Toward Sustainable and Resilient Food Systems in Asia and the Pacific
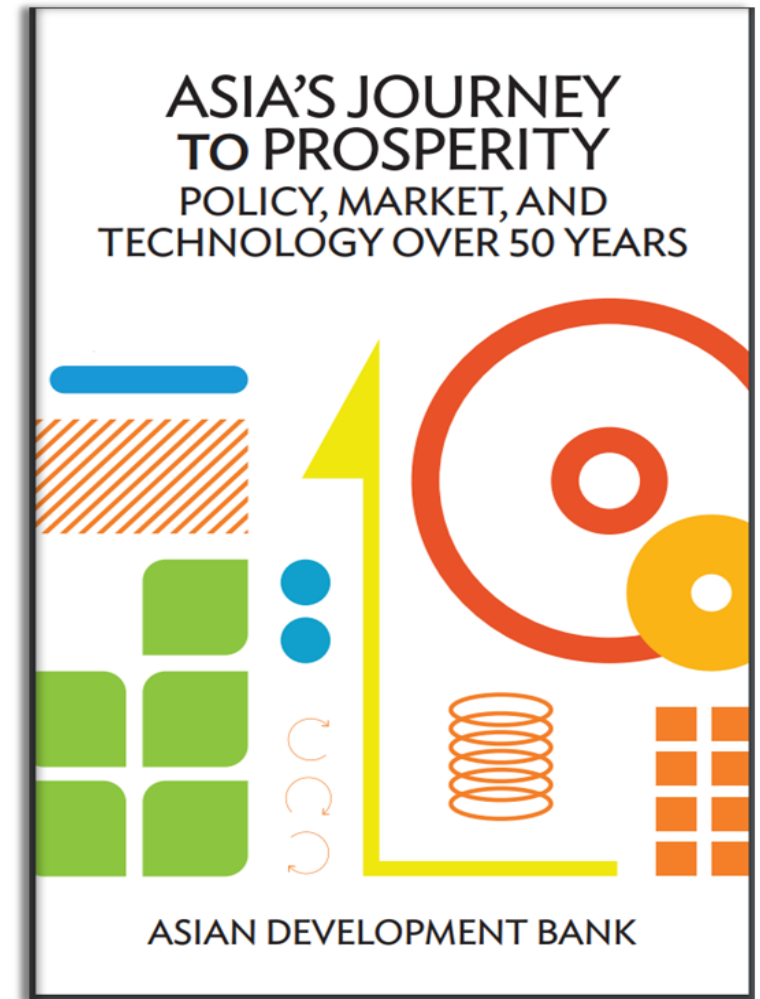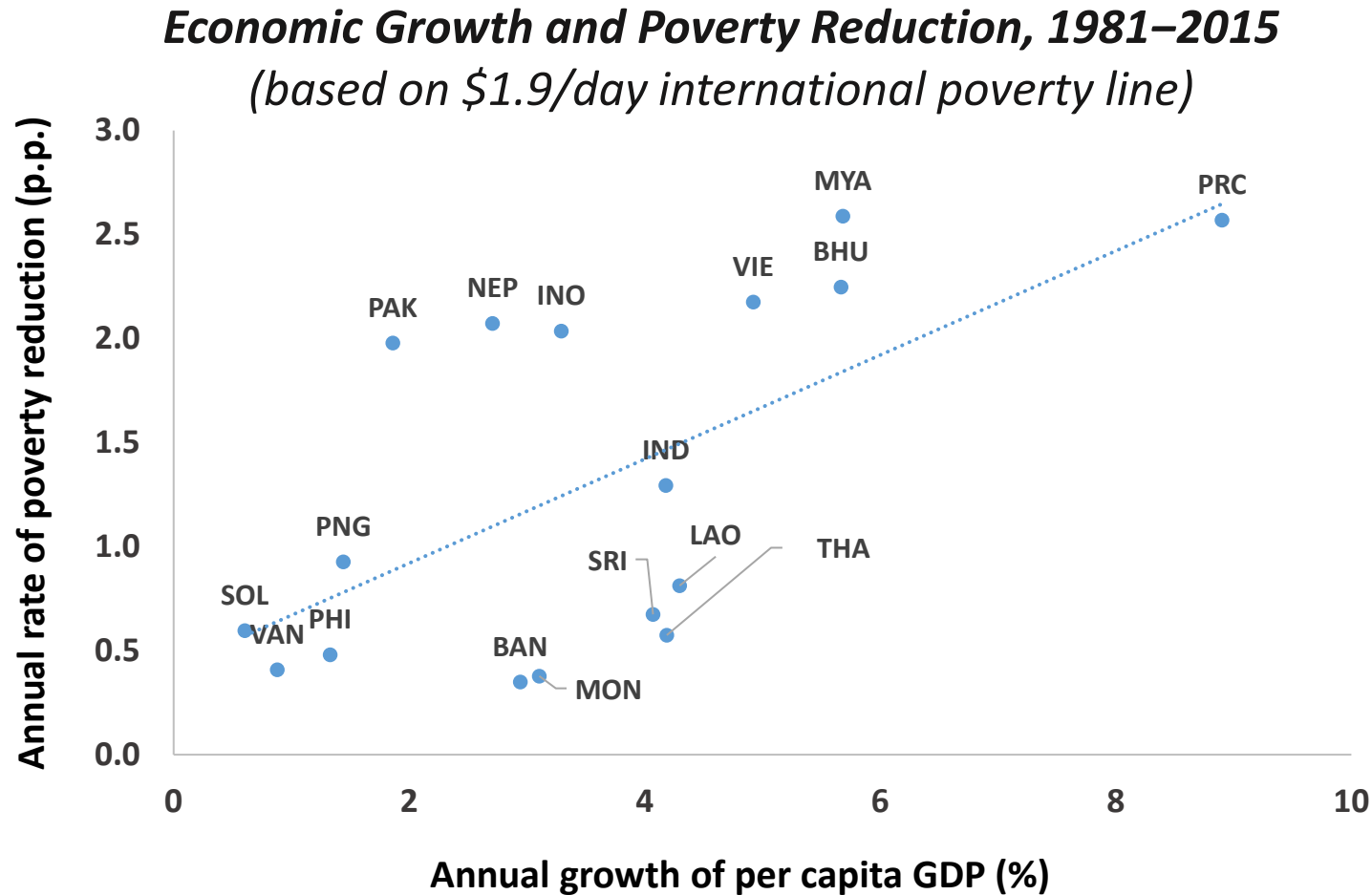
Yasuyuki Sawada

Chief Economist, Asian Development Bank

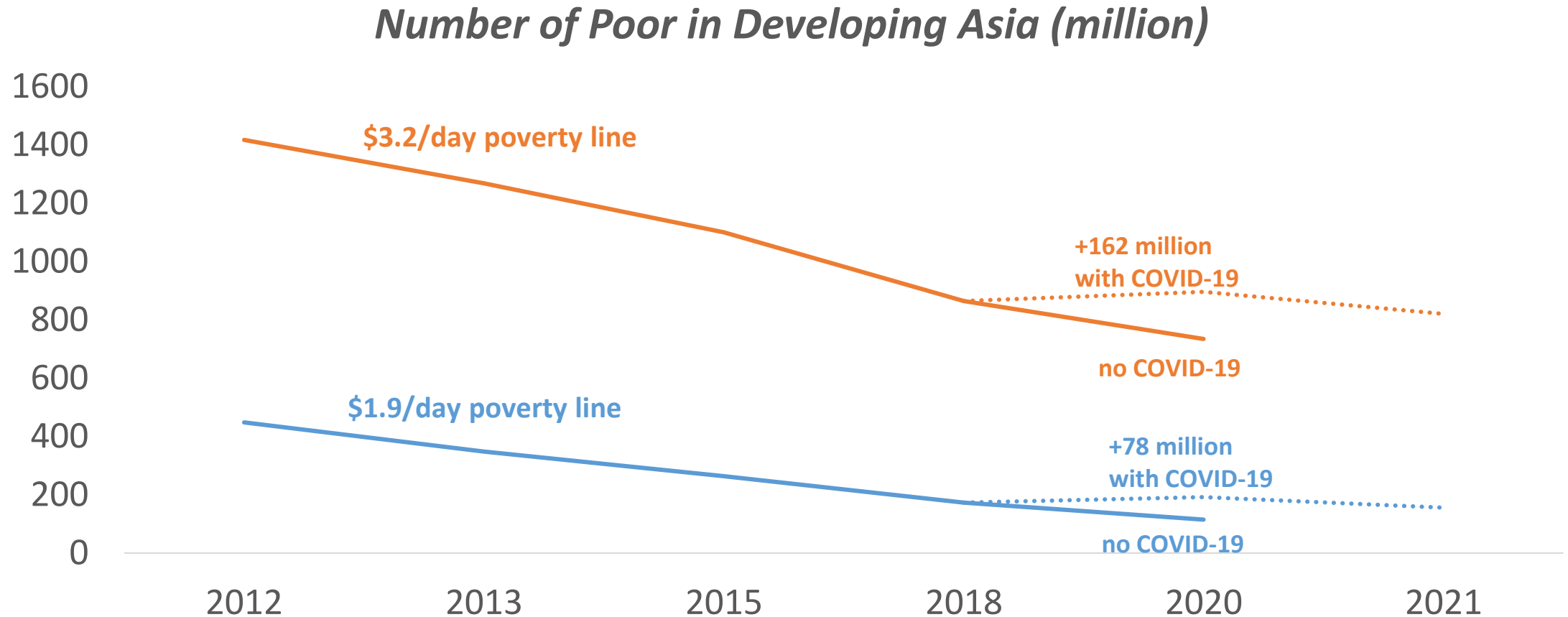**Webinar on Sustainable and Resilient Food Systems in Asia and the Pacific**

