



ASIAN ECONOMIC INTEGRATION REPORT 2022

ADVANCING DIGITAL SERVICES TRADE
IN ASIA AND THE PACIFIC

Regional Cooperation and Integration Division
Economic Research and Regional Cooperation Department
Asian Development Bank

9 February 2022

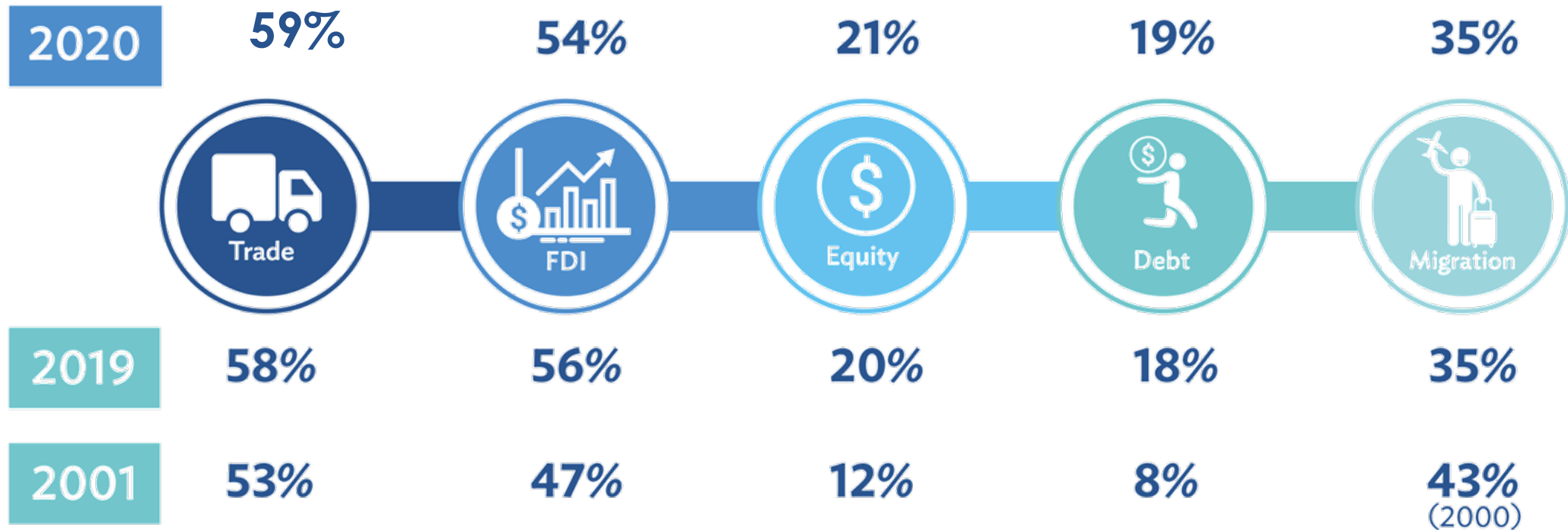


Progress of Regional Cooperation and Integration



Regional economic linkages remain robust despite COVID-19

Intraregional Shares (% of total)

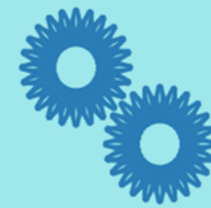


FDI = foreign direct investment (flows data), Equity = equity asset holdings (stock data), Debt = debt asset holdings (stock data), Migration is based on outbound data.

Note: Where data are not available, the latest year for available data is indicated in parentheses.

Sources: ADB calculations using data from Association of Southeast Asian Nations Secretariat; International Monetary Fund; Organisation for Economic Co-operation and Development; United Nations Conference on Trade and Development; United Nations Department of Economic and Social Affairs Population Division; United Nations World Tourism Organization; World Bank; and national sources.

Enhanced ARCII framework: New dimensions, indicators and expanded regional coverage



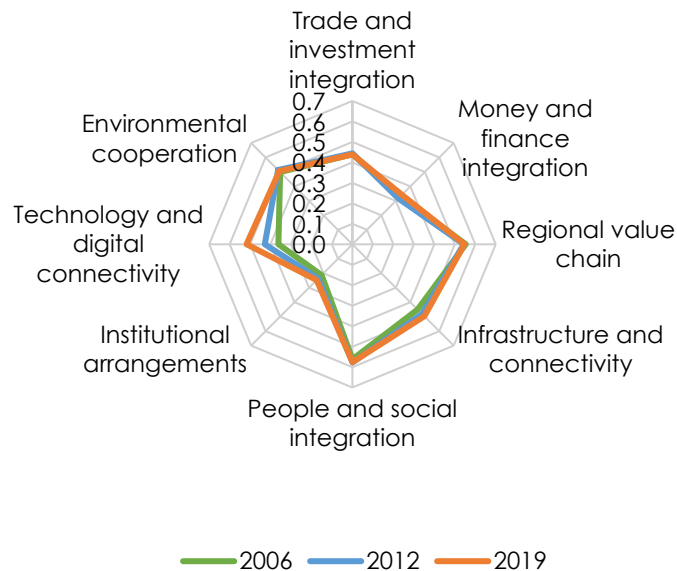
Two new dimensions have been added to reflect linkages in **digital connectivity** and **environmental cooperation**.



Coverage has been expanded from **158** to **173** countries and from **26** to **41** indicators.

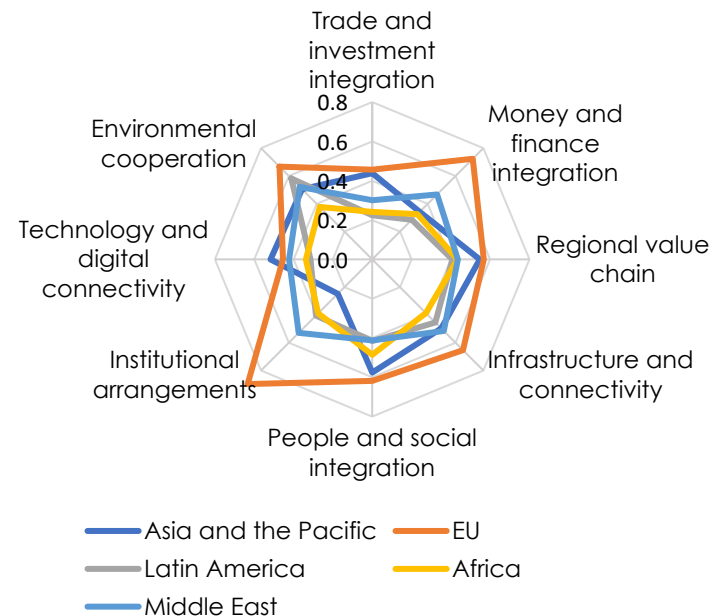
Asia is highly integrated and on multiple dimensions compares well to EU

Asia and the Pacific 2006, 2012, 2019



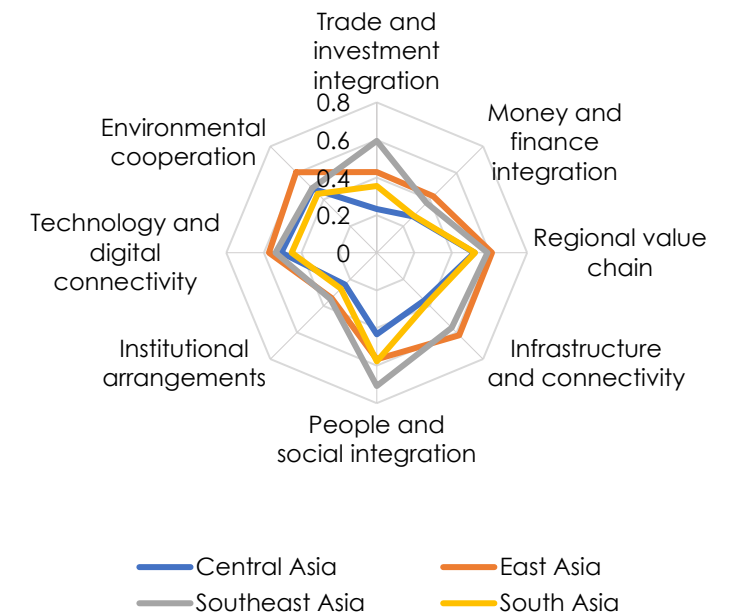
Trade, investment, infrastructure and digital connectivity has improved since 2006.

Asia and the Pacific vs. Other Regions, 2019



Asia performed similarly well with EU in regional **trade, investment, and value chain participation**

Asia Subregions, 2019



Asia subregions continue to display **wide-ranging performance** across dimensions.

Subregional cooperation initiatives: Key progress in 2020/2021

CAREC

- 213 projects worth \$39.3 billion as of 30 June 2021, with Transport (75%) and energy (22%)
- CAREC 2030 implementation for post-pandemic recovery

GMS

- 109 projects worth \$27.7 billion as of 2020
- About 12,000 kilometers of new or upgraded roads; about 700 km of railway lines installed
- 3,000 megawatts of electricity generated; 2,600 km of transmission and distribution lines installed

EAST ASIA

- Border zone and trade facilitation projects support economic corridor development in the PRC and Mongolia.

SASEC

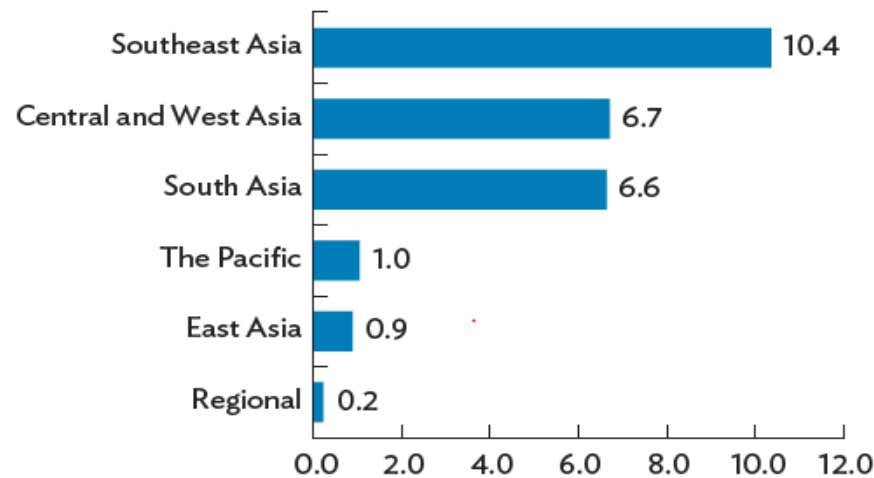
- 73 projects worth \$17.43 billion as of December 2020
- Multimodal transport corridor development and measures to improve trade efficiencies strengthened
- Green energy and subregional power transmission

PACIFIC

- The Systems Strengthening for Effective Coverage of New Vaccines in the Pacific Project, recently expanded to include the introduction of COVID-19 vaccines
- Efficient regional mechanisms and networks facilitate support of development partners in vaccines supply

Subregional responses to COVID-19 and ADB's support

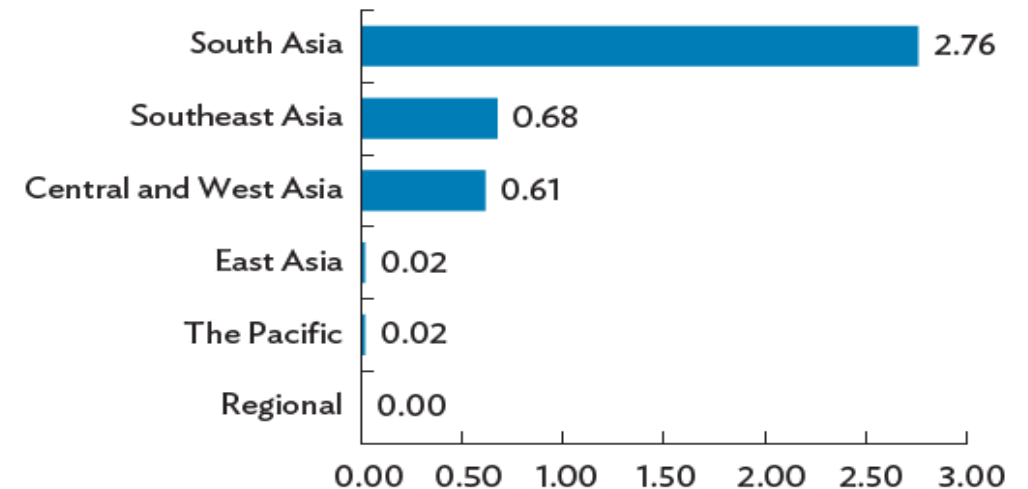
ADB's COVID-19 Response Package by Region, as of 7 February 2022 (\$ billion)



- 45% (\$4.1 billion) of the \$9 billion APVAX has been committed to 15 projects
 - 68% of that (\$2.8 billion) going to South Asia, 17% (\$0.7 billion) to Southeast Asia, and 15% (\$0.6 billion) to Central and West Asia.

