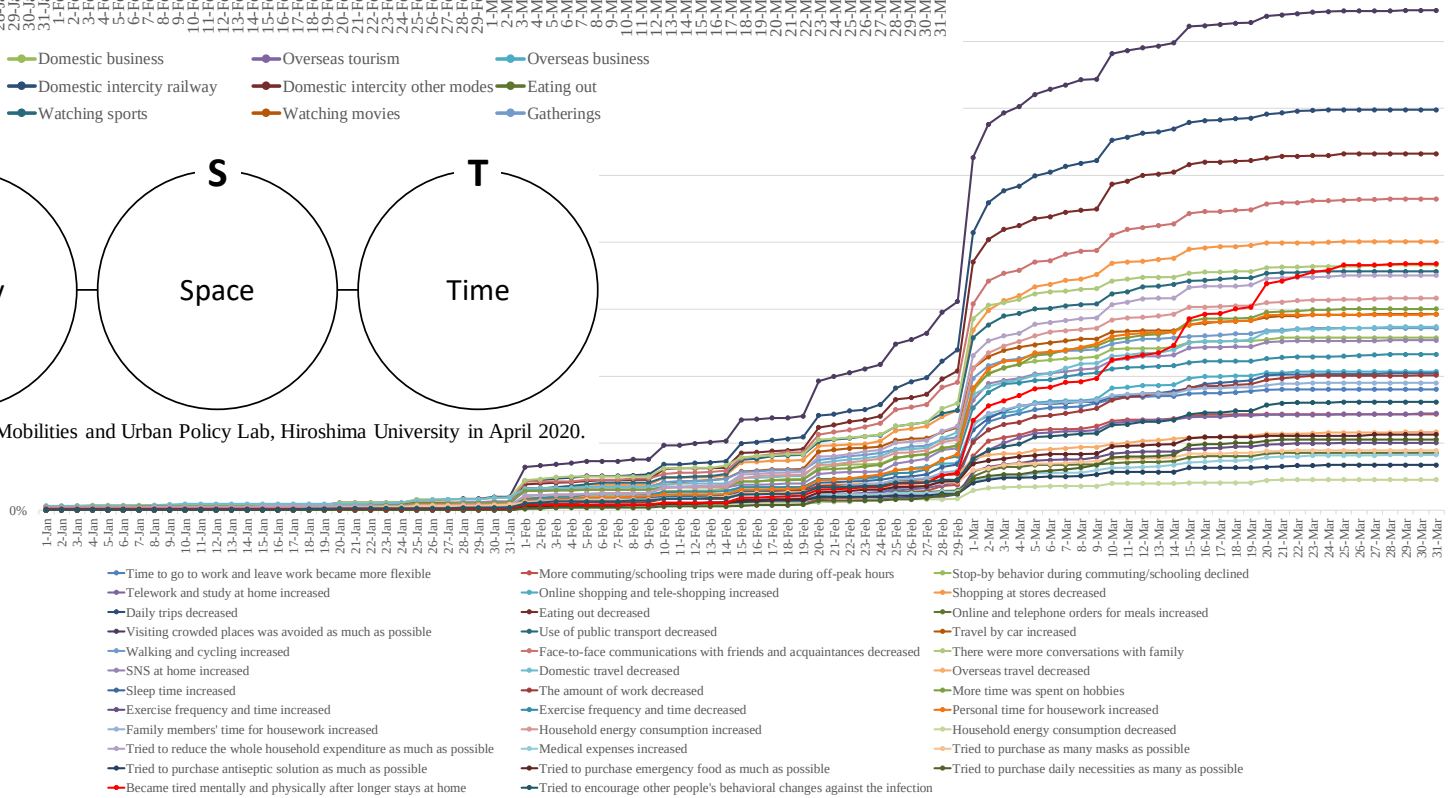
Mobilities & Urban Policy Lab

How did Japanese people respond to COVID-19 at its early stages (by the end or March 2020)?





Proposed by Junyi Zhang, Mobilities and Urban Policy Lab, Hiroshima University in April 2020.



LAST Approach for Surviving COVID-19

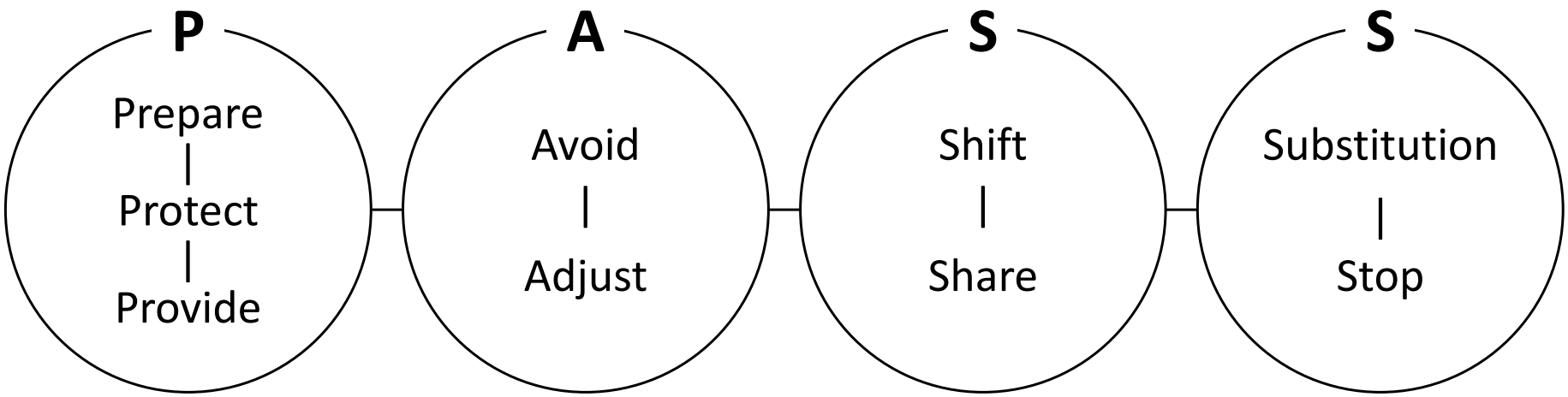
ADBI Webinar June 12, 2020

An kind invitation

- After my talk, I would like to invite all participants to answer a mini-survey about the PASS approach that I proposed for policymaking against COVID-19 and future public health threats [P: Prepare-Protect-Provide; A: Avoid-Adjust; S: Shift-Share; S: Stop-Substitute].