16 March 2021

ADB

Asia's phenomenal economic growth is strongly correlated with poverty reduction

Economic Growth and Poverty Reduction, 1981–2015
(based on $1.9/day international poverty line)

But COVID-19 reversed gains in poverty reduction...

Number of Poor in Developing Asia (million)

$3.2/day poverty line

+162 million with COVID-19

no COVID-19

$1.9/day poverty line

+78 million with COVID-19

no COVID-19

1600
1400
1200
1000
800
600
400
200
0

2012   2013   2015   2018   2020   2021

Notes: Developing Asia refers to the average of 34 developing member countries.
Sources: Martinez, A., I. Sebastian, and J. Bulan (2020). How much has COVID-19 turned back Asia's poverty clock? Asian Development Blog. Asian Development Bank. Manila. 3 November.

…and is threatening food security…

Share of Population with Insufficient Food Consumption, February 2021 *(%)*
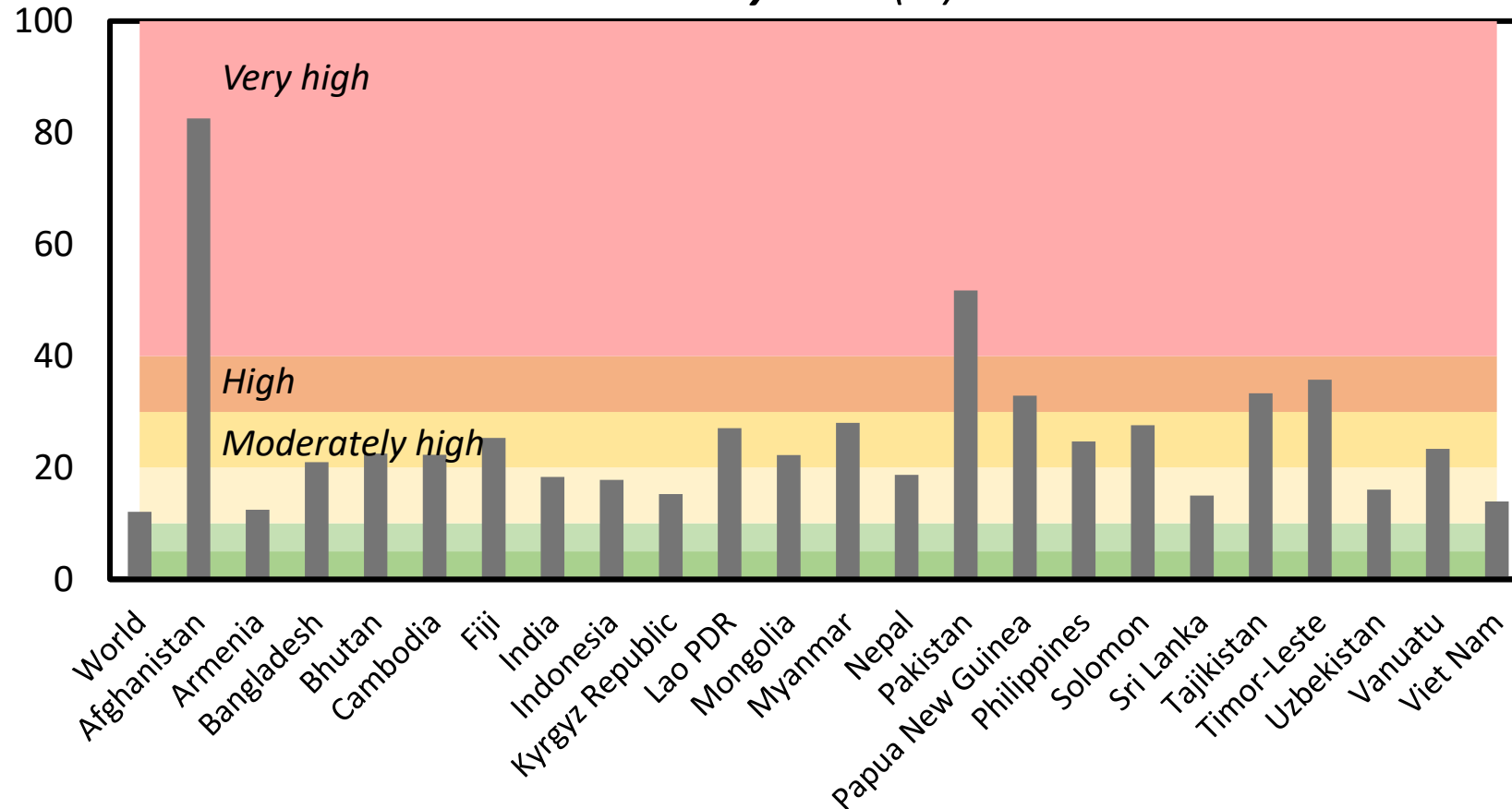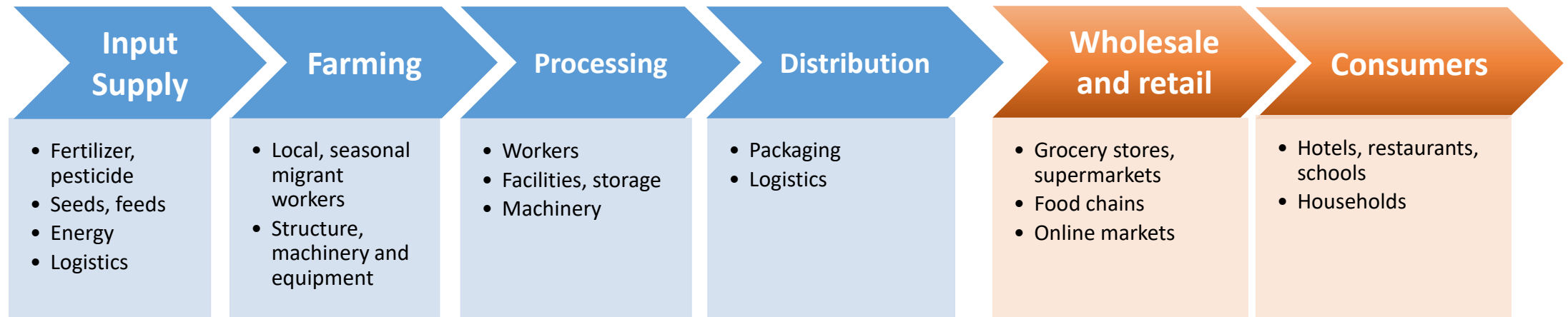
...through both supply and demand shocks