- ADB's comprehensive COVID-19 response has reached \$25.8 billion
 - 40% going to Southeast Asia, 26% to Central and West Asia, and 26% to South Asia.
 - 55% (\$14.2 billion) of the commitments will fund public sector management projects, while 27% (\$6.9 billion) will go to the finance sector, and 10% (\$2.7 billion) will finance health projects.
 - includes CPRO operations totaling \$10.4 billion as of 28 January 2022 in 27 DMCs.

APVAX Committed Amount by Region, as of 7 February 2022 (\$ billion)



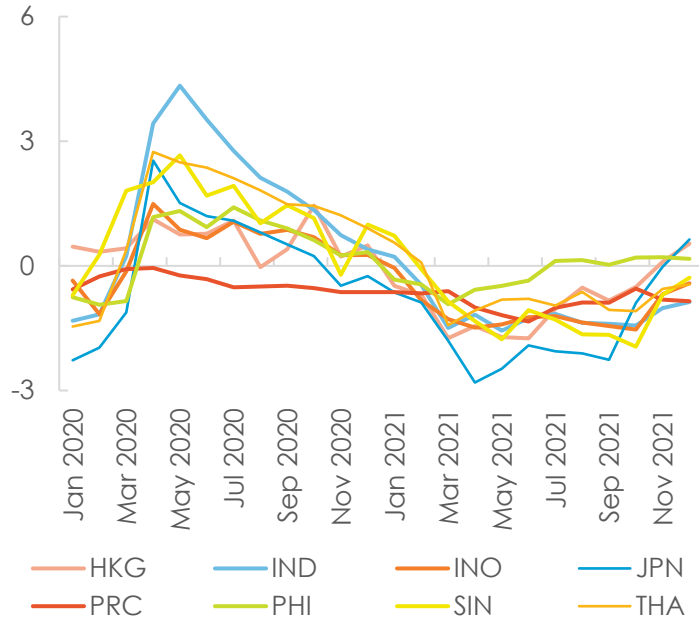
Financial Integration



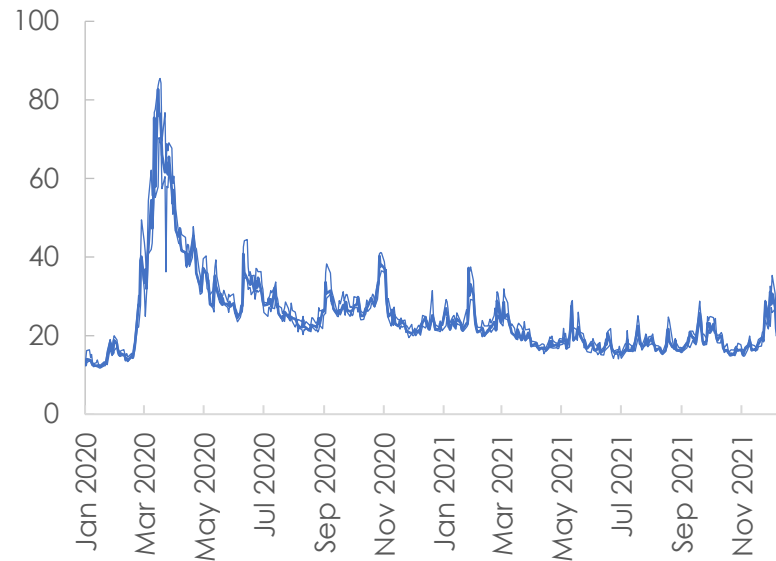
Financial Conditions Overview

Accommodative policy support and vaccine rollout buoyed financial market conditions in H1 2021, heightened uncertainties in H2 2021 pose risks.

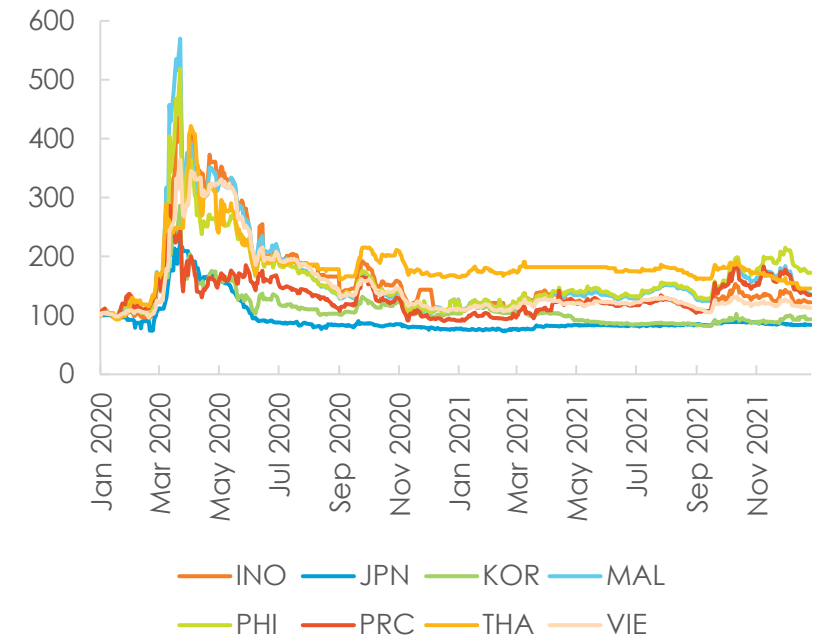
Financial Stress Index – Selected Asian Economies



Volatility Index



Credit Default Swaps – Selected Asian Economies (2 Jan 2020 = 100)



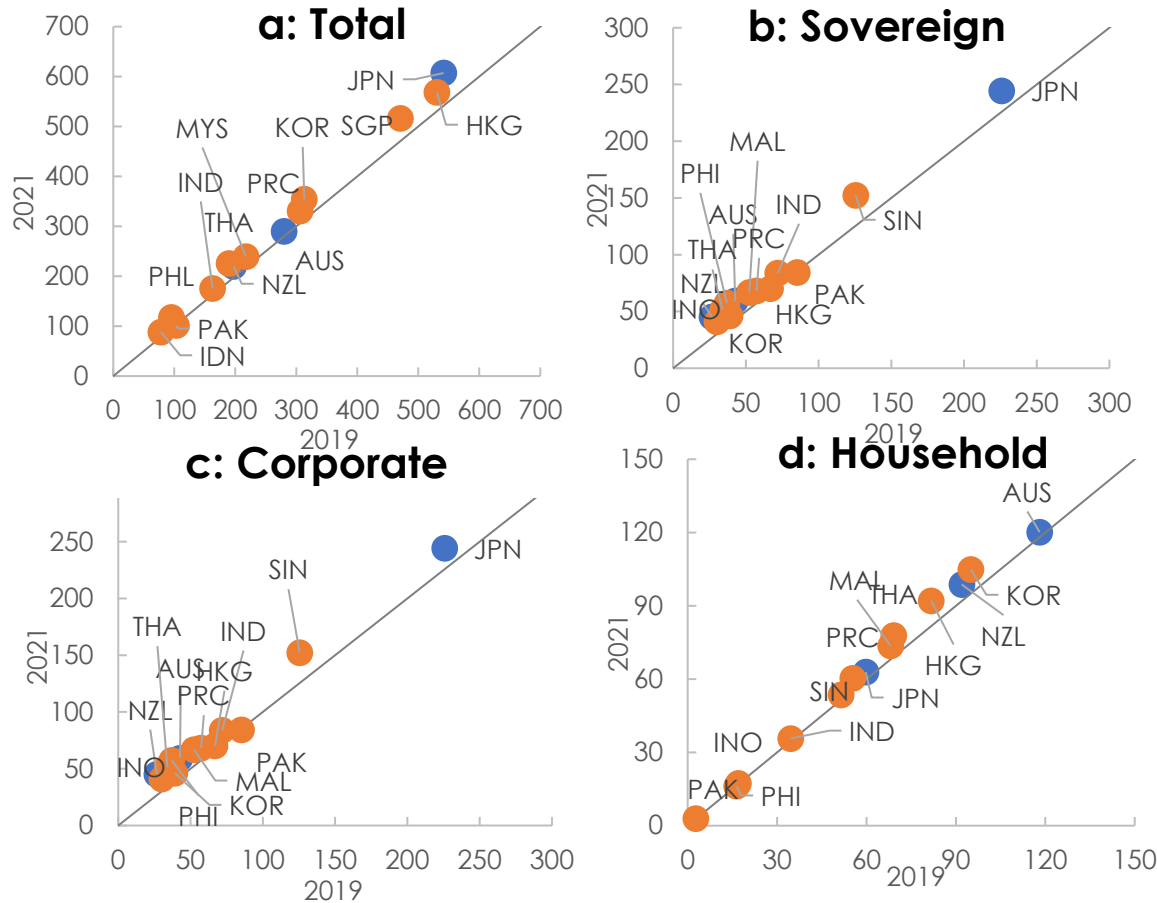
COVID-19 = coronavirus disease; GFC = global financial crisis; HKG = Hong Kong, China; IND = India; INO = Indonesia; JPN = Japan; KOR = Republic of Korea; PHI = Philippines; PRC = People's Republic of China; SIN = Singapore; THA = Thailand; US = United States.

Sources: ADB calculations using data from Bloomberg; CEIC; Haver Analytics; the International Monetary Fund. International Financial Statistics. (accessed October 2021); and methodology by Park and Mercado (2014).

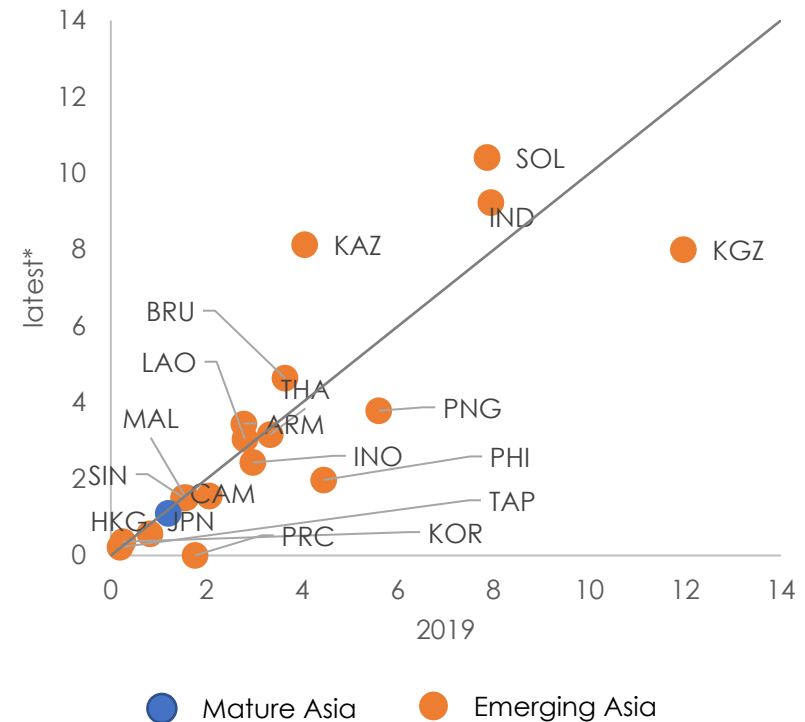
Financial Risks and Uncertainties

The region faces renewed fears of capital flow reversals, exchange rate volatility, and financial instability in the second half of 2021.