PASS Approach

https://home.hiroshima-u.ac.jp/~zjy/covid19/suggestions/



Proposed by Junyi Zhang, Mobilities and Urban Policy Lab, Hiroshima University in May 2020.

Summary of measures taken in Japan (Junyi Zhang)

World Bank Sustaining Transport Services in the COVID-19 Pandemic-Railway services Webinar, May 20, 2020

- Preparedness: for example,
  - ✓ Action Plan for novel influenza (MLIT in 2008)
  - ✓ Survey and Research on measures against novel influenza in Tokyo Metropolitan Area by MLIT in 2011
- During the COVID-19 pandemic
  - ✓ Establish a headquarter in MLIT, following central gov.
  - ✓ ***PASS** approach* [named by the speaker]
    - Step 1: (**P**rotect) Measures for employees and users
    - Step 2: (**A**void) Telework
    - Step 3: (**S**hift) Staggered commuting
    - Step 4: (**S**top) Stop unnecessary and unurgent trips
- After the COVID-19 pandemic
  - ✓ Financial measures for compensating losses and recovery
  - ✓ "Go to Travel" campaign (cross-sectoral)
  - ✓ Deregulation for new transport/logistics businesses (e.g., online order and food delivery, freight transport by taxi)
  - ✓ Improvements of public transport for international tourists
  - ✓ Large-scale promotion for inbound tourism
  - ✓ Reform of supply chain
  - ✓ Society 5.0

Action Plan for Measures Against Novel Influenza
MLIT (30 pages)
March 25, 2008

平成 20 年 3 月 25 日
（平成 21 年 3 月 25 日改定）
（平成 23 年 9 月 20 日改定）

国土交通省

1. Before the occurrence
2. During the occurrence in other countries
3. Early stages of the occurrence in Japan
4. During the pandemic in Japan
5. During the steady period of the pandemic

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
P	Prepare	• Prepare for pandemics by forming anti-virus habits, such as washing hands regularly • Prepare for pandemics by forming sustainable lifestyles, harmonized with the environment	• Prepare guidelines and contingency plans for pandemics	• Prepare pandemics-driven mindsets: lessons in the past must be better learned. • Prepare policies for supporting guidelines and contingency plans by transport service providers • Prepare emergency laws and institutional design to allow emergency goods to be produced and delivered on a large scale and in a timely way. • Prepare standards of physical distancing plus personal protective equipment

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
P	Protect	• Protect transport users by sanitizing public transport vehicles/platforms (and ventilation) and obligating people to wear masks and by more public investment in automation ventilation, touchless technologies	• Protect transport service workers with Personal Protective Equipment (PPE)	• Protect both transport users and service providers via economic and institutional measures • Protect highly vulnerable people • Protect people from fake information provision

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
P	Provide	• Provide information about crowdedness inside public transport platforms/vehicles • Provide personal health information (body temperature, immunity proof)	• Provide antiseptic solution at stations • Provide information about how to keep both transport users and service staff safe from the virus	• Provide scientific and evidence-based information, in a timely manner, to help users and providers to play their respective roles • Provide immediate financial support to the industries which operations are strictly regulated

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
P	***Avoid***	• Avoid use of crowded transit vehicles • Avoid panic buying	• Avoid crowded platforms and operating crowded vehicles (e.g., limit the number of inflow passengers, via booking) • Avoid actions/behaviors against its contribution to sustainable development (e.g., request of waiving from environmental targets to governments)	• Avoid unstable policy decisions • Avoid (government officers) behaving against their instructions to general public: People in authority must avoid setting bad examples of behavior. • Avoid inconsistent information provision

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
A	***Adjust***	• Adjust activity plans and schedules (over days; to reduce total trips) • Adjust the ways of social networking	• Adjust operation schedules • Adjust meetings and staff management as well as physical-distancing-friendly workplace arrangements	• Adjustments across governmental departments and across sectors

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
S	***Shift***	• Shift trip timing (via booking) and mode • Pear-hour charging (both road and public transport) or physical distancing charging • Shift to sustainable interactions with the environment	• Shift to the operation system under pandemics (preparedness) • Shift to sustainable interactions with the environment	• Shift to the pandemic-focused governance

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
S	***Share***	• Sharing job responsibilities with others for preparing for the next sets of actions (substitute-stop) • Sharing of health information for use of public transport	• Space sharing should be restricted. • Sharing of operational resources between transit operators (e.g., due to absence of infected staff) • Sharing transit vehicles for goods transport	• Timely information sharing • To promote shared economy – shared mobility (e.g., use taxi to deliver goods)

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
S	***Substitute***	• Substitute activities involving trips with online activities (telework, online meeting, online lecture, online shopping, online gatherings, etc.)	• Substitution between (public) transport modes, vehicles with protection measures • Substitute public transport vehicles for isolation units	• Substitute face-to-face governmental procedures with online procedures • Substitute crisis with an opportunity: COVID-19 can be a lever to make significant changes.