Impact on supply

- Labor shortage due to travel restrictions and fear of infection
- Limited capacity of farmers to store harvested crops
- Factory or facility shutdown
- Port restrictions and congestion, leading to the spoilage of perishables and increasing food waste due to a lack of refrigerated storage
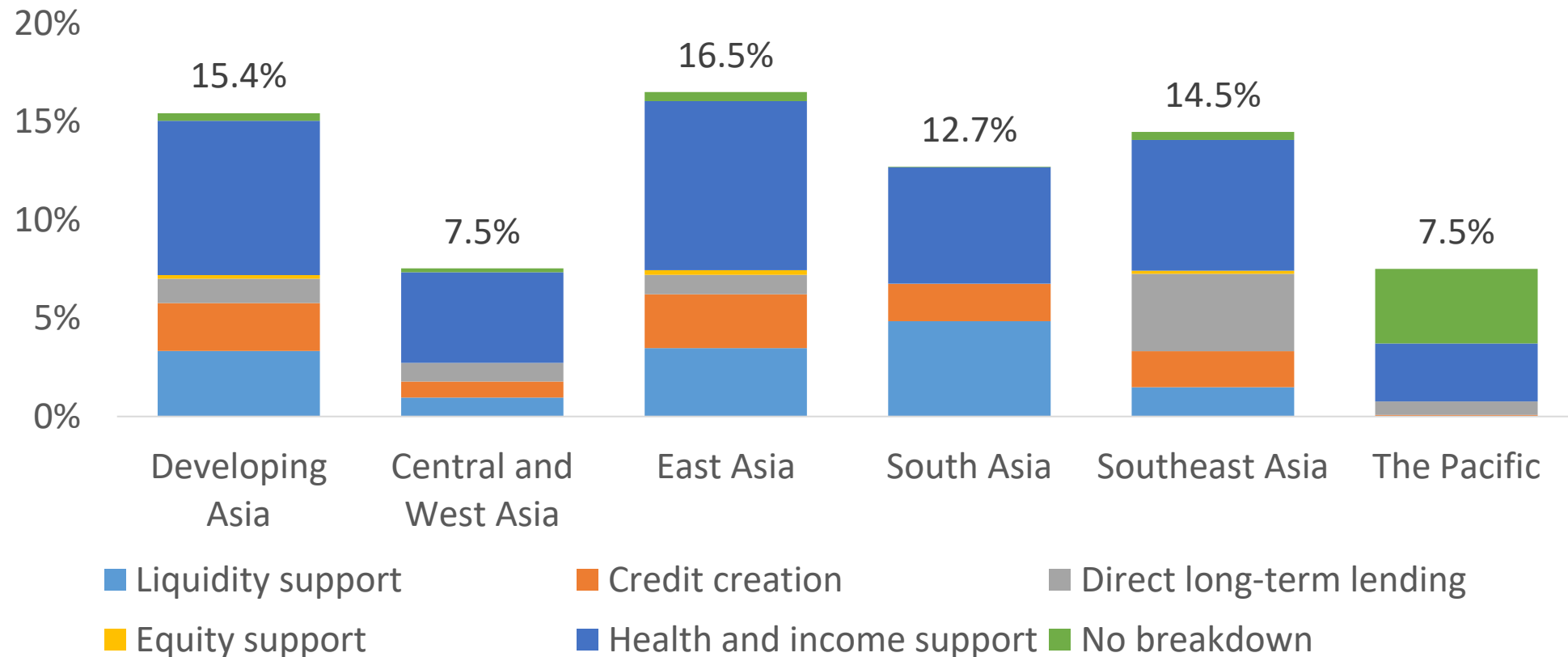- Delays or retrieval in capital investment

Impact on demand

- Income loss due to layoffs and furloughs
- Consumer sentiment and behavior (e.g., panic buying, hoarding)
- Limited accessibility to food
- Undernutrition for the vulnerable groups

Input Supply

- Fertilizer, pesticide
- Seeds, feeds
- Energy
- Logistics

Farming

- Local, seasonal migrant workers
- Structure, machinery and equipment

Processing

- Workers
- Facilities, storage
- Machinery

Distribution

- Packaging
- Logistics

Wholesale and retail

- Grocery stores, supermarkets
- Food chains
- Online markets

Consumers

- Hotels, restaurants, schools
- Households

Source: Kim, Kim, and Park (2020).

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On the demand side, governments have taken steps

Packages announced in response to COVID-19
(% of GDP)

Legend:
- Liquidity support
- Credit creation
- Direct long-term lending
- Equity support
- Health and income support
- No breakdown

On the supply side, many Asian countries are highly relying on food imports

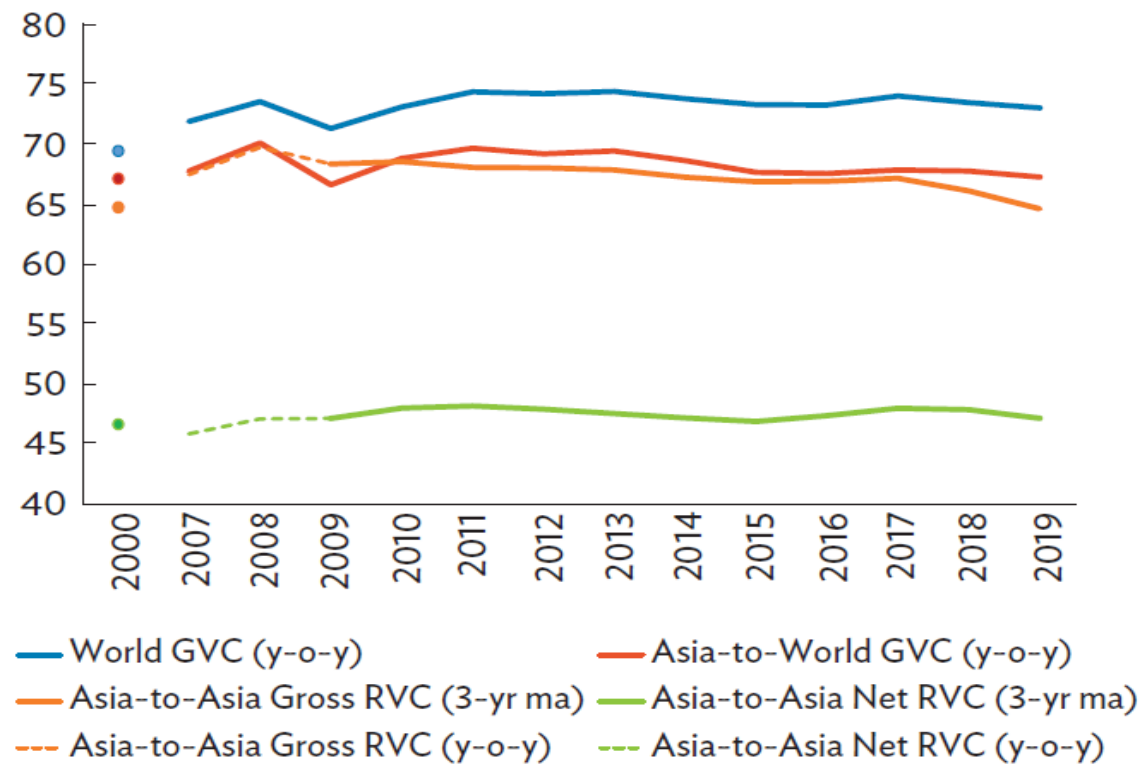**Cereal import dependency ratio (2011–2013) and consumption of rice and wheat per capita (2018)**
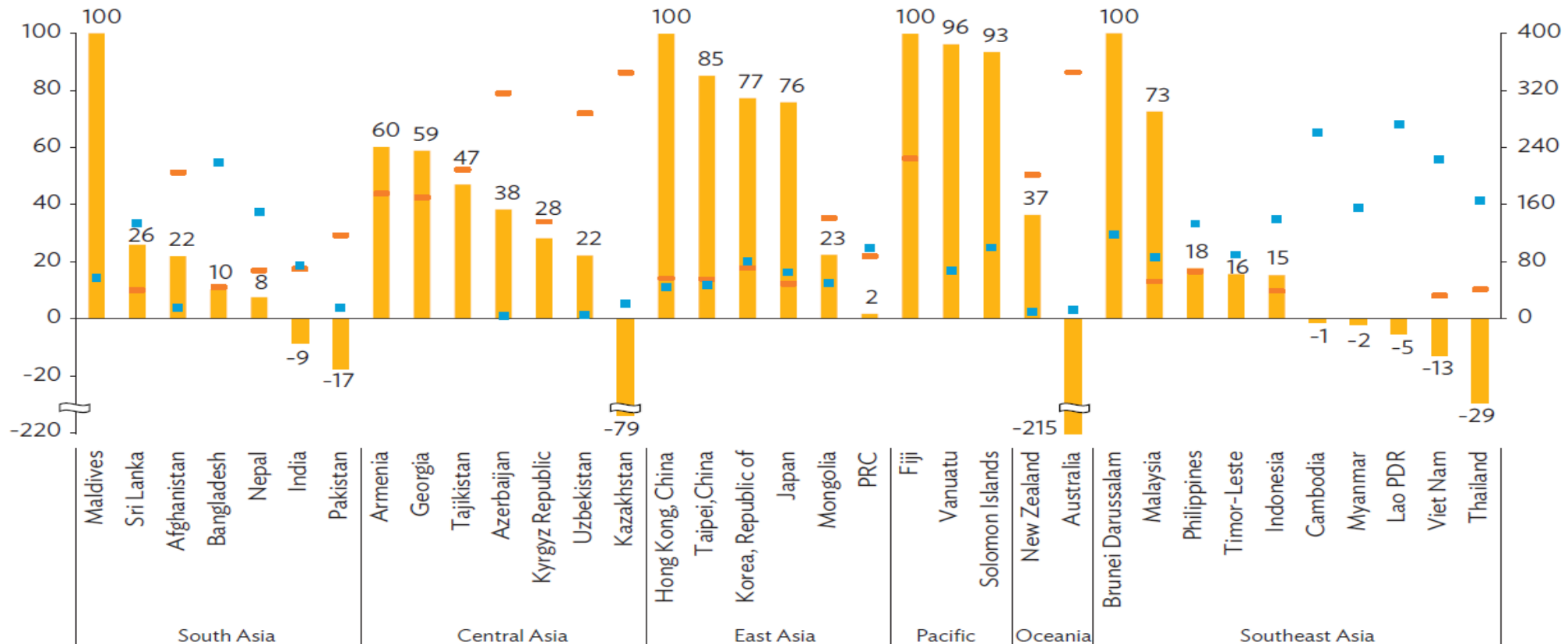
■ Cereal import dependency (%, left)　— Per capita wheat consumption (kg, right)　■ Per capita rice consumption (kg, right)