Sectoral Debt Ratio, 2019 vs. Q3 2021 (% of GDP)



Bank NPL Ratio, 2019 vs. latest* (% of total loans)



* = as of December 2020 for IND, as of March 2021 for JPN, and SOL, as of June 2021 for PHI, PRC, and SIN, as of September 2021 for BRU, CAM, HKG, INO, LAO, MAL, PNG, and THA, and as of October 2021 for ARM, KAZ, KOR, KGZ, and TAP.

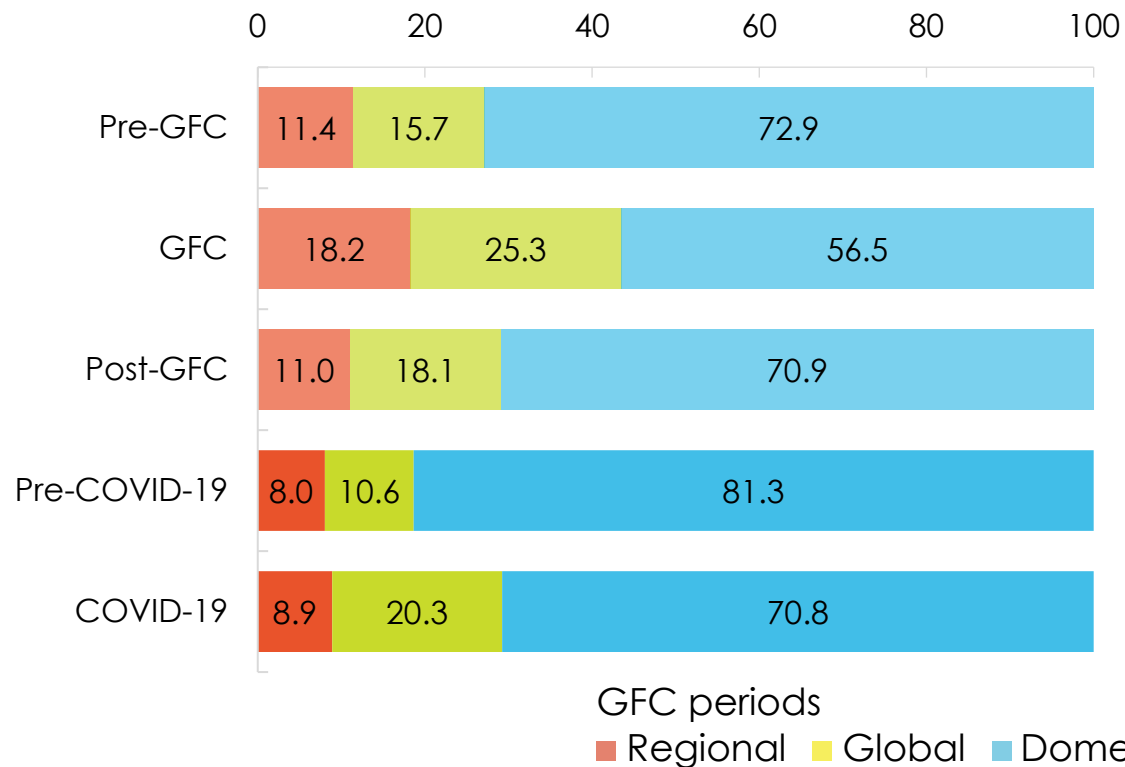
AUS = Australia; ARM = Armenia; BRU = Brunei Darussalam; CAM = Cambodia; HKG = Hong Kong, China; IND = India; INO = Indonesia; JPN = Japan; KAZ = Kazakhstan; KGZ = Kyrgyz Republic; KOR = Republic of Korea; LAO = Lao People's Democratic Republic; MAL = Malaysia; NPL = nonperforming loan; NZL = New Zealand; PAK = Pakistan; PHI = Philippines; PNG = Papua New Guinea; PRC = People's Republic of China; SIN = Singapore; SOL = Solomon Islands; TAP = Taipei, China; THA = Thailand.

Source: ADB calculations using data from CEIC; and Institute of International Finance. Global Debt Monitor as of September 2021 (accessed October 2021).

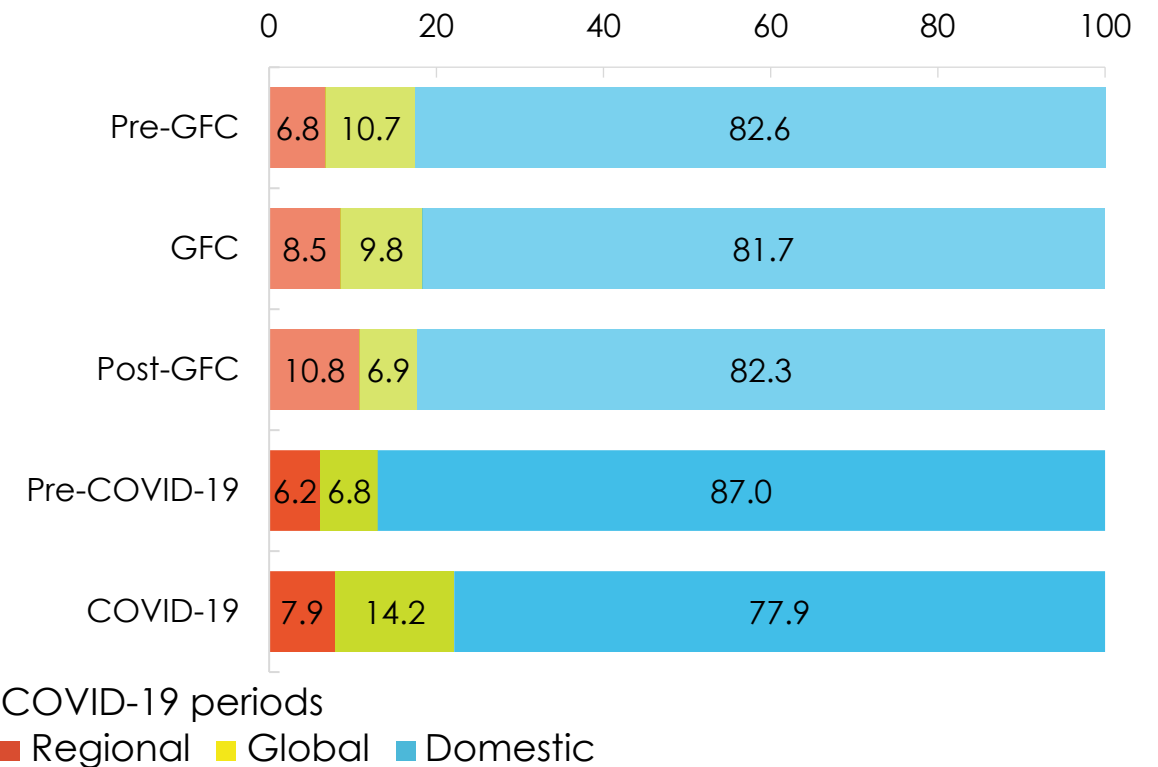
Asset Price Variance Decompositions

The global nature of the ongoing COVID-19 pandemic was reflected in the increase in the share of global shocks in the variation of Asia's asset price returns.

Variance Decomposition—Equity Returns



Variance Decomposition—Bond Returns



COVID-19 = coronavirus disease, GFC = global financial crisis.

Pre-GFC = January 1999 to September 2007, GFC = October 2007 to June 2009, Post-GFC = July 2009 to December 2015, Pre-COVID-19 = September to December 2019,

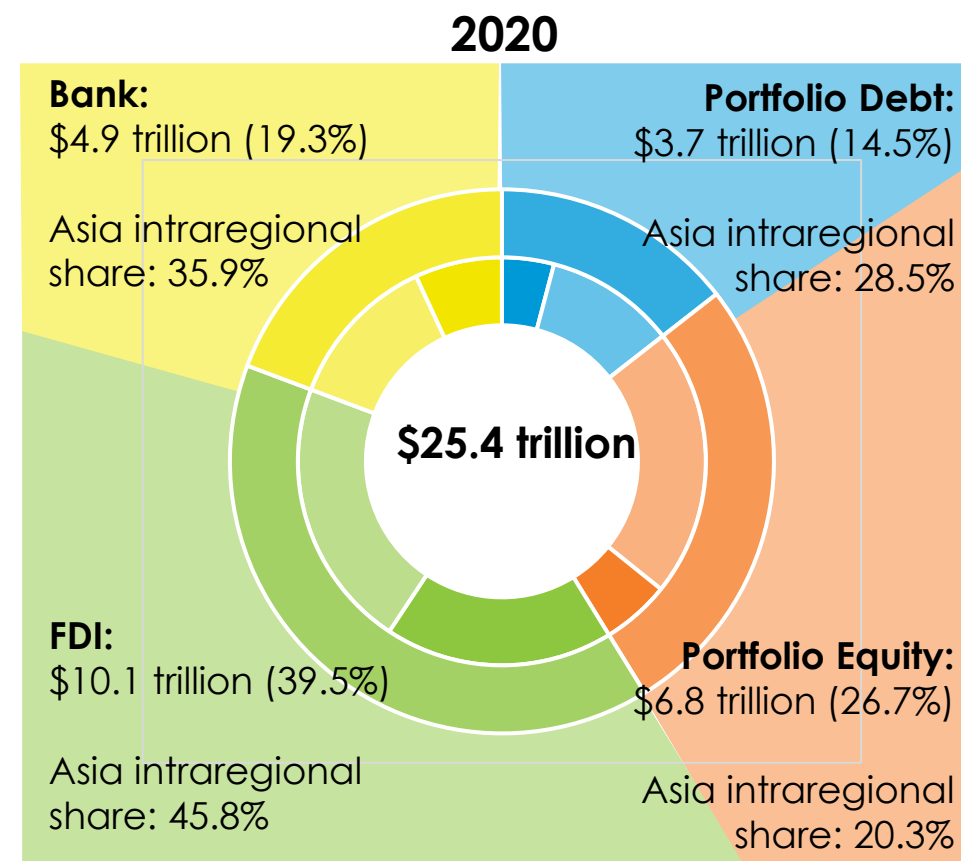
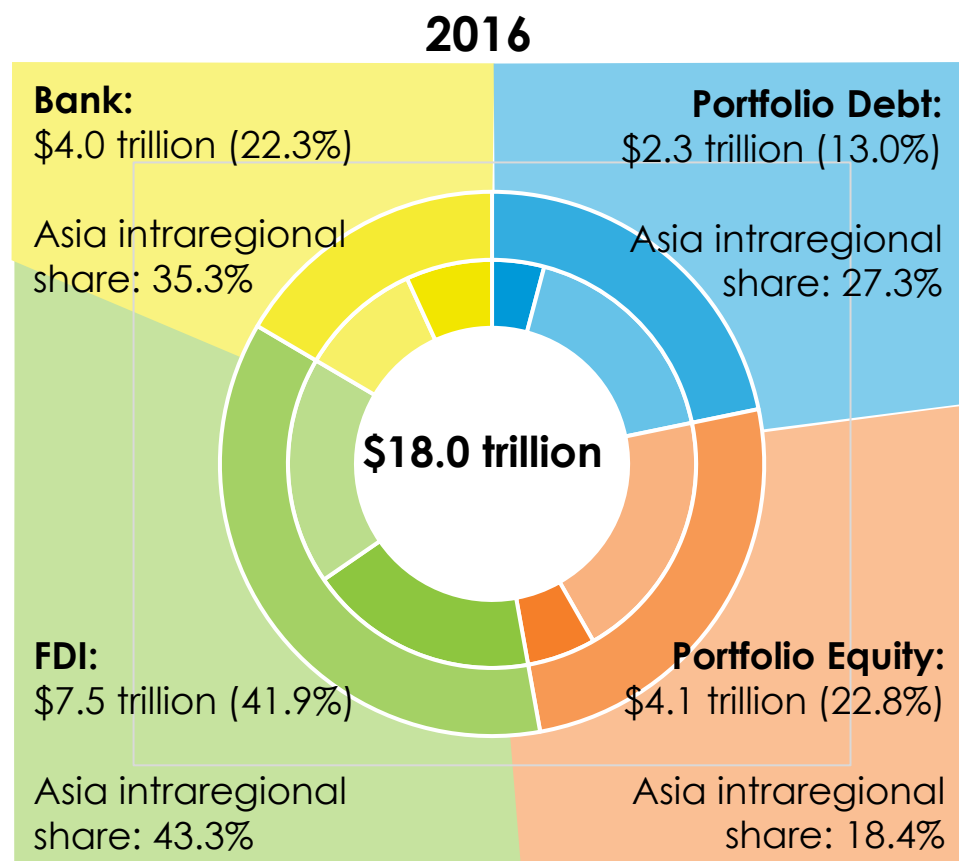
COVID-19 = January 2020 to December 2021.