PASS Approach

PASS		Recommended measures: examples		
		Transport users	Transport service providers	Governments
S	***Stop***	• Stop activities involving trips • Stop gatherings • Change lifestyles to stop unsustainable human interactions with the environment	• Stop operation of public transport • Change business operation styles to stop unsustainable human interactions	• Making policies and regulations under emergency to allow transit operators to stop service operation • Stop political complaints and unnecessary arguments • Policymaking for a coherent global response to stop unsustainable human interactions with the environment

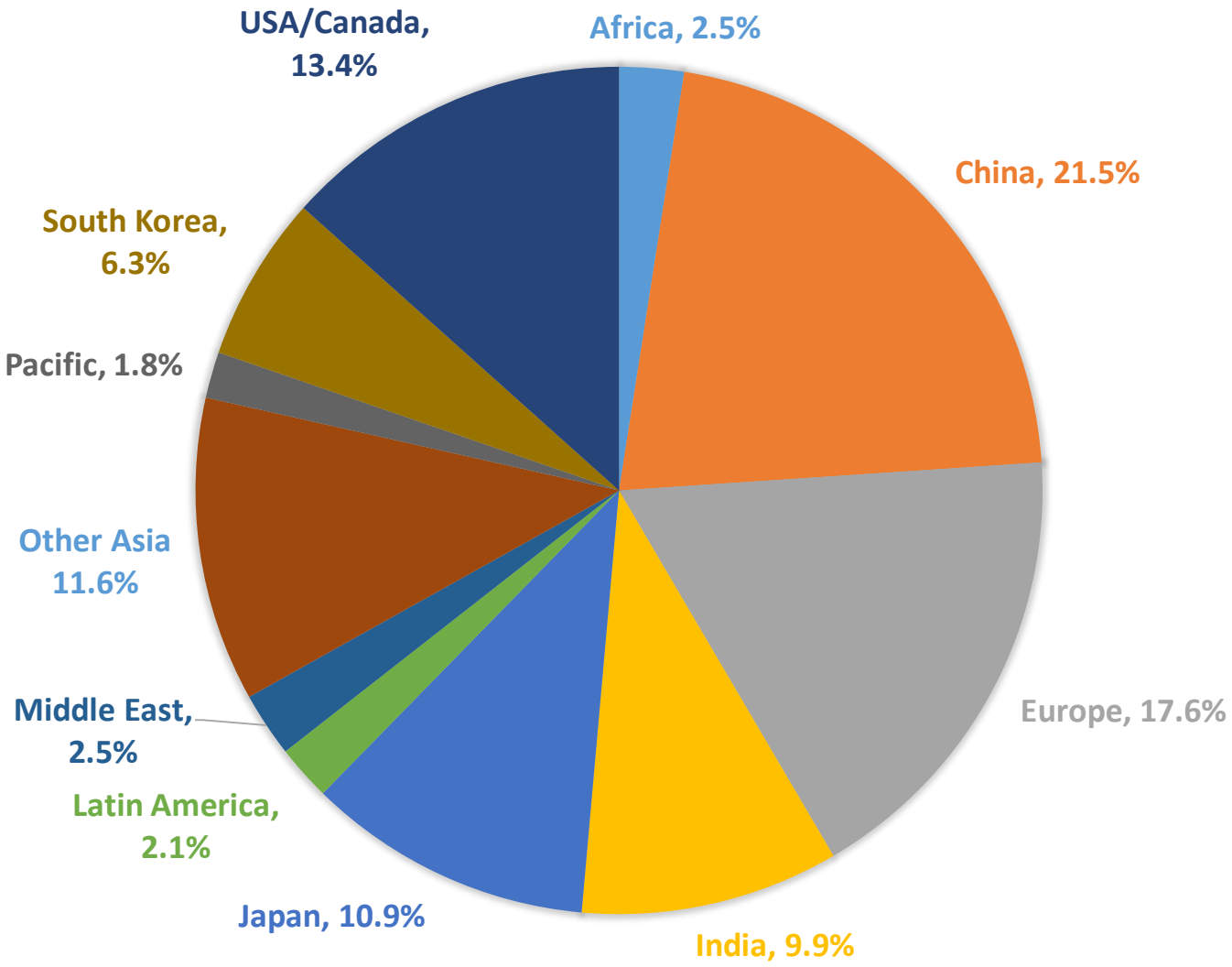
WCTRS COVID-19 Task Force: Expert Survey

Mobilities & Urban Policy Lab

- The WCTRS COVID-19 Task Force, established in April 2020, has implemented a questionnaire survey to experts in fields of transport and logistics, urban and regional planning and so on, since the end of April 2020. **The survey aims to investigate the following contents related to the transport and logistics sector.**
- **Impacts**: to investigate the impacts of COVID-19
- **Preparedness**: to investigate what our society had prepared for such a pandemic
- **During-pandemic measures**: to investigate what our society is currently taking measures to fight against this pandemic
- **After-pandemic recovery measures**: to suggest what our society should do after this pandemic
- **Long-term strategies**: to explore how to generalize the findings from the above actions to tackle other public health threats