7

Production networks in Asia have been strong in primary goods

GVC and RVC Participation Rates (%)

World GVC (y-o-y)
Asia-to-World GVC (y-o-y)
Asia-to-Asia Gross RVC (3-yr ma)
Asia-to-Asia Net RVC (3-yr ma)
--- Asia-to-Asia Gross RVC (y-o-y)
--- Asia-to-Asia Net RVC (y-o-y)

3-yr ma = 3-year moving average, GVC = global value chain, RVC = regional value chain, y-o-y = year-on-year.

Notes: The GVC participation rate is the share of gross exports that involves production in at least two economies using cross-border production networks. The RVC participation rate, on the other hand, is the same as that of GVC, except that it only involves economies of the same region.

Sources: ADB calculations using data from ADB. Multi-Regional Input–Output Tables; and methodology by Wang, Wei, and Zhu (2013).

RVC–GVC Trade Intensity, by Major Sector—Asia
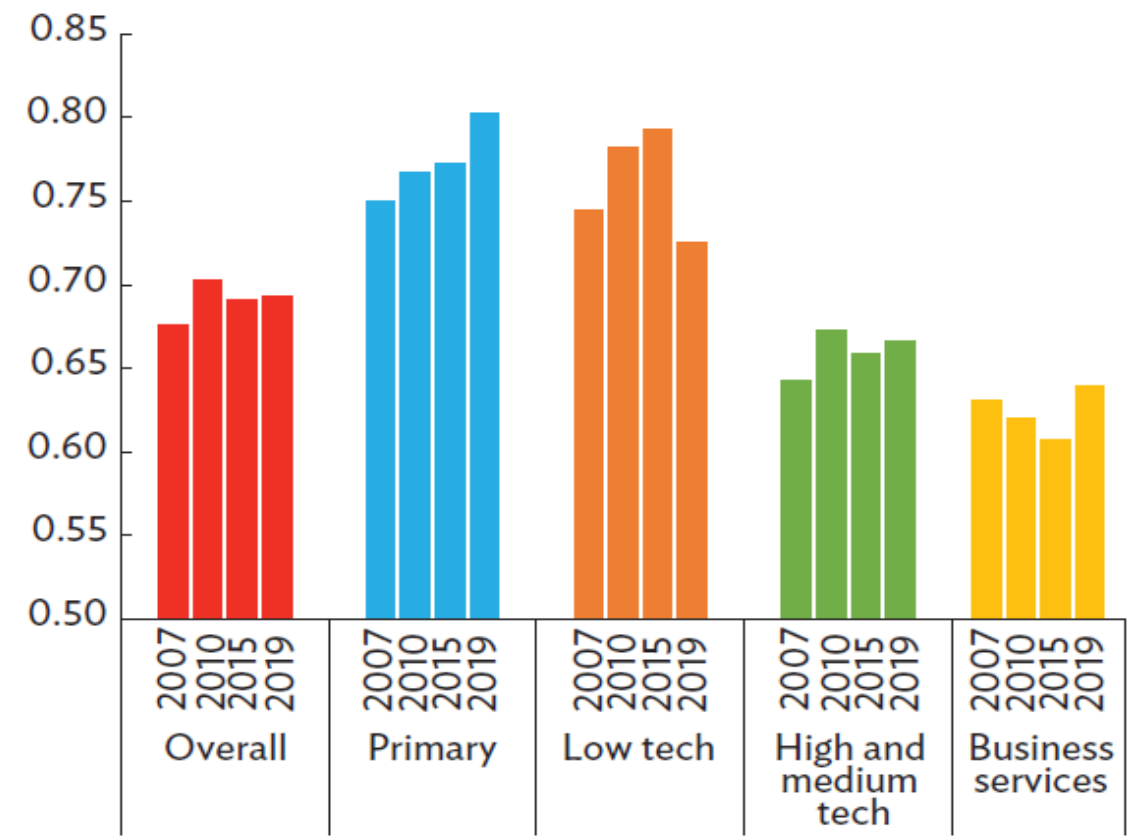
GVC = global value chain, RVC = regional value chain.

Note: Sectoral classification is based on ADB (2015).

Sources: ADB calculations using data from ADB Multi-Regional Input-Output Tables; and methodology by Wang, Wei, and Zhu (2013).

8

Indeed, nontariff measures are increasing in agriculture

Products Affected by COVID-19-Related Trade Measures, by Effect on Trade (as of 24 August 2020)

a. Imposed by Asian Economies

b. Imposed by Non-Asian Economies
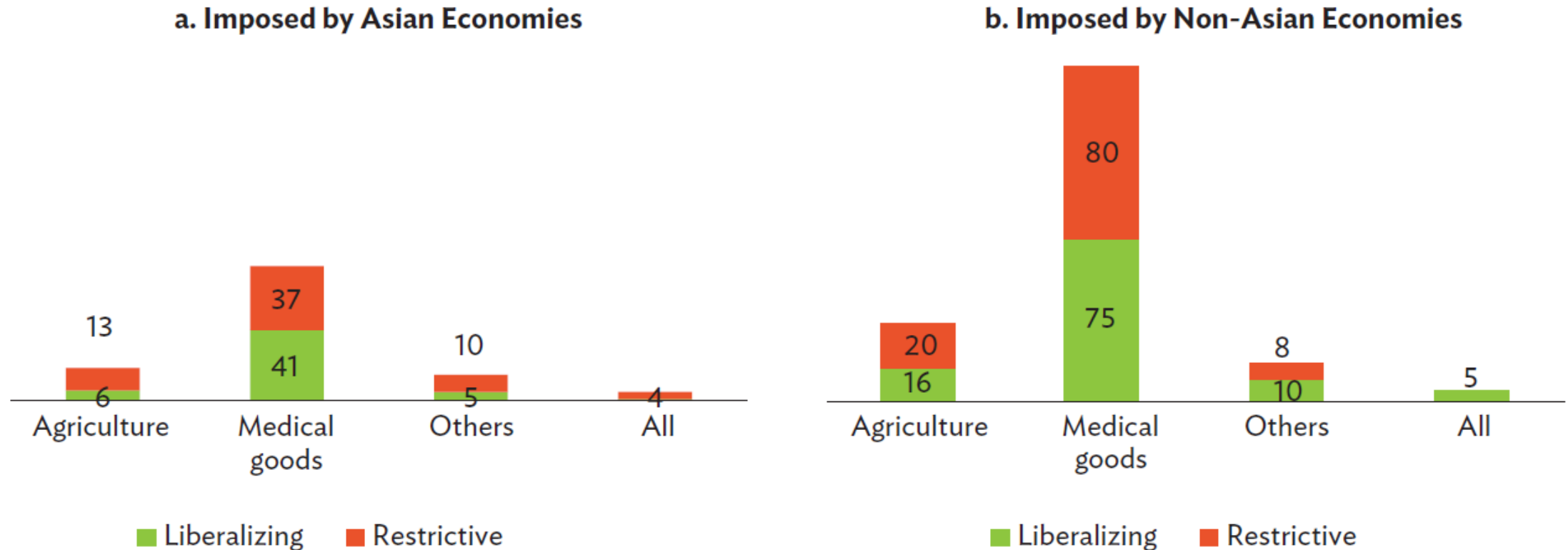
COVID-19 = coronavirus disease.