Sources: ADB calculations using data from Bloomberg; CEIC; and methodology by Lee and Park (2011).

Cross-Border Investment Liabilities

In 2020, two-thirds of the region's external financial liabilities were held by non-regional economies.

Cross-border Liabilities—Asia



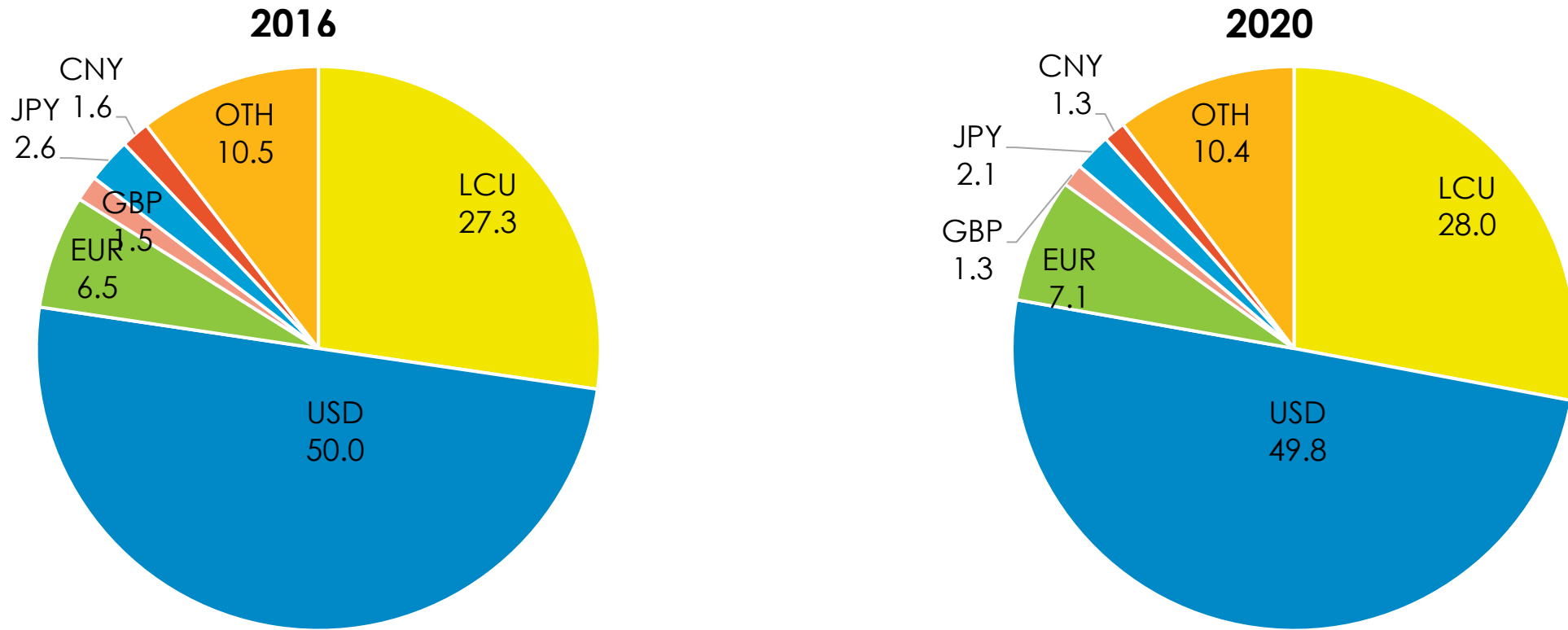
FDI = foreign direct investment.

Sources: ADB calculations using data from Bank for International Settlements. [Locational Banking Statistics](#); International Monetary Fund (IMF). [Coordinated Direct Investment Survey](#) (both accessed December 2021); and IMF. [Coordinated Portfolio Investment Survey](#) (accessed September 2021).

Currency Composition of International Debt

The currency composition of Asia's international investment liabilities indicates the region's dependence on the US dollar.

Currency Composition of Asia's International Debt Liabilities (%)



CNY = yuan, EUR = euro, GBP = pound, JPY = yen, LCU = local currency unit, OTH = other currencies, USD = United States dollar.

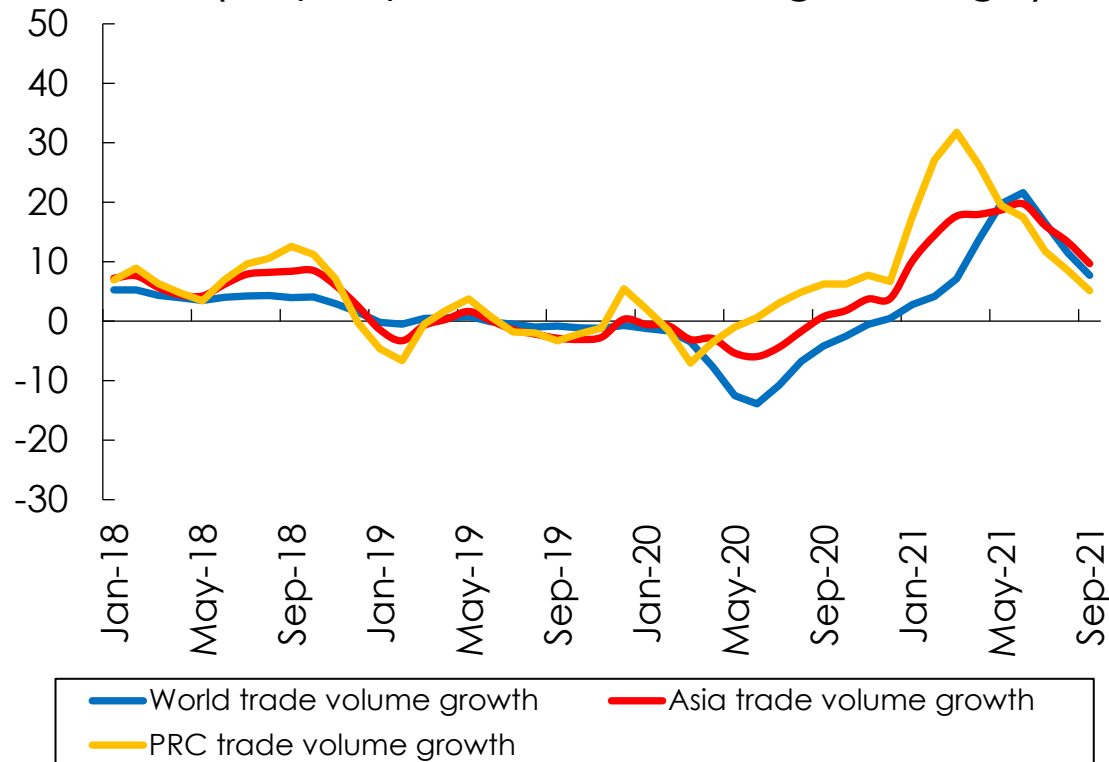
Sources: ADB calculations using data International Monetary Fund. [Balance of Payments and International Investment Position Statistics](#) (accessed September 2021).

Trade and Global Value Chains

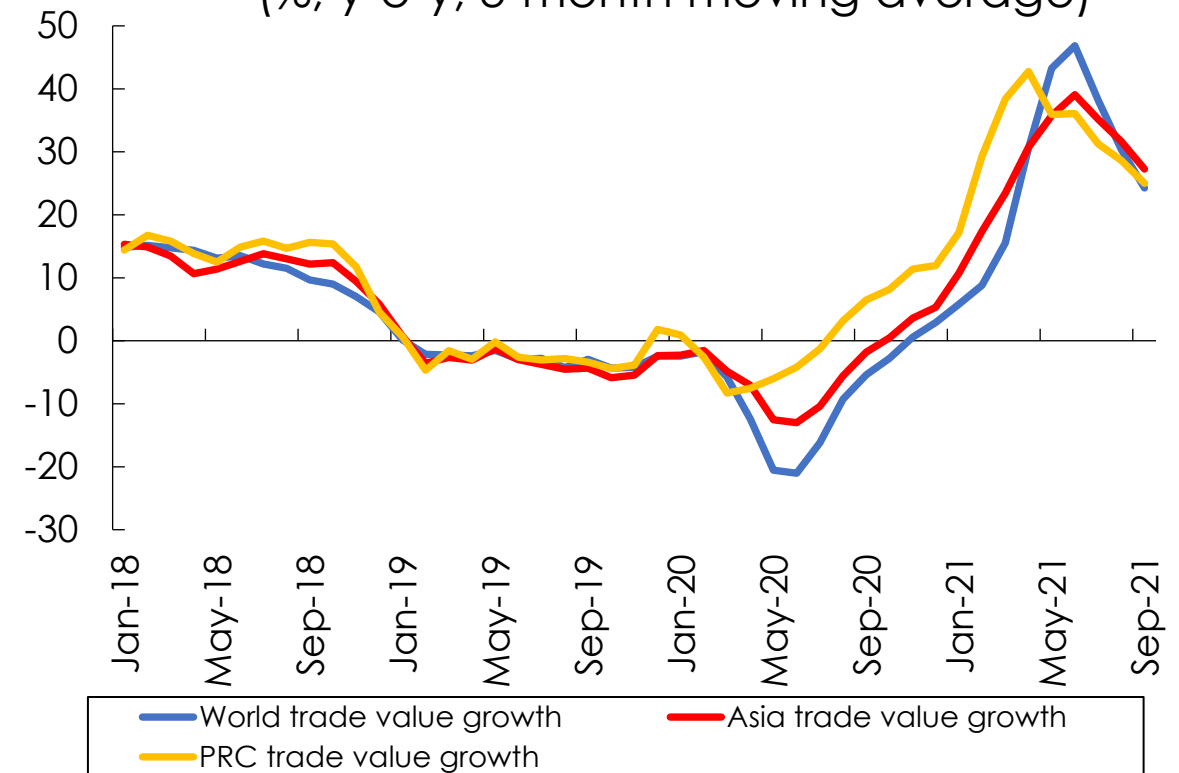


Asia's merchandise trade dipped less and recovered faster than global trade in 2020 and 2021

Monthly Trade Volume Growth
(%, y-o-y, 3-month moving average)



Monthly Trade Value Growth
(%, y-o-y, 3-month moving average)