Residence country of experts

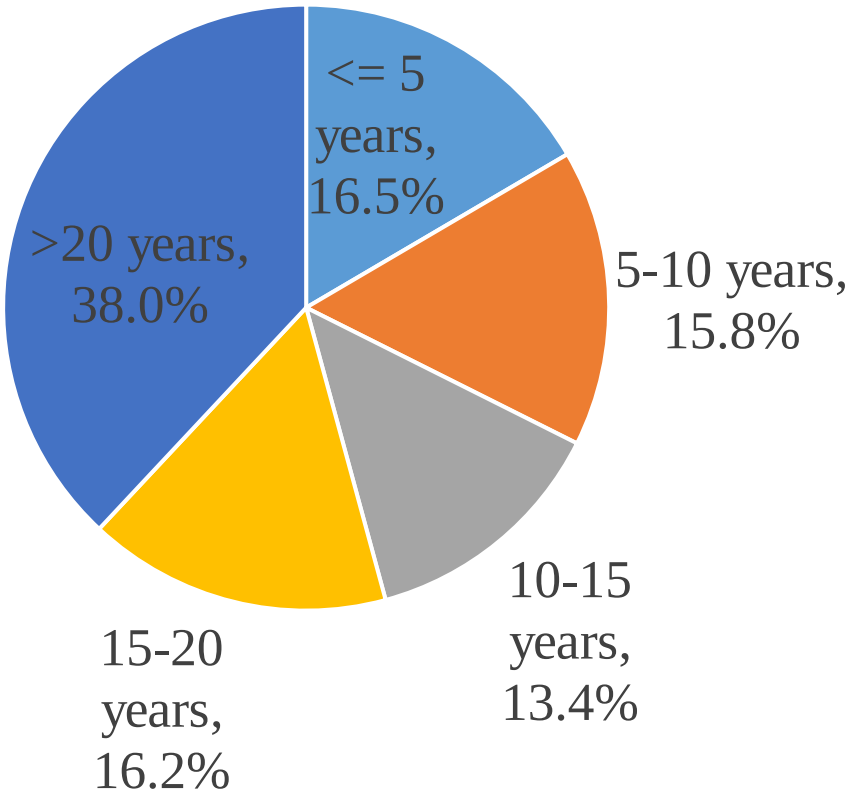
Mobilities & Urban Policy Lab



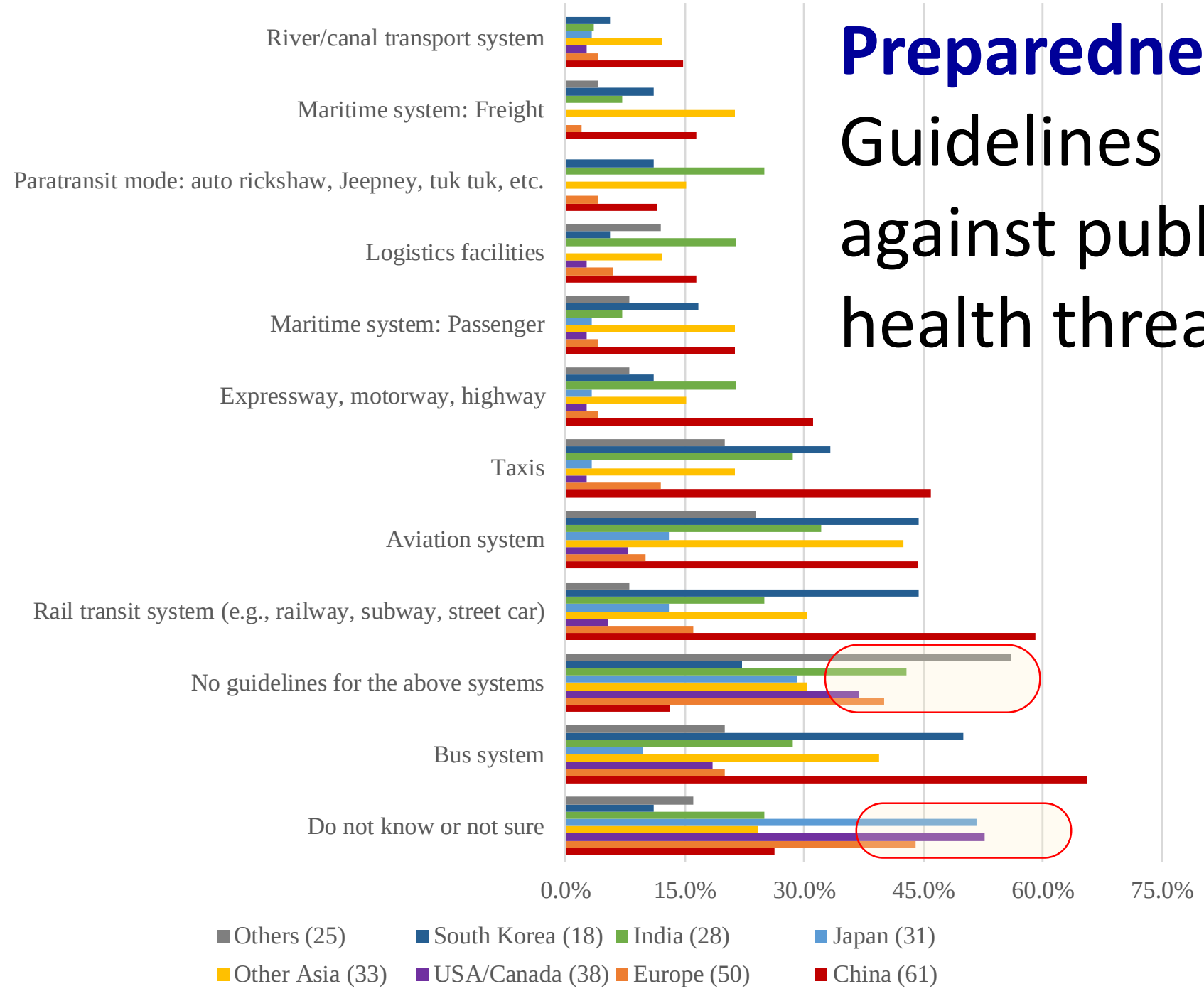
Type of workplace and professional experience