Source: ADB calculations using data from International Trade Centre. https://www.intracen.org (accessed August 2020).

Trade plummeted during the initial phase but is rebounding fast

Real exports (% change, year on year)
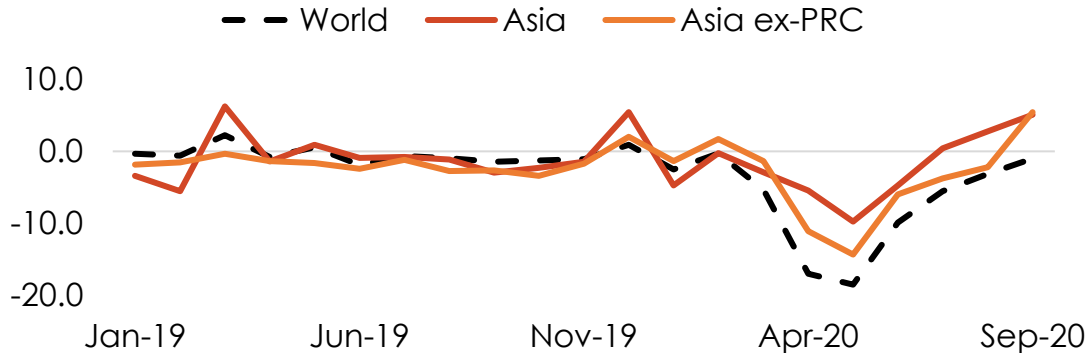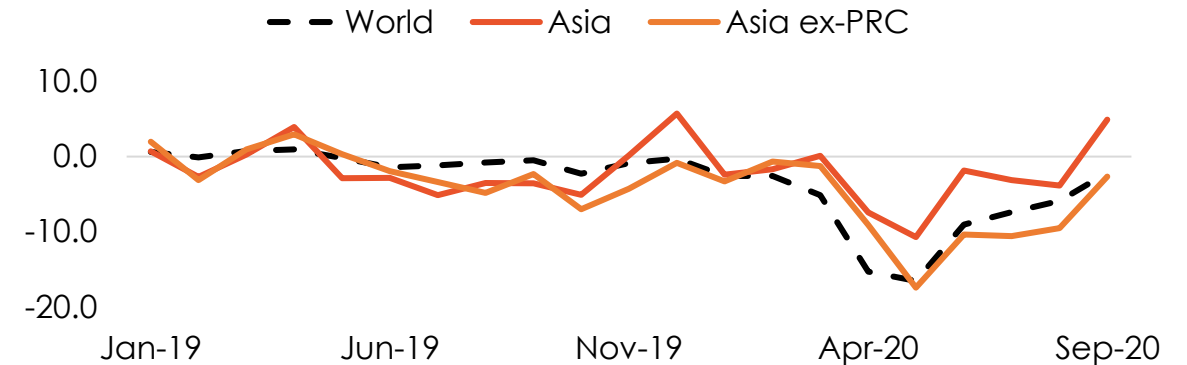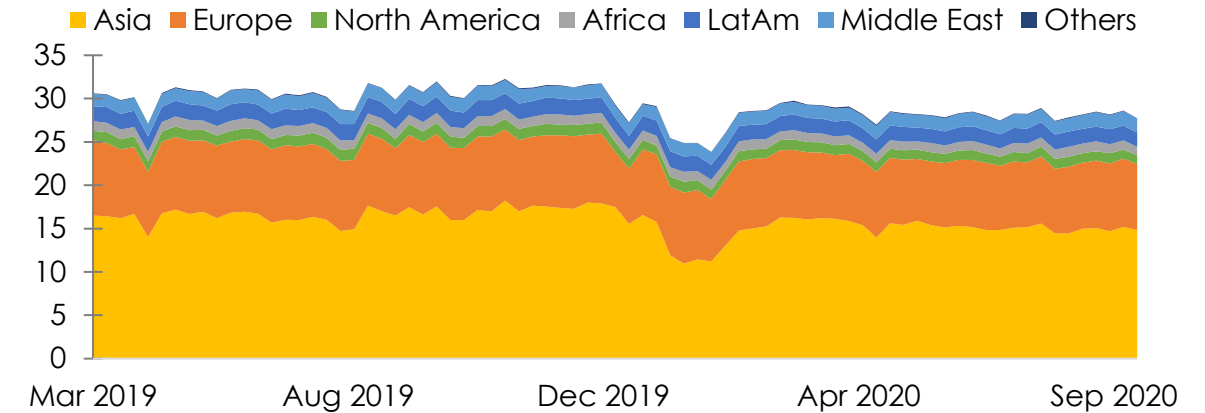
Legend: - - - World, Asia, Asia ex-PRC

Real imports (% change, year on year)

Legend: - - - World, Asia, Asia ex-PRC

Global Weekly Trade Indicators (Z scores)

Legend:
- Baltic Exchange Dry Index
- Dow Jones Global Shipping USD Index
- Bloomberg World Packaging and Containers Index
- MSCI World Containers and Packaging Index
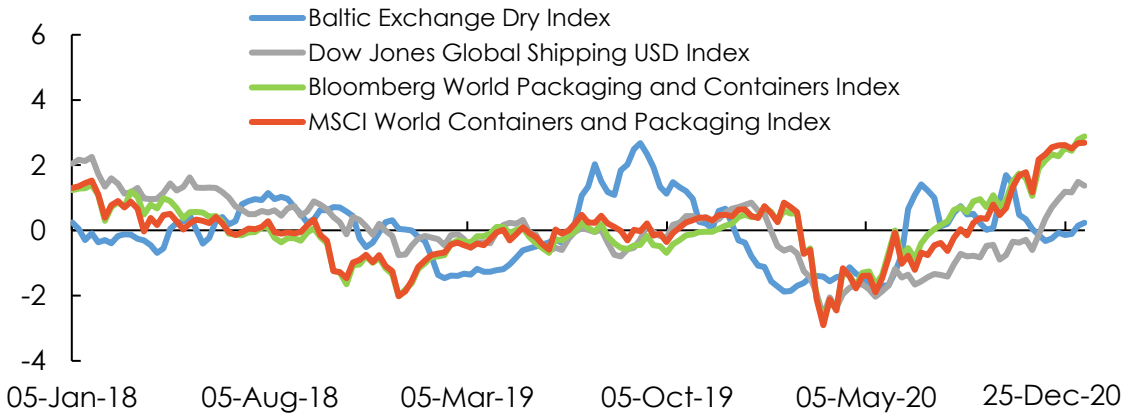
Weekly Number of Port Calls, by Region (thousands)

Legend: Asia, Europe, North America, Africa, LatAm, Middle East, Others

Real exports and imports—*Asia* refers to the weighted average of the People's Republic of China; Hong Kong, China; India; Indonesia; Japan; the Republic of Korea; Malaysia; Pakistan; the Philippines; Singapore; Taipei,China; Thailand; and Viet Nam. Source: CPB Netherlands Bureau for Economic Policy Analysis. **Global weekly trade indicators**—Source: Bloomberg and CEIC. **Weekly number of port calls**—Data are from the weekly port call dashboard, a collaborative initiative between the UN Statistical Division, the Environmental Change Institute at the University of Oxford within the context of the AIS Task Teamwork program. It aims to monitor weekly port calls from around 1,200 ports based on AIS datasets available at the UN Global Platform. Source: UN Comtrade AIS Port Database.