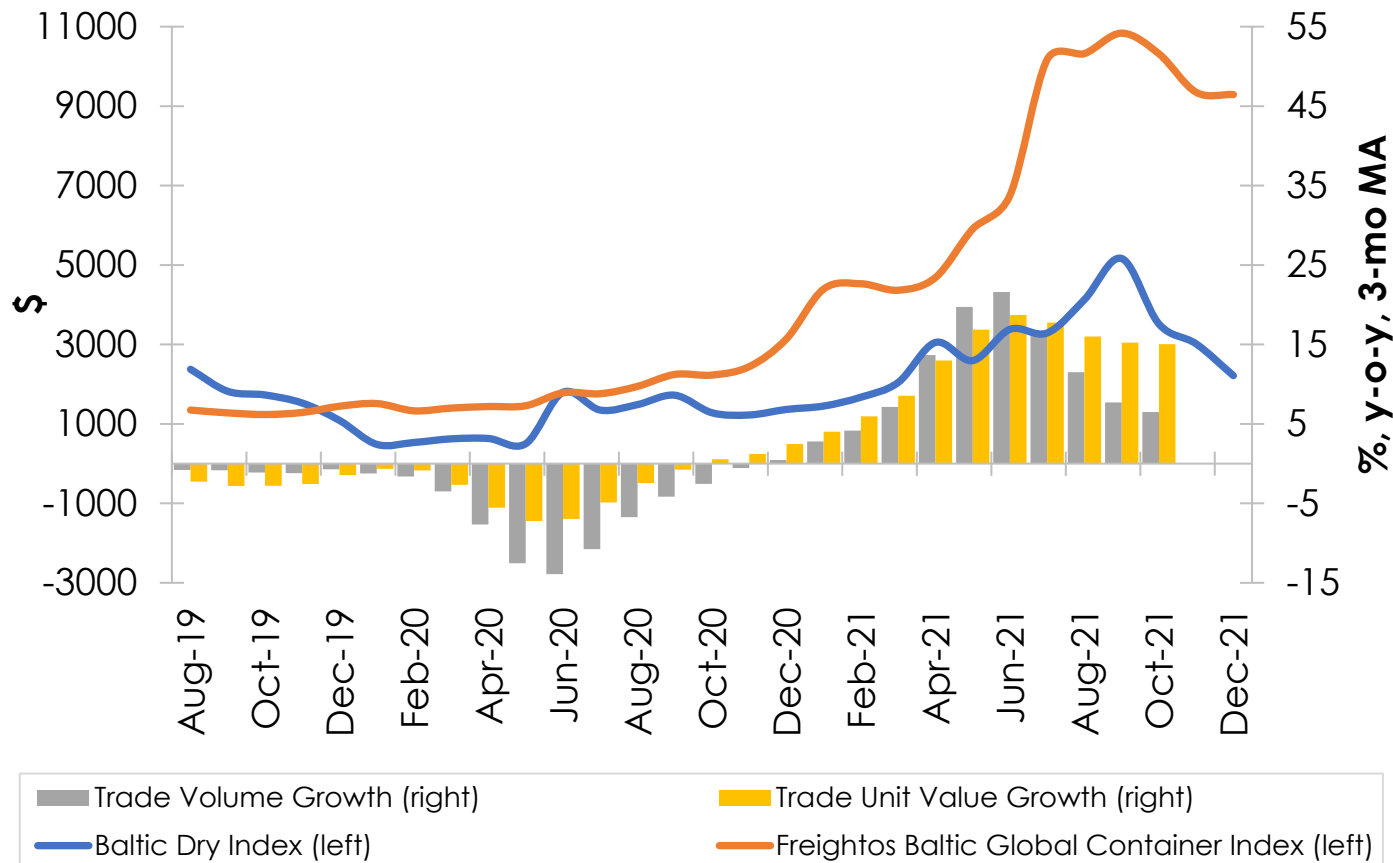
y-o-y = year-on-year, mo = month, MA = moving average

Notes: Trade volume growth rates were computed using volume indexes. For each period and trade flow type (i.e., imports and exports), available data include indexes for Japan and the People's Republic of China, and aggregate indices for selected Asian economies, namely, (1) Advanced economies excluding Japan, which include Hong Kong, China; ; the Republic of Korea; Singapore; and Taipei,China; and (ii) Emerging economies excluding PRC, which include India; Indonesia; Malaysia; Pakistan; the Philippines; Thailand; and Viet Nam. To come up with an index for Asia, trade values were used as weights for the computations. On the other hand, trade value levels and growth rates were computed by aggregating import and export values of the same Asian economies.

Sources: ADB calculations using data from CEIC; and CPB Netherlands Bureau for Economic Policy Analysis. [World Trade Monitor](#) (accessed December 2021).

High-frequency indicators suggest logistics bottlenecks and pursuant rising shipping costs

Shipping Indexes and Trade Growth



y-o-y = year-on-year; mo = month; MA = moving average

Notes: The trade value and volume growth rate is equivalent to the 3-month moving average of the year-on-year change in the index value of world merchandise trade.

Sources: ADB calculations using data from CPB Netherlands Bureau for Economic Policy Analysis (CPB) World Trade Monitor via CEIC for trade volume and value index data. Baltic Exchange via CEIC for the Baltic Dry Index. Freightos via Statista for the Freightos Baltic Global Container Index.

Drivers

- Inputs for shipping transportation (bunker fuel, labor)
- Integrated logistics
- Alternative modes of transport
- Quarantine requirement

Impact

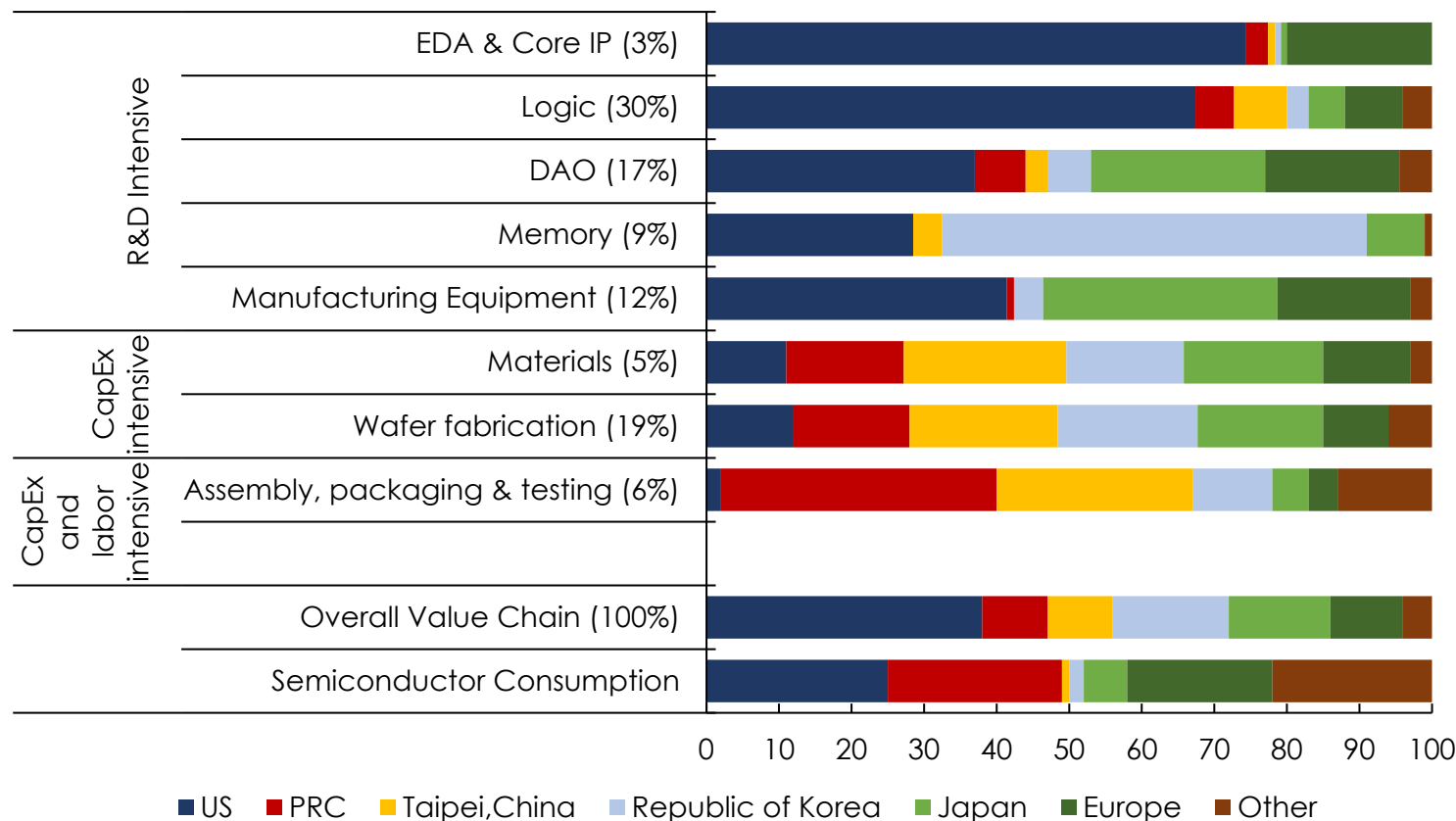
- Bottleneck of supply chain
- Slowdown in trade flows
- Failure to meet demand timely

Way forward

- Digitalization and automation
- Competition
- Investment in logistics, warehouse, inland transport

Geographical concentration of production in Asia and R&D in US and Europe exposes vulnerability of semiconductor value chains

Regional Breakdown of Semiconductor Value Chain Production (%)



Policy responses

- Reshoring and self-sufficiency
- Diversification
- Just-in-case inventory management
- Investment in R&D
- Capital investment
- Education and training for engineers

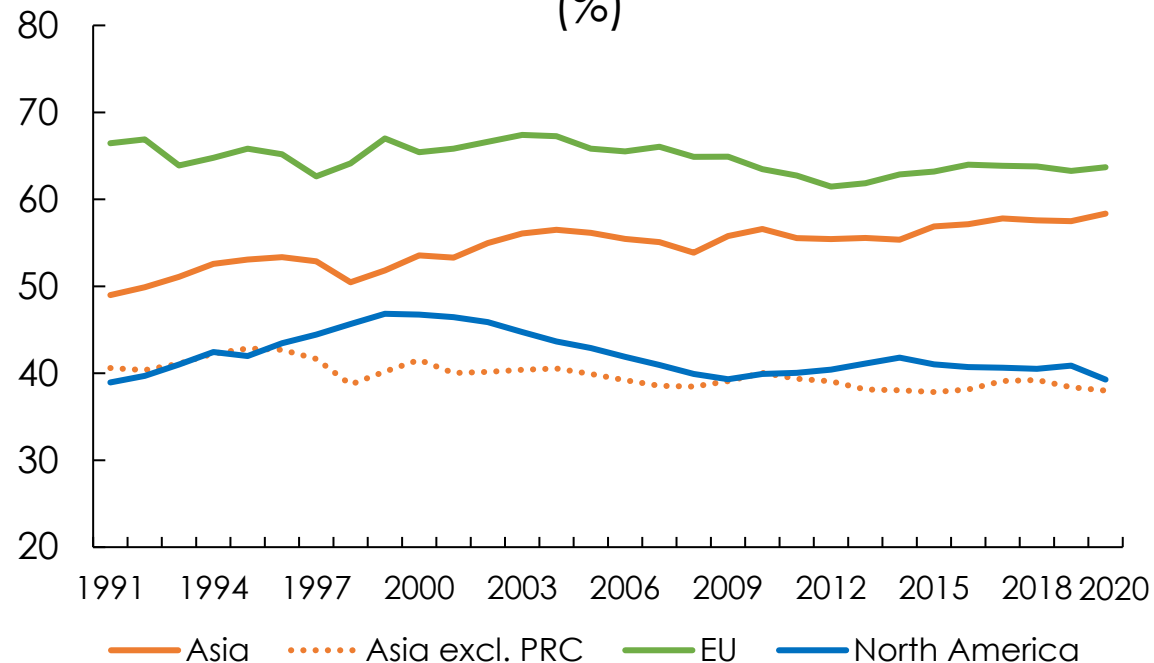
CapEx = Capital expenditure, DAO = discrete, analog and optoelectronics and sensors, EDA = electronic design automation, IP = intellectual property.

Notes: Regional breakdown on EDA, design, manufacturing equipment and raw materials based on company revenues and company headquarters location. Regional breakdown on wafer fabrication and assembly & testing based on installed capacity and geographic location of the facilities.

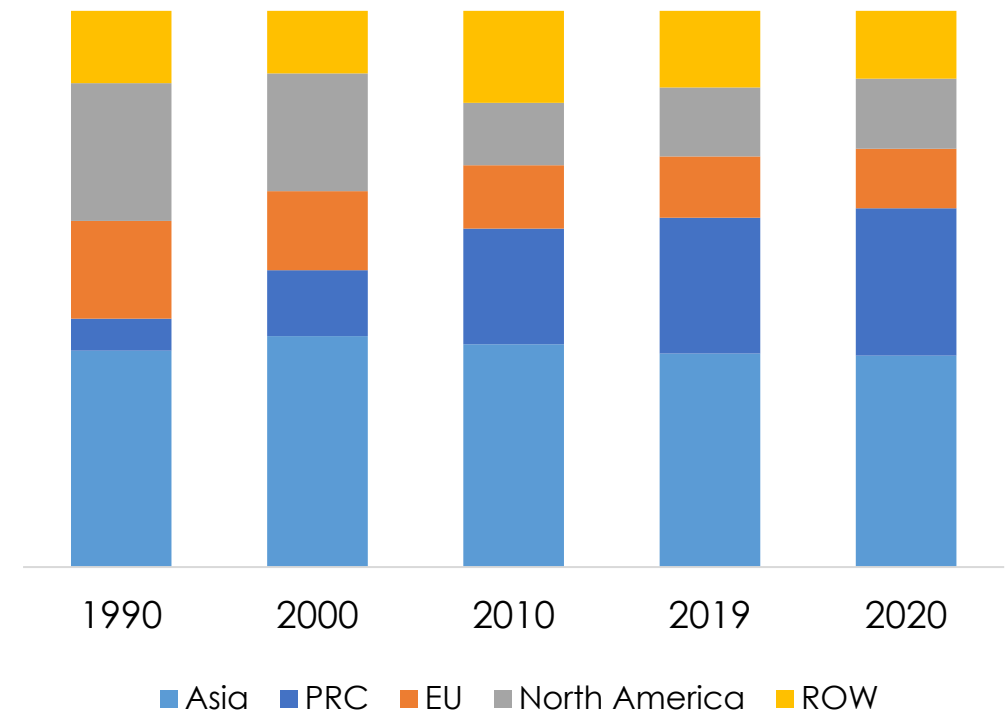
Source: Varas et al. (2021).