Mobilities & Urban Policy Lab

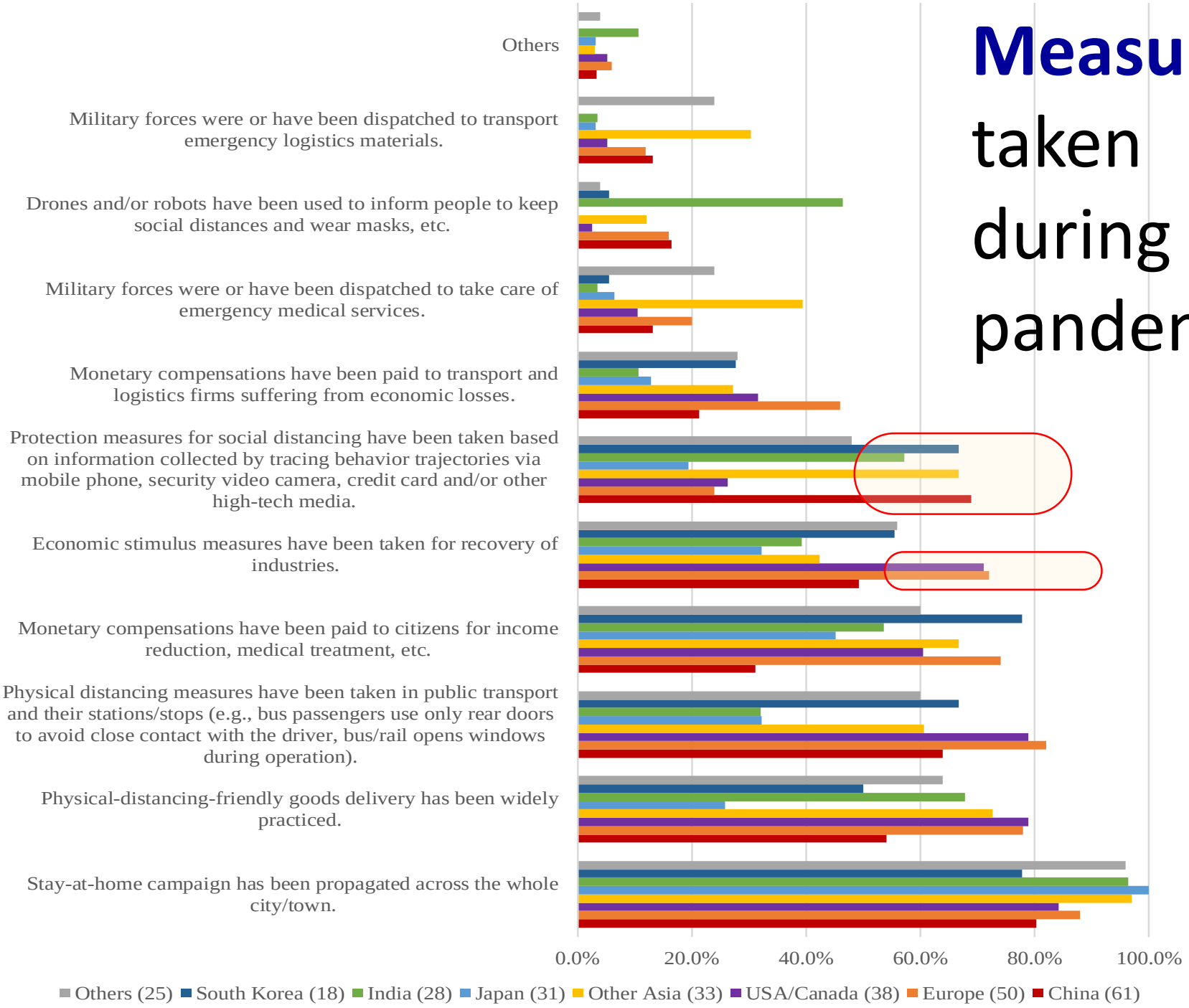
Education: university, school, college, etc.	69.7%
Research institute / think tank	19.0%
Firm	14.4%
Governments	11.6%
NGO / NPO / Intl Org / others	7.4%



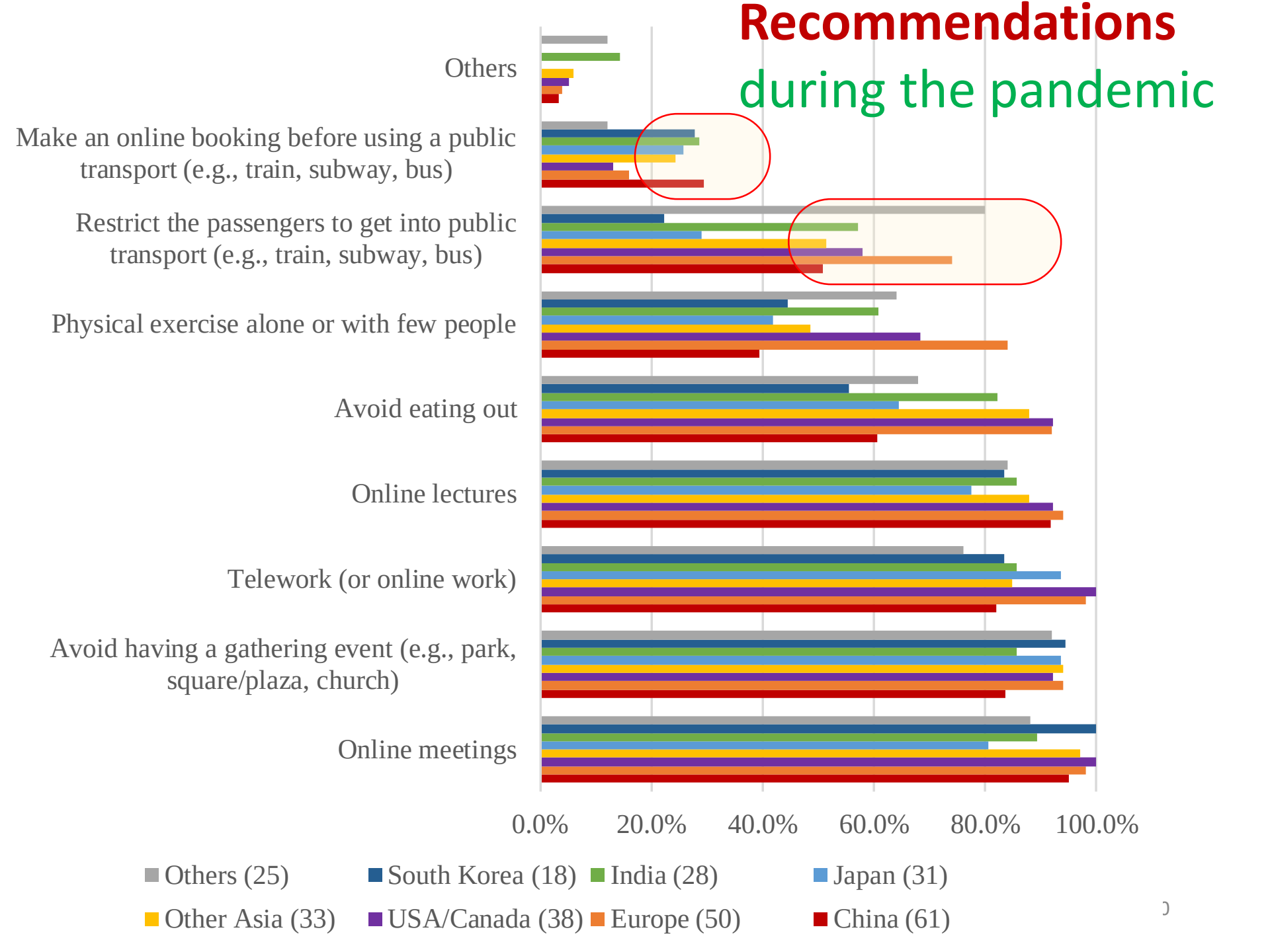
Preparedness: Guidelines against public health threats