Overall crop prospects are favorable, but risks remain

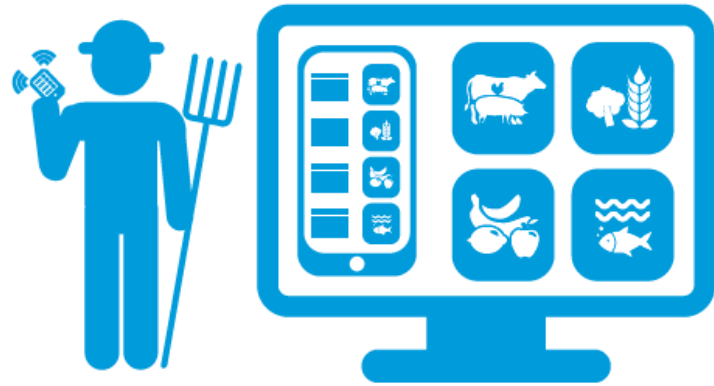*International Supply and Demand for Rice and Wheat*
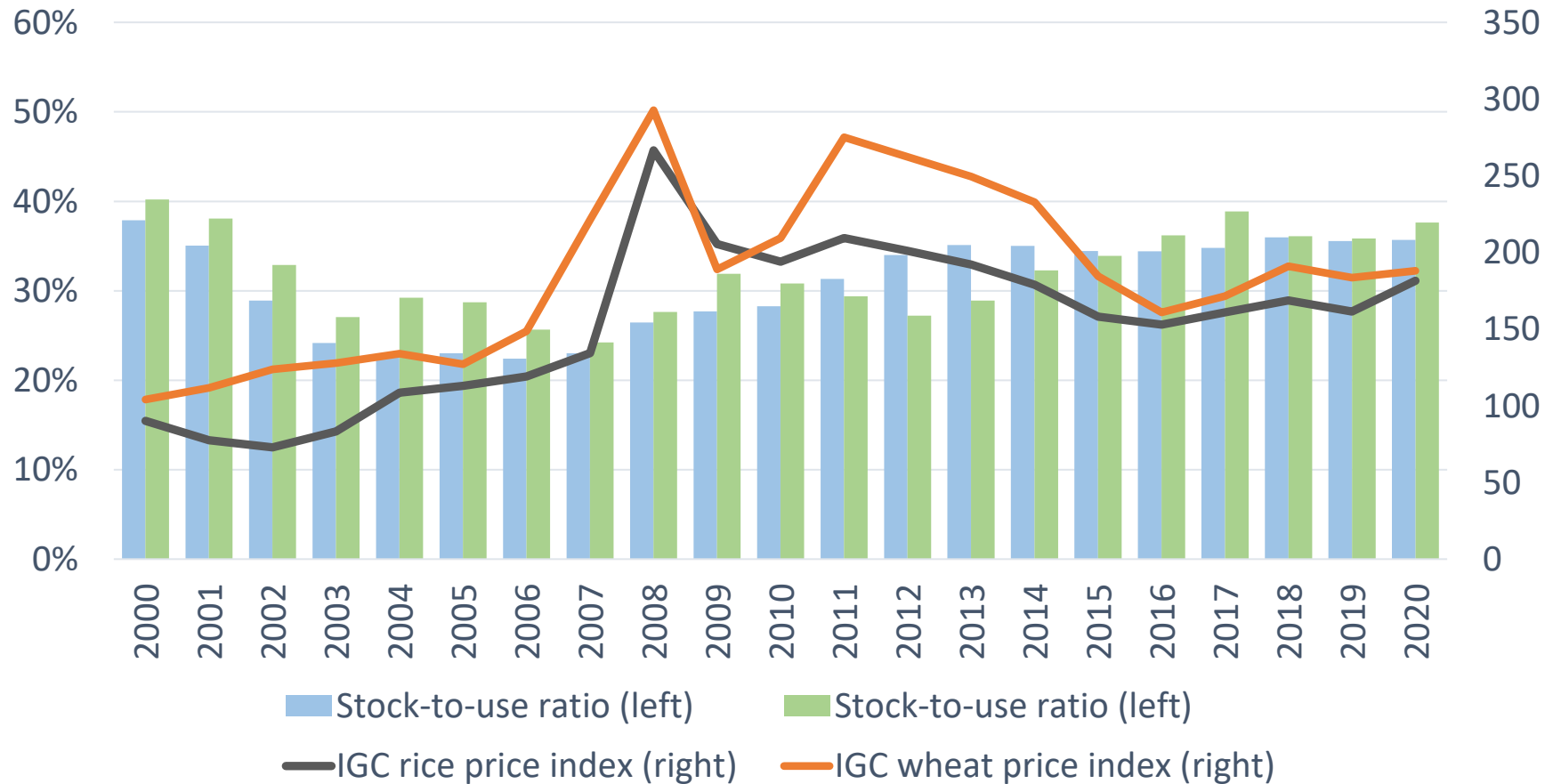
This highlights the importance of RCI initiatives

*Areas of Subregional Cooperation Efforts
to Promote Recovery Post-COVID-19*

	ASEAN	CAREC	GMS	SASEC
Health	●	●	●	●
Trade and trade facilitation	●	●	●	●
Tourism	●	●	●	●
Gender/Women empowerment	●	●		
Agriculture and food security	●		●	
Climate change and environmental sustainability	●		●	

ASEAN = Association of Southeast Asian Nations, CAREC = Central Asia Regional
Economic Cooperation, COVID-19 = coronavirus disease, GMS = Greater Mekong
Subregion, SASEC = South Asia Subregional Economic Cooperation.

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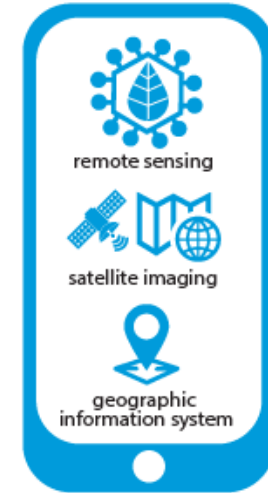# Digitalization and technology will facilitate a post-COVID-19 transition to resilient and efficient food supply chains

Marketing through online platforms

delivery schedule

land use

traded stocks

market arrival
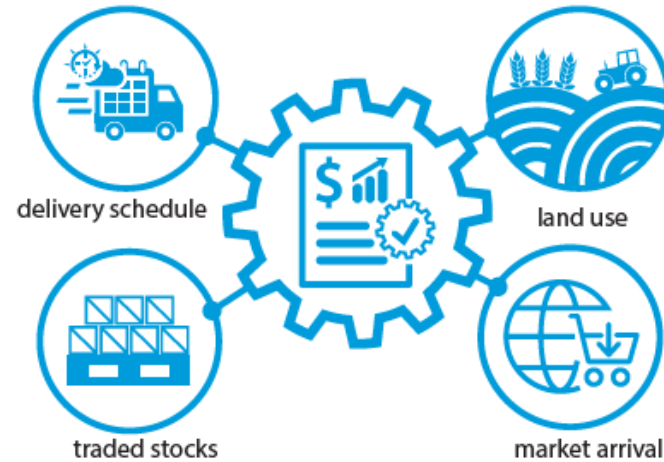
Advanced information system

remote sensing

satellite imaging

geographic information system

Agricultural technology
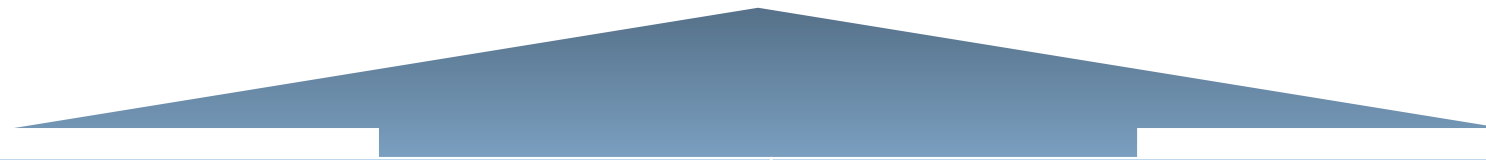
Institutional and legislative reforms	Targeted support to poor and smallholder farmers
• Promote digital agriculture and mechanization • Improve value chain infrastructure	• Access to affordable digital infrastructure and training • Marketing opportunities through economies of scale and entrepreneurial skills

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Digitalization can also help social protection programs for better food security

Granular poverty map (at 4km x 4km grid) based on satellite imageries

Poverty rate per 4km x 4km:

- 0–20
- 20–40
- 40–60
- 60–80
- 80–100
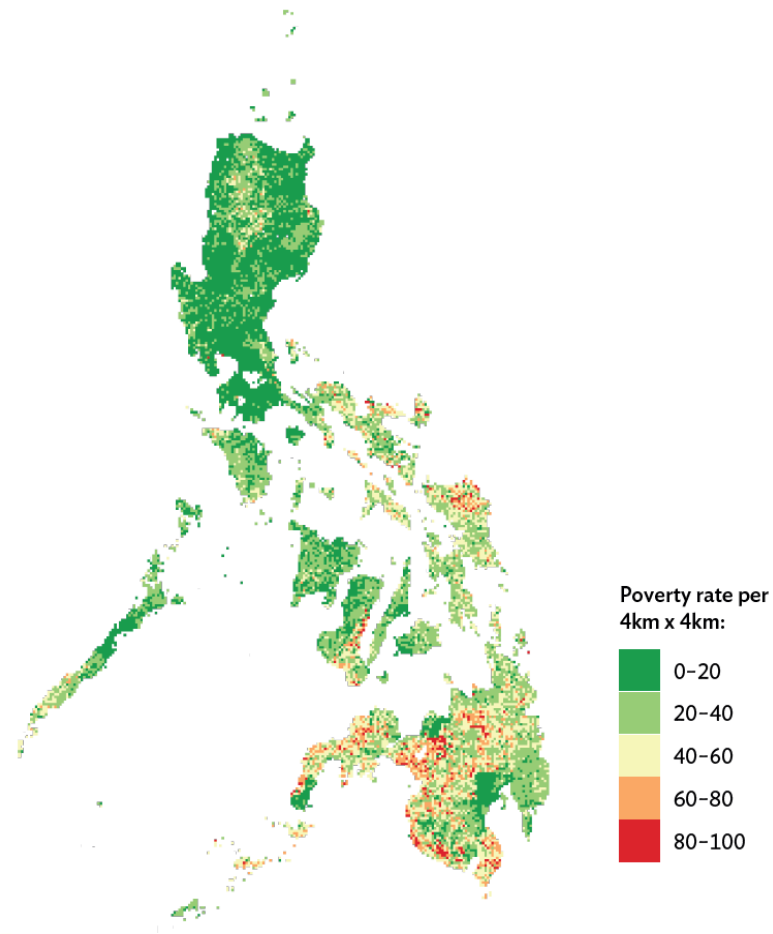
Key policy areas for resilient food systems

- Protect consumers and public health

- Secure supply chains for producers

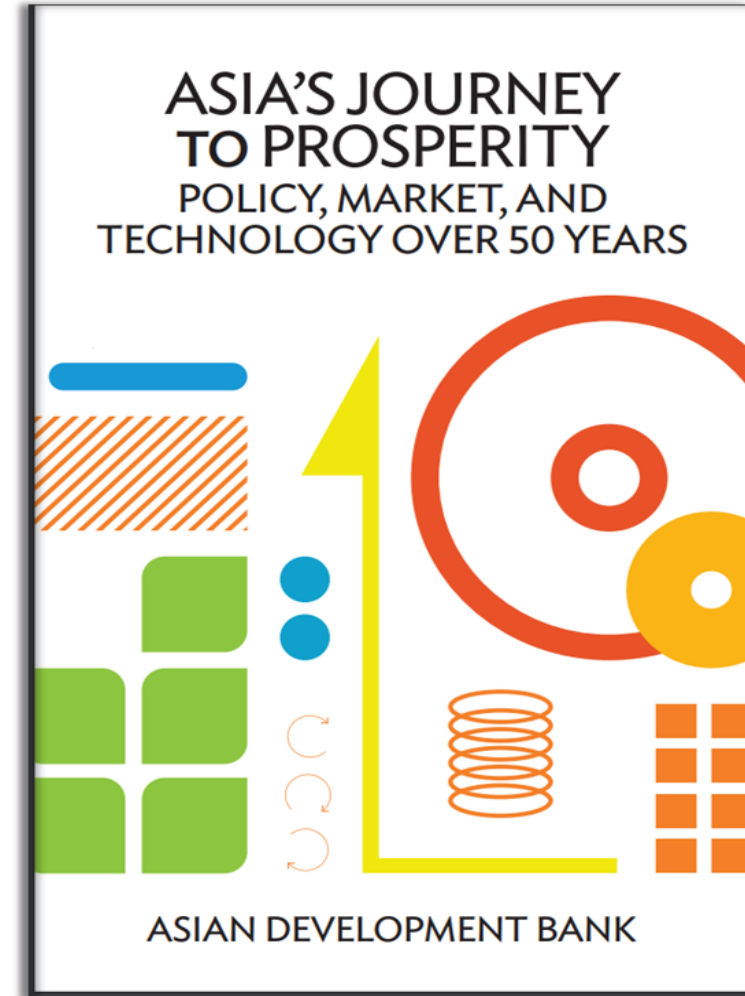- Ensure fair trade and other related policies

- Enhance regional cooperation

- Promote digitalization

THANK YOU!

Yasuyuki Sawada

ysawada@adb.org

ASIA'S JOURNEY TO PROSPERITY
POLICY, MARKET, AND TECHNOLOGY OVER 50 YEARS

ASIAN DEVELOPMENT BANK

But Asia is vulnerable to food trade restrictions and disruptions

Bilateral Trade Flows of Rice and Wheat for Select Importers (% of total imports, 2018)

Rice

Exporter/Importer	LAO	BAN	NEP	INO	SRI	PHI	MAL	KAZ
Thailand	94	7	0	42	0	56	54	0
Viet Nam	1	1	0	20	0	27	27	0
India	0	82	100	18	77	5	5	0
Pakistan	0	2	0	16	16	4	7	94
Rest of the world	5	8	0	3	6	9	8	6
Total	100	100	100	100	100	100	100	100

Wheat

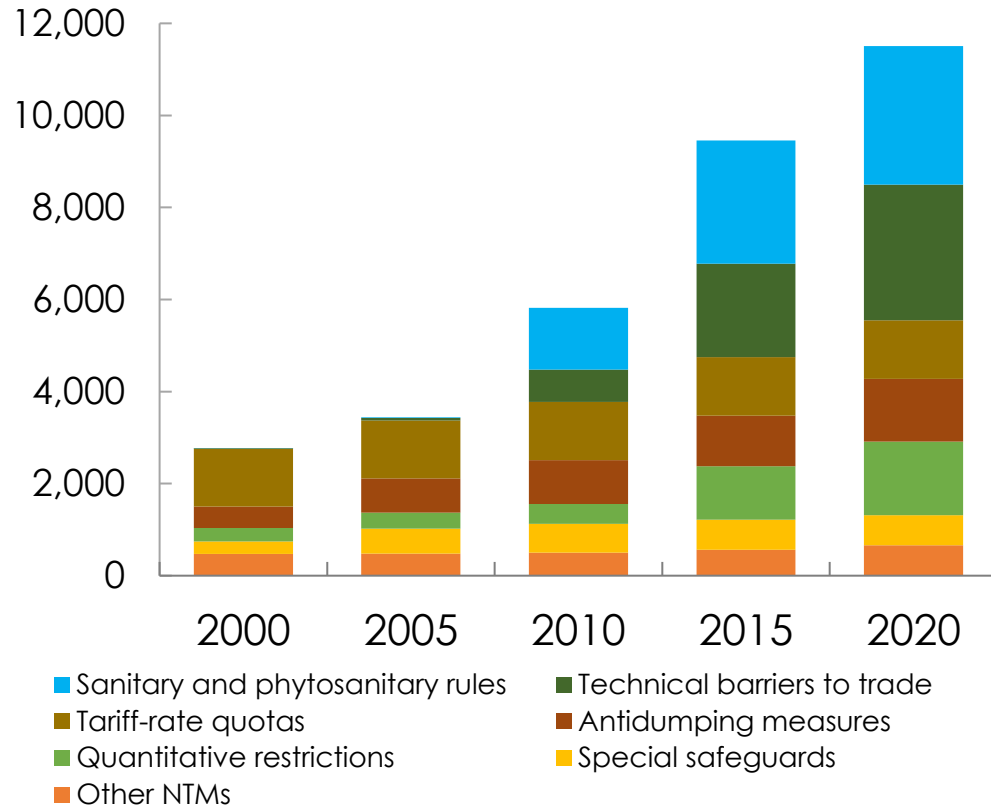| Exporter/Importer	AZE	UZB	FIJ	TAJ	AFG	ARM	GEO	MON	KGZ	MAL	PHI
Russian Federation	71	0	0	0	0	94	86	100	0	9	14
Kazakhstan	29	100	0	100	72	0	14	0	99	0	0
Australia	0	0	99	0	0	0	0	0	0	50	22
United States	0	0	0	0	0	1	0	0	0	14	35
Ukraine	0	0	0	0	0	0	0	0	0	9	23
Rest of the world	0	0	1	0	28	5	0	0	1	18	5
Total	100	100	100	100	100	100	100	100	100	100	100