Strong growth in Asia intraregional trade has been rooted in its linkage with PRC

Intraregional Trade Shares—Asia, European Union, and North America (%)



Asia (ex. PRC)'s trade share with Other Economies



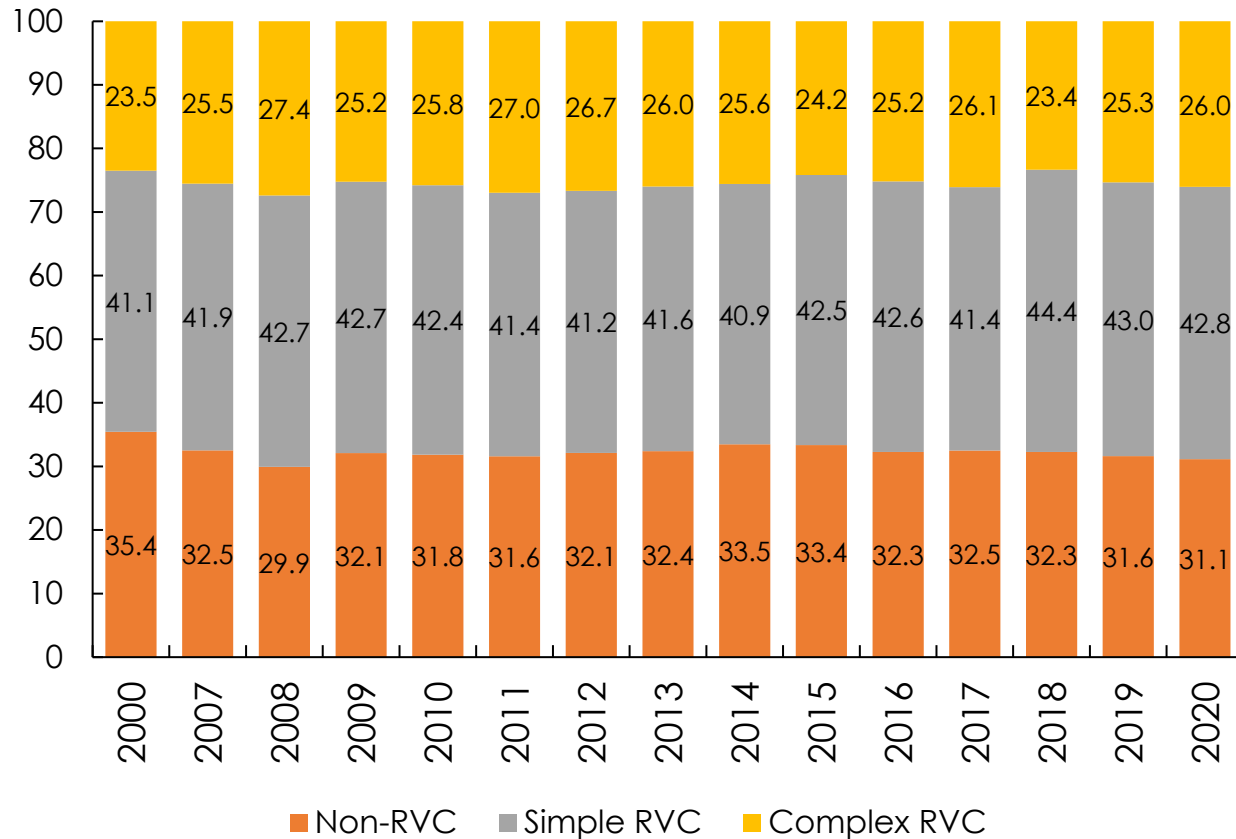
EU = European Union, PRC = People's Republic of China, ROW = rest of the world.

Notes: Values expressed as percentage of the region's total merchandise trade (sum of exports and imports). EU refers to the aggregate of 27 members and the United Kingdom. North America covers Canada, Mexico, and the United States. As of 1 February 2020, the UK has withdrawn from the EU. During the transition period that ended on 31 December 2020, the EU law, remained applicable to and in the UK, with a few limited exceptions. Thus, for 2020, the information unless otherwise specified, continues to cover the UK.

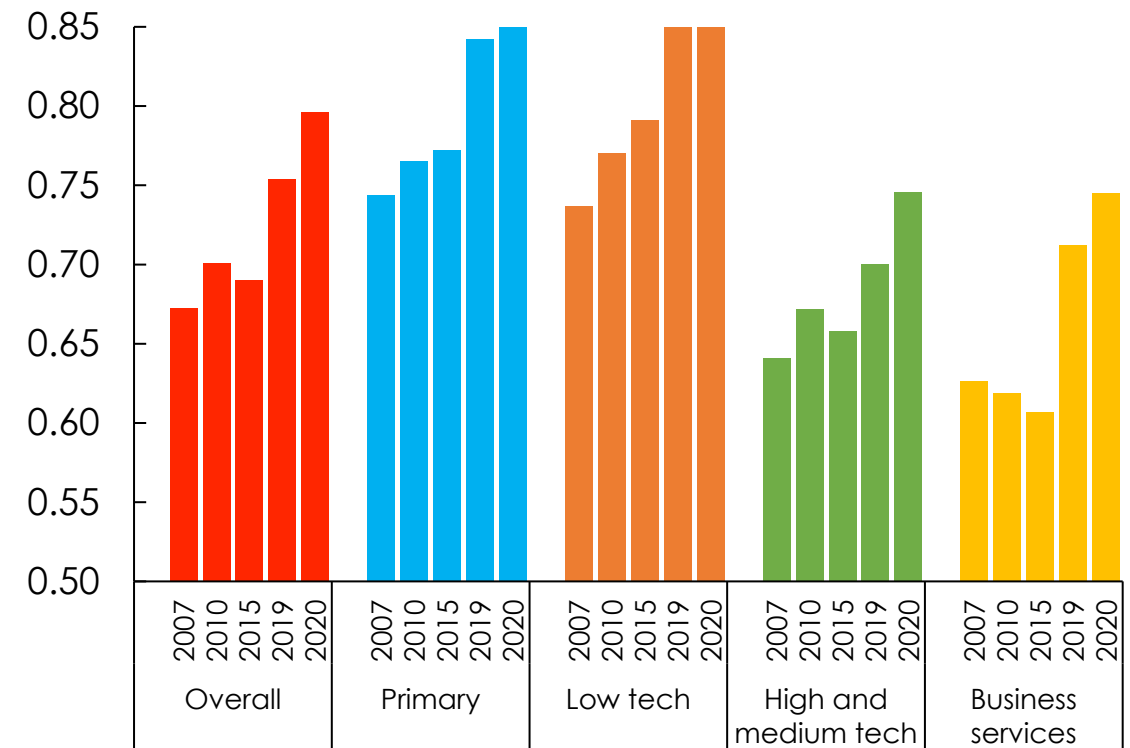
Source: ADB calculations using data from International Monetary Fund. [Direction of Trade Statistics](#) (accessed October 2021).

Recent deepening of RVC is more driven by complex value chain linkages and in high and medium tech sectors

Asia Regional Value Chain Participation Rates (%)



RVC-GVC Intensity – Major Sectors in Asia



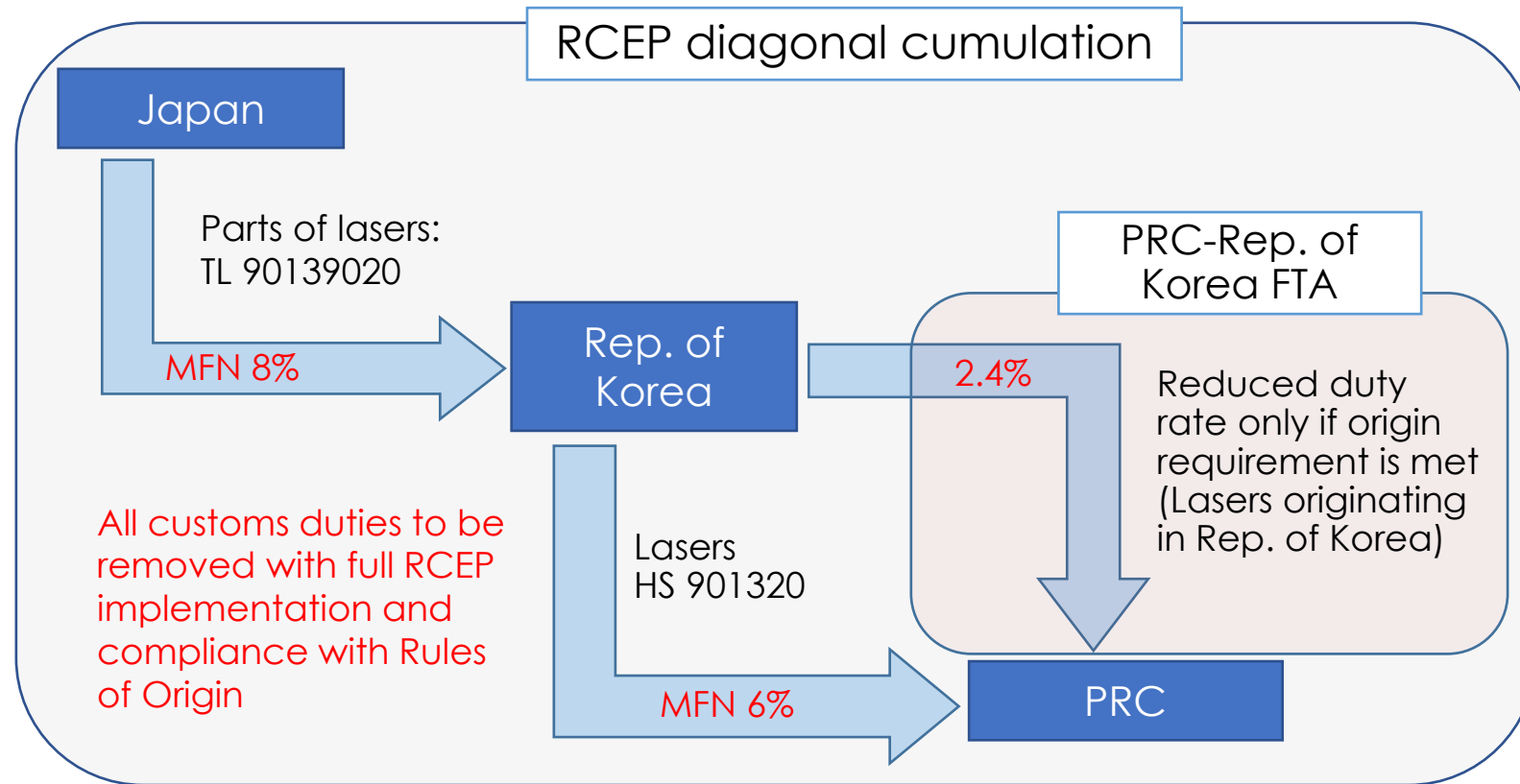
GVC = global value chains; RVC = regional value chains

Notes: Gross RVC participation is the share of Asia's intraregional value chain exports to its intraregional gross exports but excluding all non-Asian third economies in gross exports. Non-GVC refers to final goods exports. Simple GVCs are intermediate goods exports that cross borders only once or absorbed by the direct importer economy. Complex GVCs are intermediate exports that cross borders at least twice.