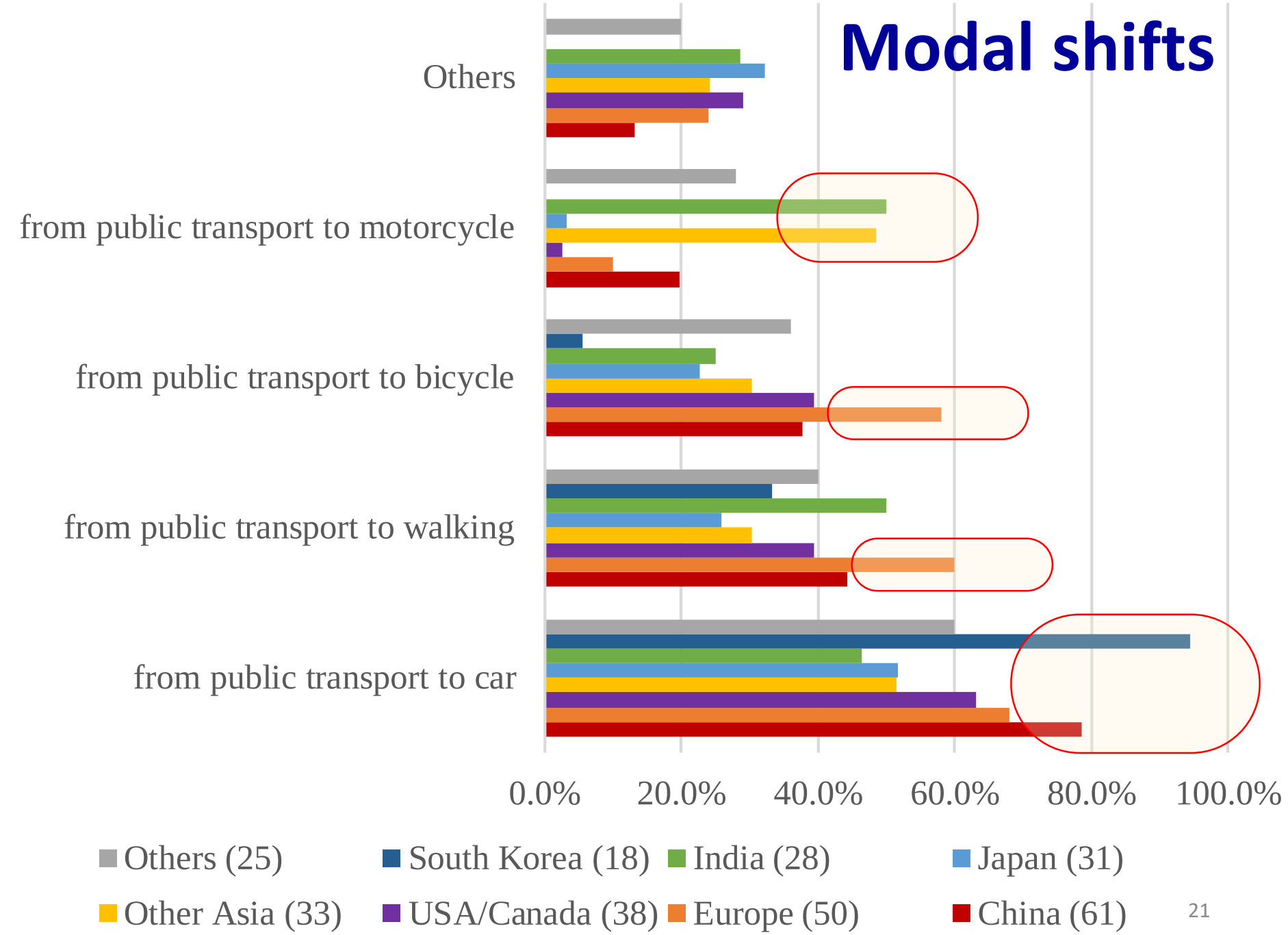
Measures taken during the pandemic

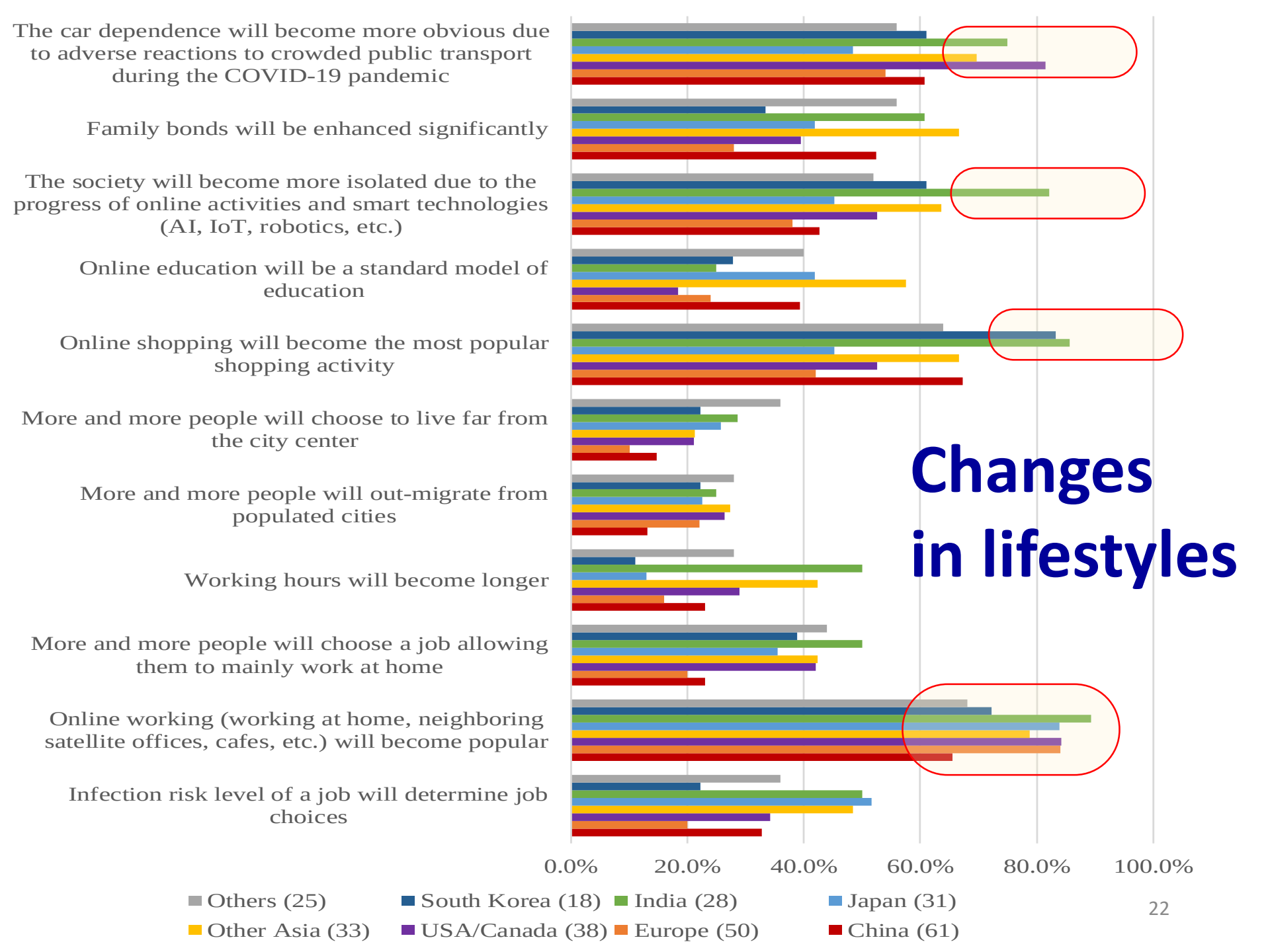


Recommendations during the pandemic

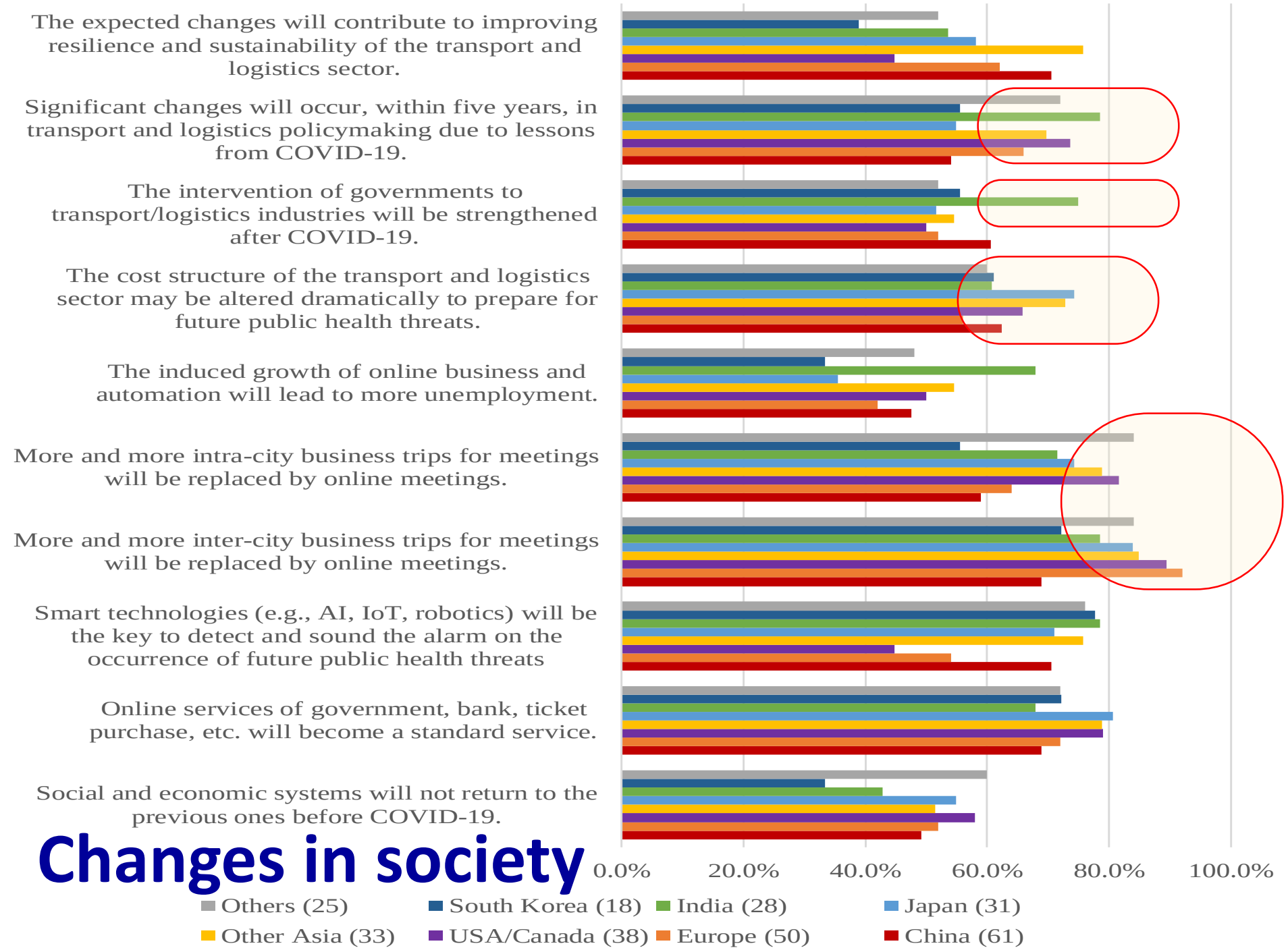


Modal shifts

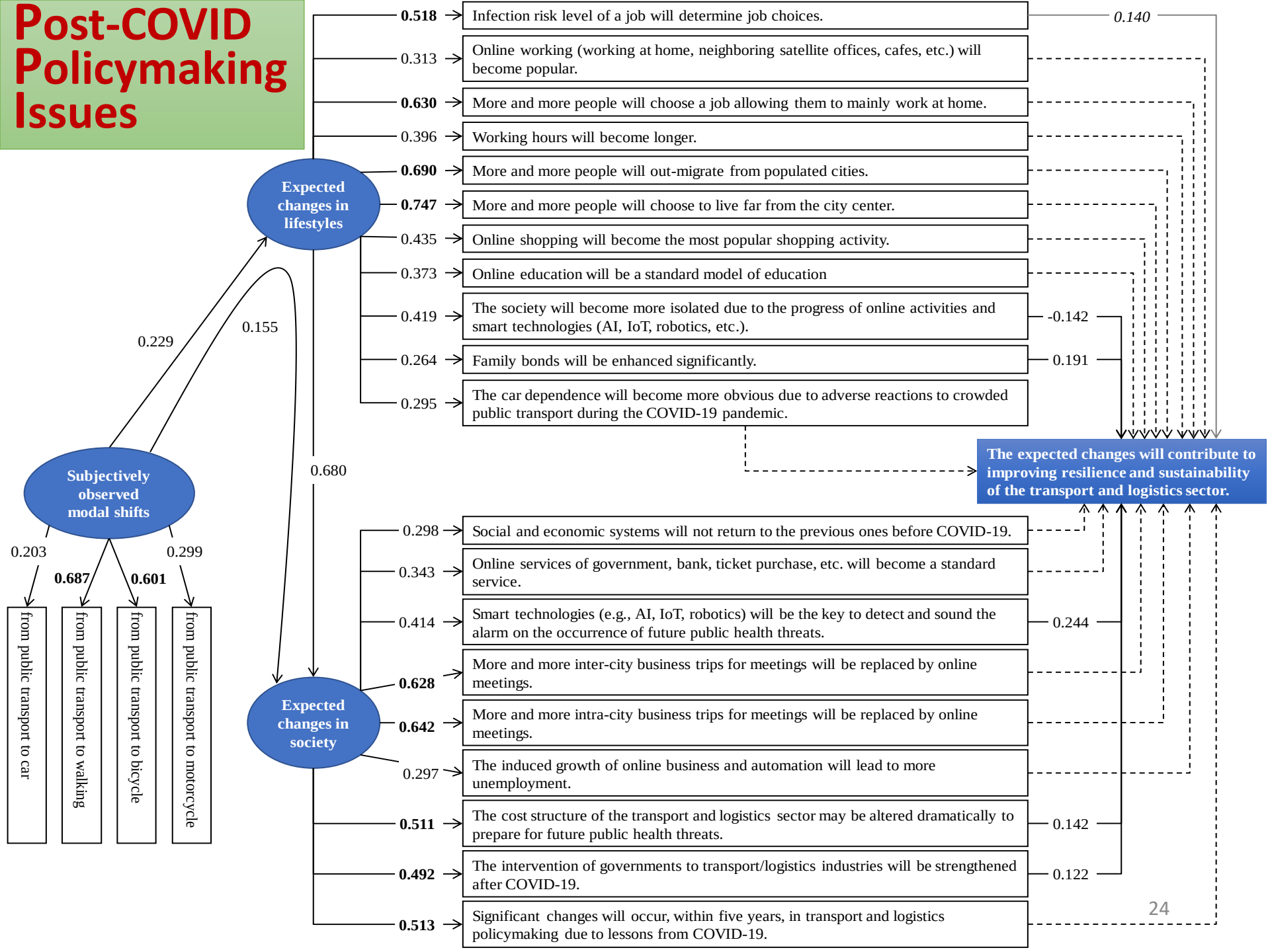



The car dependence will become more obvious due to adverse reactions to crowded public transport during the COVID-19 pandemic
Family bonds will be enhanced significantly
The society will become more isolated due to the progress of online activities and smart technologies (AI, IoT, robotics, etc.)
Online education will be a standard model of education
Online shopping will become the most popular shopping activity
More and more people will choose to live far from the city center
More and more people will out-migrate from populated cities
Working hours will become longer
More and more people will choose a job allowing them to mainly work at home
Online working (working at home, neighboring satellite offices, cafes, etc.) will become popular
Infection risk level of a job will determine job choices
0.0%
20.0%
40.0%
60.0%
80.0%
100.0%
Others (25)
South Korea (18)
India (28)
Japan (31)
Other Asia (33)
USA/Canada (38)
Europe (50)
China (61)
Changes in lifestyles

Changes in society



Post-COVID Policymaking Issues



More details about today's talk

refer to the following paper.

- Zhang, J., Hayashi, Y. (2020) Impacts of COVID-19 on the transport sector and measures as well as recommendations of policies and future research: Analyses based on a world-wide expert survey. Available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3611806