AFG = Afghanistan, ARM = Armenia, AZE = Azerbaijan, BAN = Bangladesh, INO = Indonesia, FIJ = Fiji, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, LAO = Lao People's Democratic Republic, MAL = Malaysia, MON = Mongolia, NEP = Nepal, PHI = Philippines, SRI = Sri Lanka, TAJ = Tajikistan, UZB = Uzbekistan.
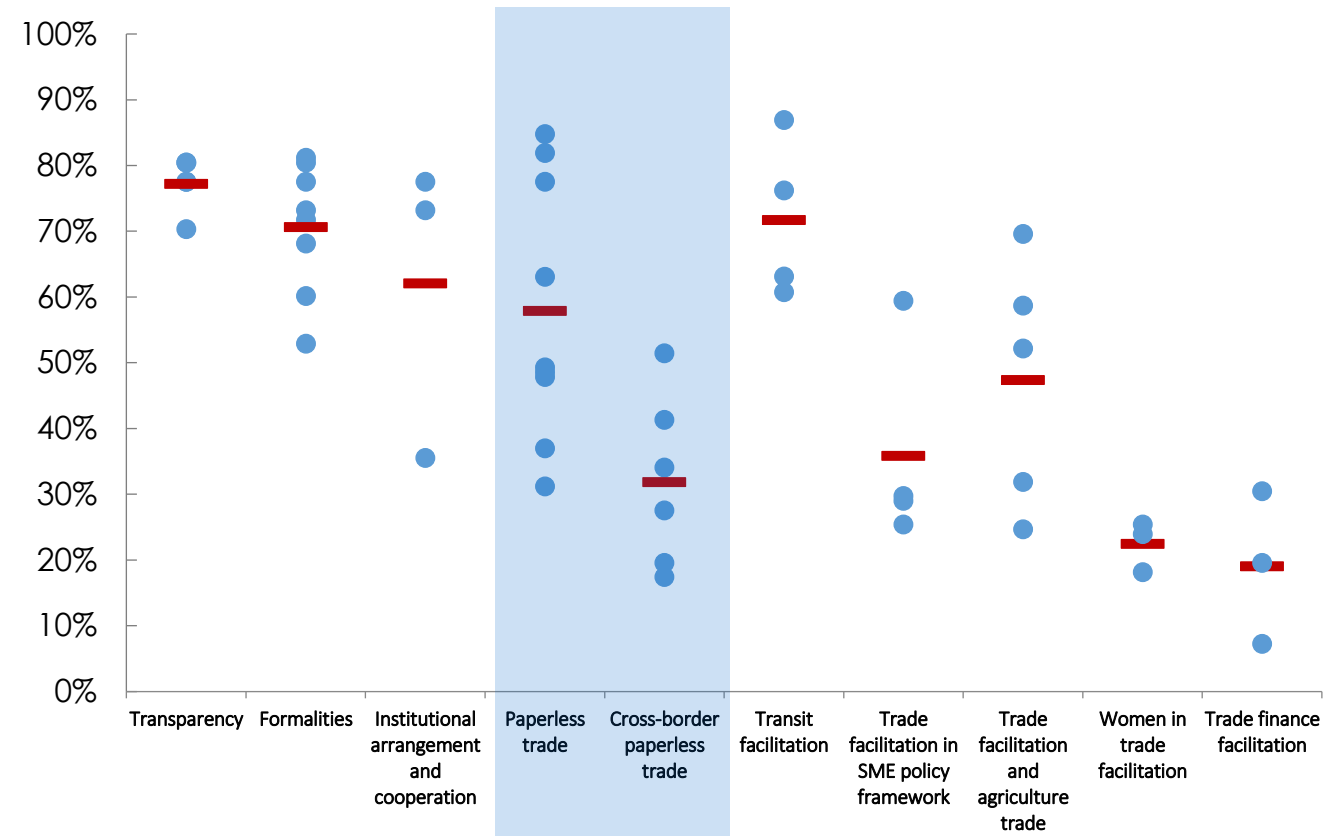Note: Calculation is based on trade volumes in metric tons.
Source: United Nations Commodity Trade Database. https://comtrade.un.org/ (accessed April 2020).

Nontariff measures are on the rise while barriers to trade facilitation remain

Number of nontariff measures imposed on Asia (cumulative as of each year)

Legend:
- Sanitary and phytosanitary rules
- Tariff-rate quotas
- Quantitative restrictions
- Other NTMs
- Technical barriers to trade
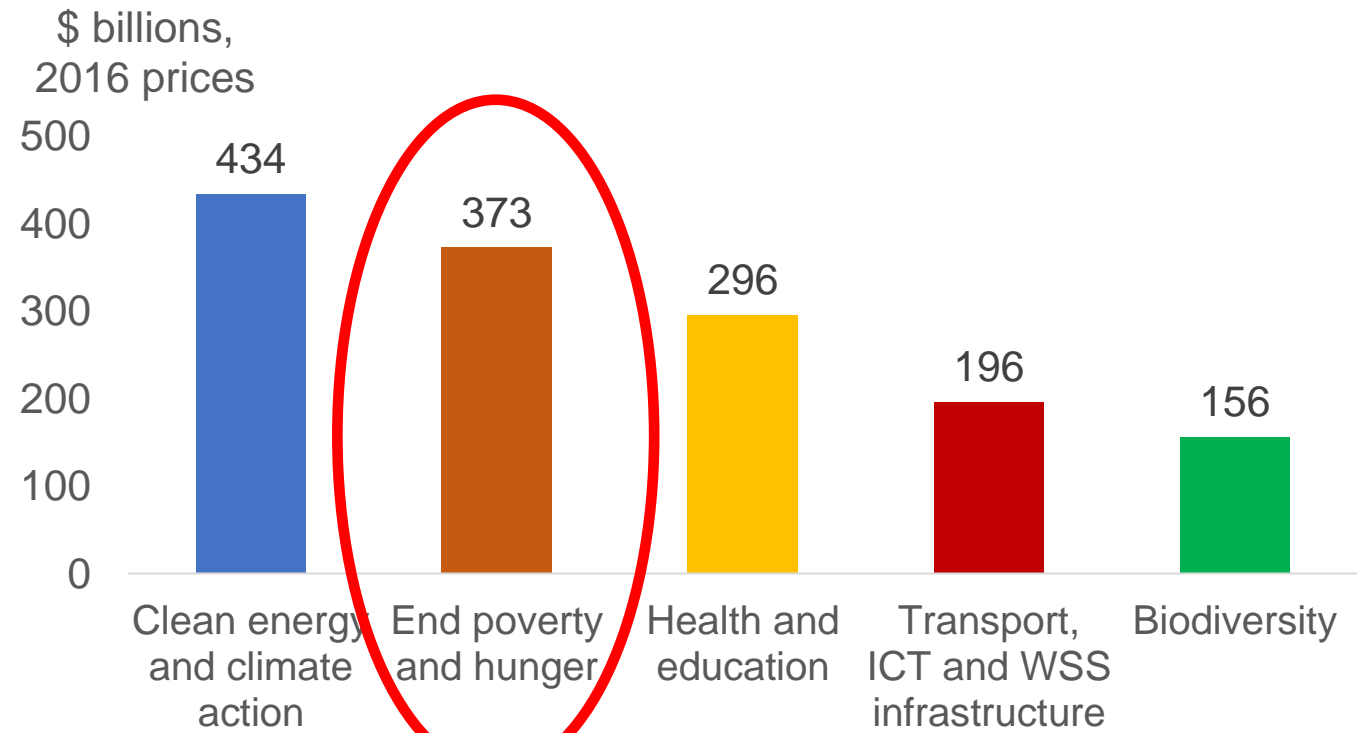- Antidumping measures
- Special safeguards

NTM = nontariff measures.
Note: Data cover NTMs in force until December 2020.
Source: ADB staff calculations using World Trade Organization. Integrated Trade Intelligence Portal (accessed September 2020).

Trade Facilitation Implementation by Measure, 2019

Measures: Transparency, Formalities, Institutional arrangement and cooperation, Paperless trade, Cross-border paperless trade, Transit facilitation, Trade facilitation in SME policy framework, Trade facilitation and agriculture trade, Women in trade facilitation, Trade finance facilitation

Source: The Third Global Survey on Trade Facilitation and Paperless Trade Implementation (ADB (2019).

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A great reset: COVID-19 highlights the need for developing Asia to build back better

- A green and inclusive recovery
  - To meet urgent needs such as public health, education, and job creation, especially for the most vulnerable
  - To build resilience to future disasters

- Building back better requires mobilizing huge amounts of capital from both public and private sources

Asia Pacific region's annual investment requirements, 2016–2030, by broad SDG sectoral groupings

$ billions, 2016 prices

Category	Value
Clean energy and climate action	434
End poverty and hunger	373
Health and education	296
Transport, ICT and WSS infrastructure	196
Biodiversity	156

ICT = information, communications and technology, SDG = sustainable development goals, WSS = water, sanitation, and safe water.
Source: UNESCAP (2019).

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