Sources: ADB calculations using data from ADB, Multi-Regional Input-Output Tables; and methodology by Wang, Wei, and Zhu (2013, revised 2018).

Will RCEP change the trade landscape in Asia and the Pacific?

An example of trade liberalization within RCEP



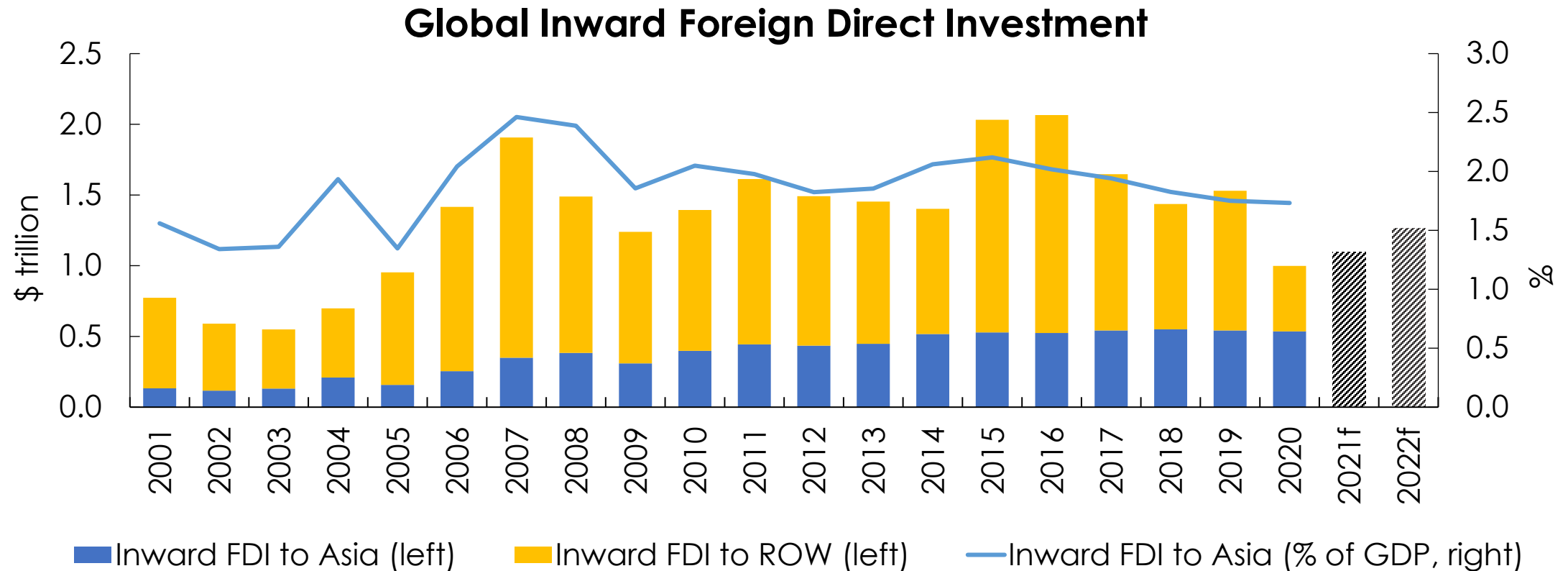
RCEP Members

- Australia
- Brunei Darussalam
- Cambodia
- Indonesia
- Japan
- Lao PDR
- Malaysia
- Myanmar
- New Zealand
- Philippines
- PRC
- Republic of Korea
- Singapore
- Thailand
- Viet Nam

Cross-Border Investment



Global inward FDI slipped in 2020 while recovery is underway



f = forecast, FDI = foreign direct investment, GDP = gross domestic product, ROW = rest of the world.

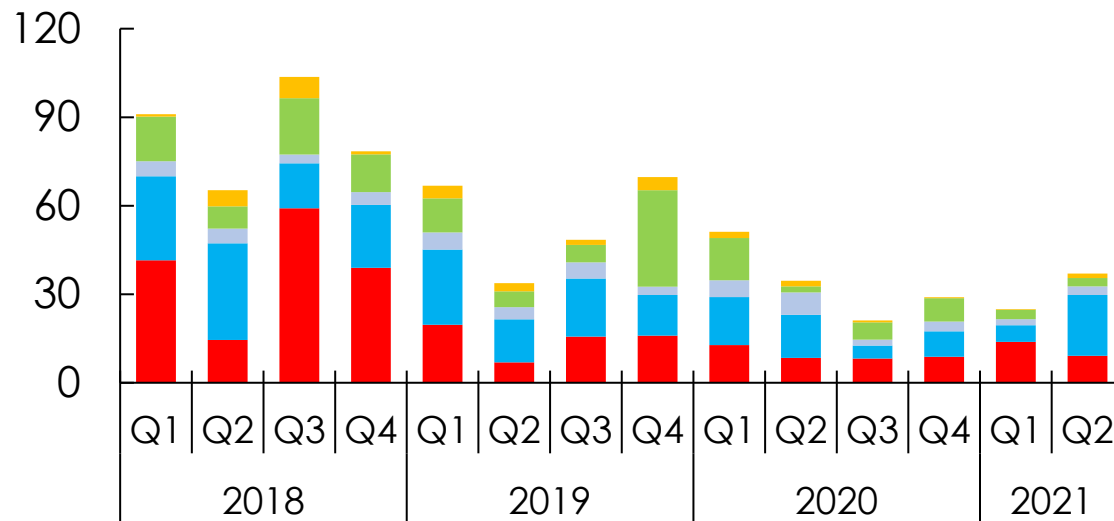
Notes: Bars for 2021 and 2022 represent estimates from the United Nations Conference on Trade and Development's World Investment Report 2021. Estimate for 2021 is based on a forecasted 10% increase from 2020 levels, with 2022 based on a forecasted 15% increase from 2021 levels.

Sources: ADB calculations using data from Association of Southeast Asian Nations Secretariat, [ASEANstats Data Portal](#) (accessed July 2019); CEIC; Eurostat, [Balance of Payments](#) (accessed July 2021); International Monetary Fund, [World Economic Outlook April 2021 database](#) (accessed April 2021); and United Nations Conference on Trade and Development, [World Investment Report 2021 Statistical Annex Tables](#) (accessed July 2021).

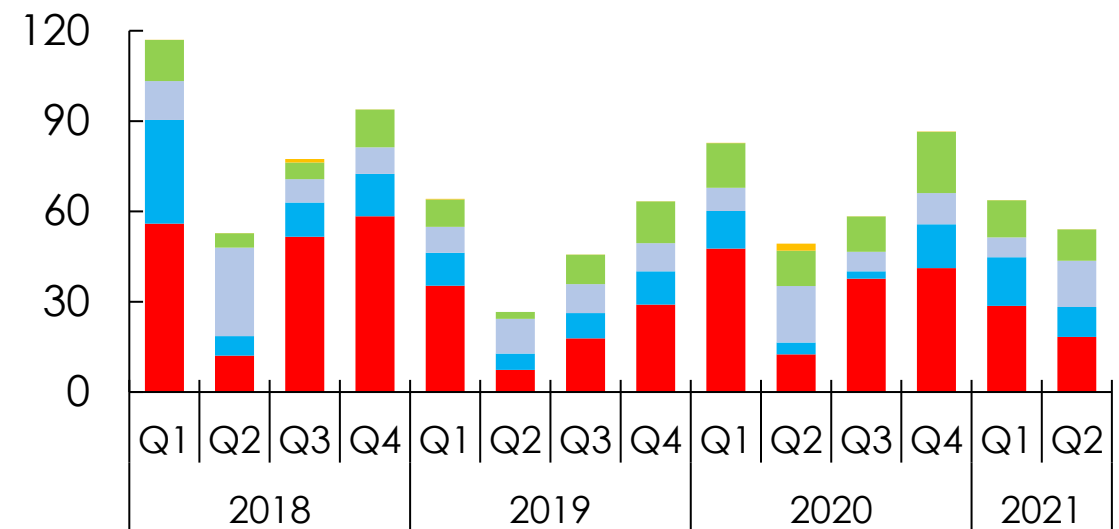
Recovery momentum weakens in both M&As and greenfield FDI to Asia in 2021

Asian Quarterly Inward FDI, by Mode of Entry (\$ billion)

Greenfield FDI



M&As



■ East Asia
 ■ Southeast Asia
 ■ The Pacific and Oceania
 ■ South Asia
 ■ Central Asia

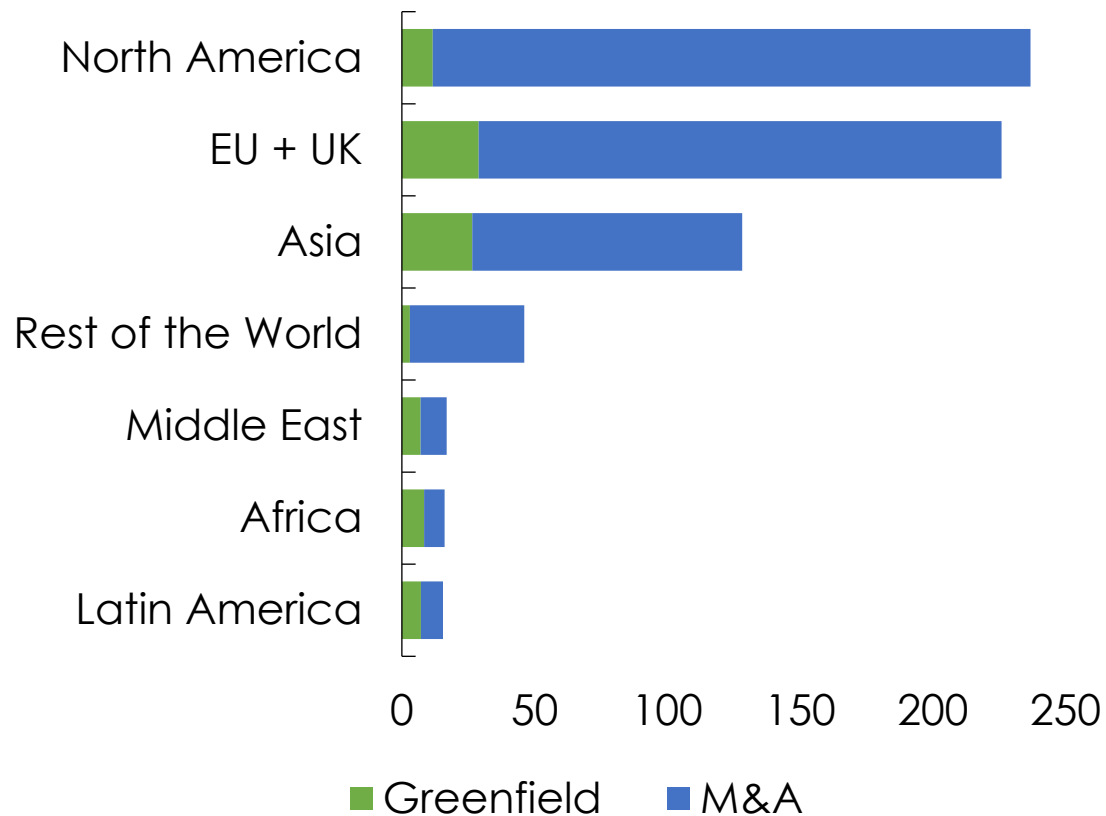
■ East Asia
 ■ Southeast Asia
 ■ The Pacific and Oceania
 ■ South Asia
 ■ Central Asia

FDI = foreign direct investment, GF = greenfield, M&A = merger and acquisition.

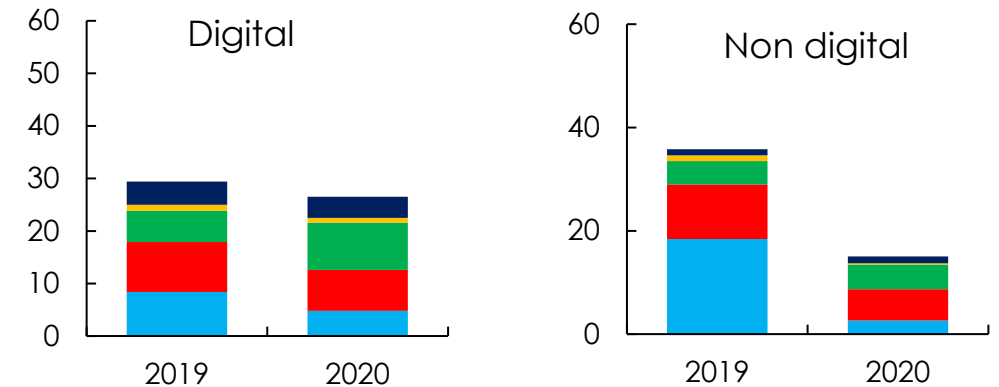
Sources: ADB calculations using data from Bureau van Dijk, Zephyr M&A Database; and Financial Times. fDi Markets (both accessed September 2021).

Asia emerges a strong destination for digital services FDI, which shows resilience amidst the pandemic

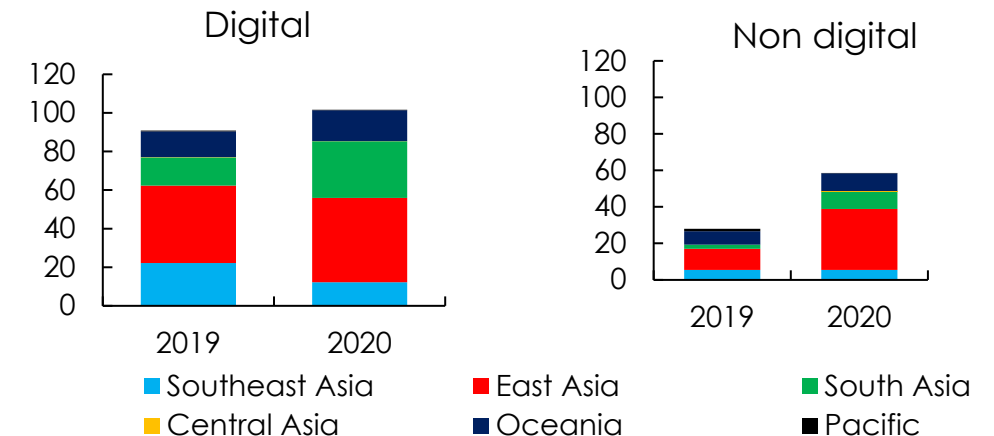
Inward FDI in Digitally Deliverable Services by Region, 2020 (\$ billion)



Services FDI in Asia: Digital vs. Non-Digital
a: Greenfield

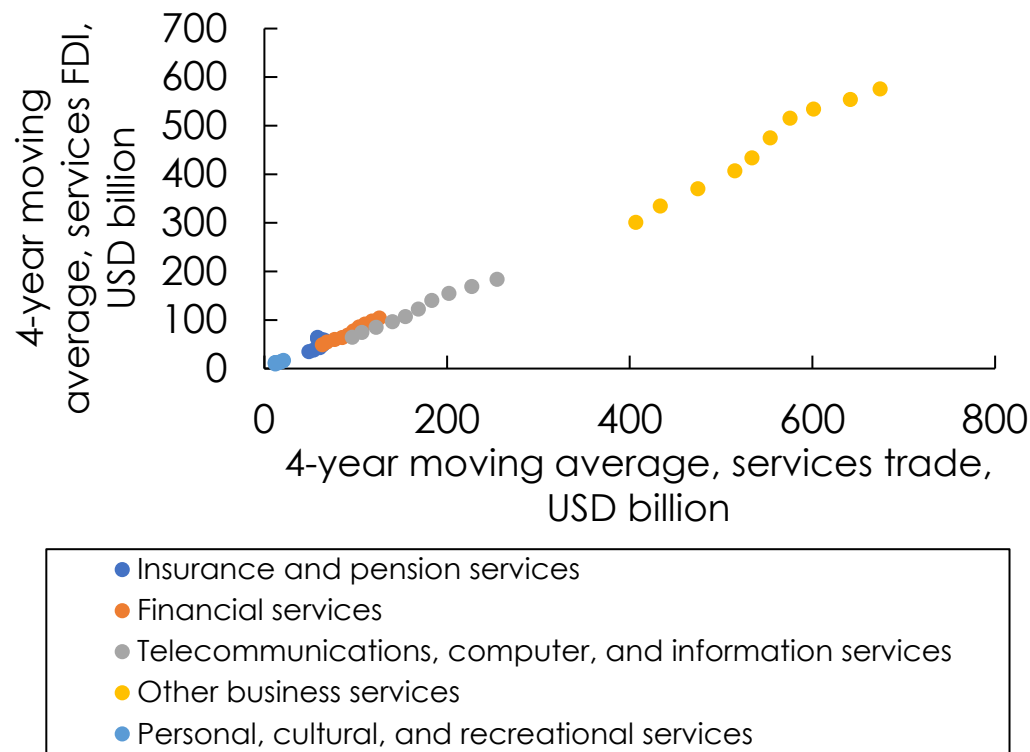


b: M&A

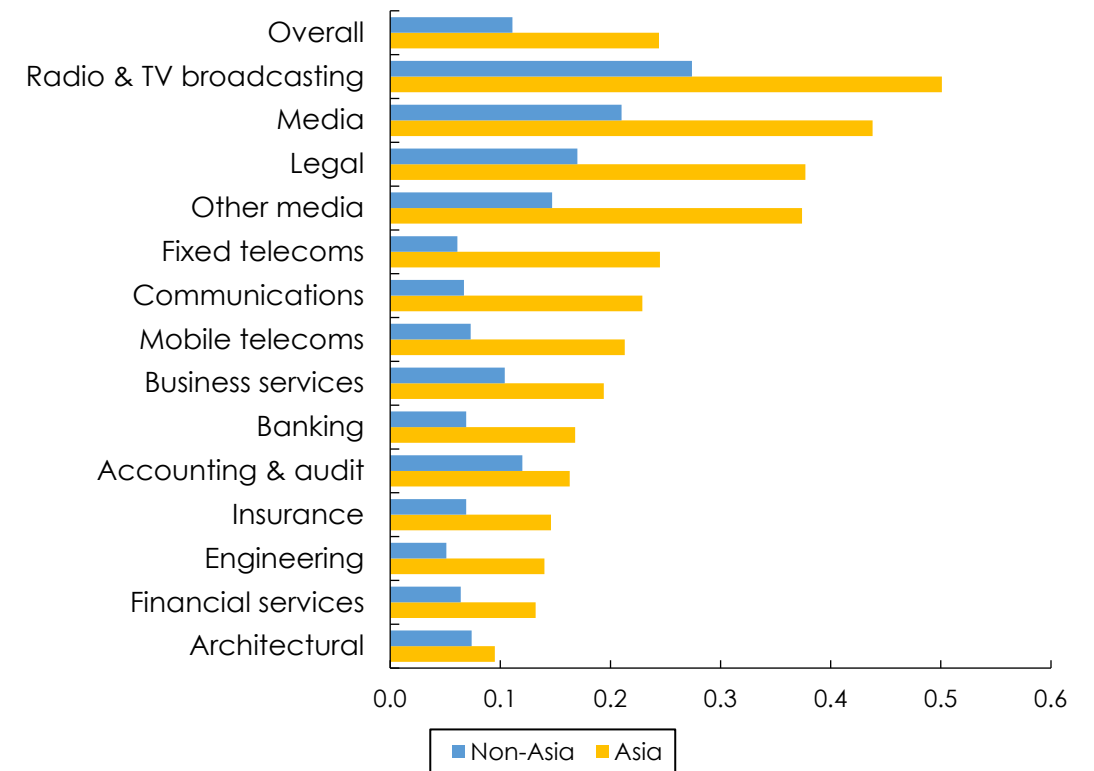


Digital services FDI is associated with higher tradability in these sectors, but it faces higher restrictions in Asia

Digitally Deliverable Services in Asia—FDI versus Exports



FDI Regulatory Restrictiveness Index in Digitally Deliverable Services, 2020

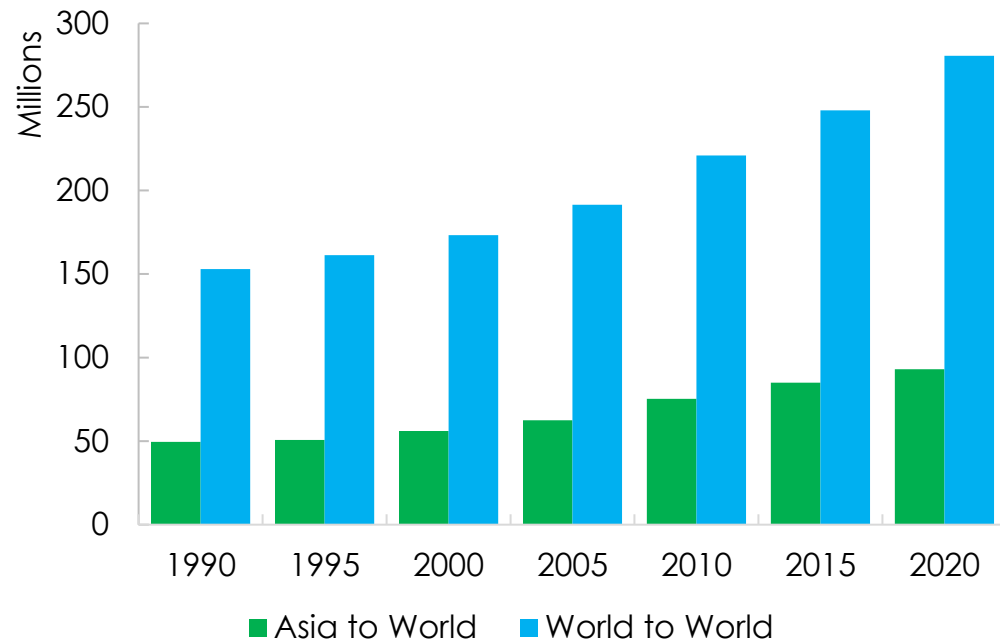


Movement of People

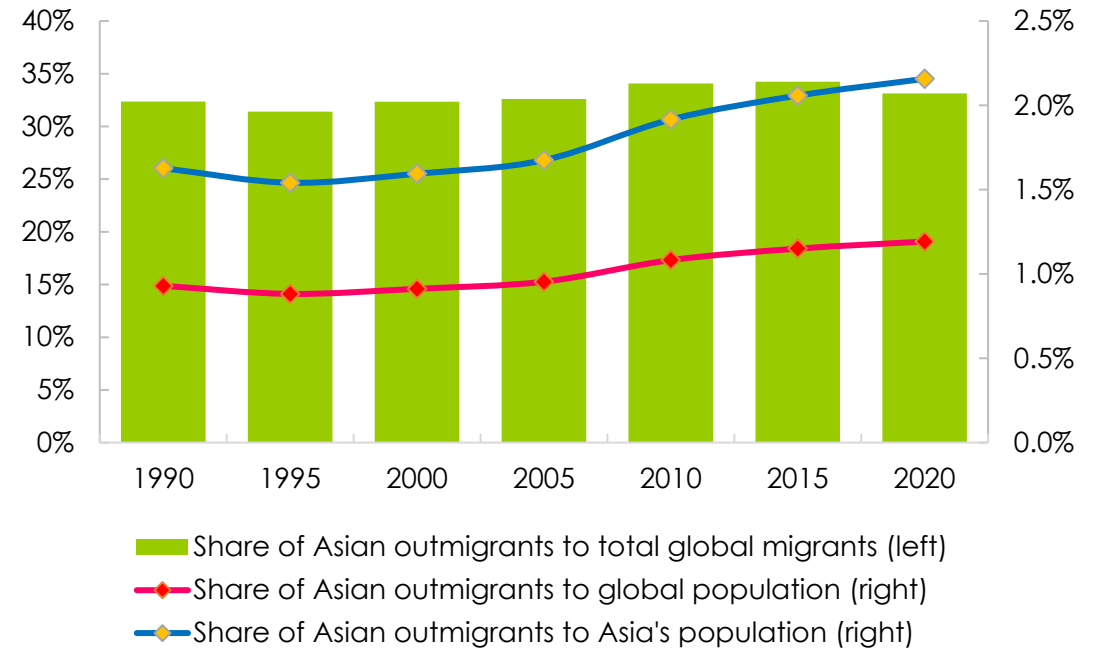


One in every three global migrants is from the region

Global migrants totaled 281 million in 2020—93 million from Asia.



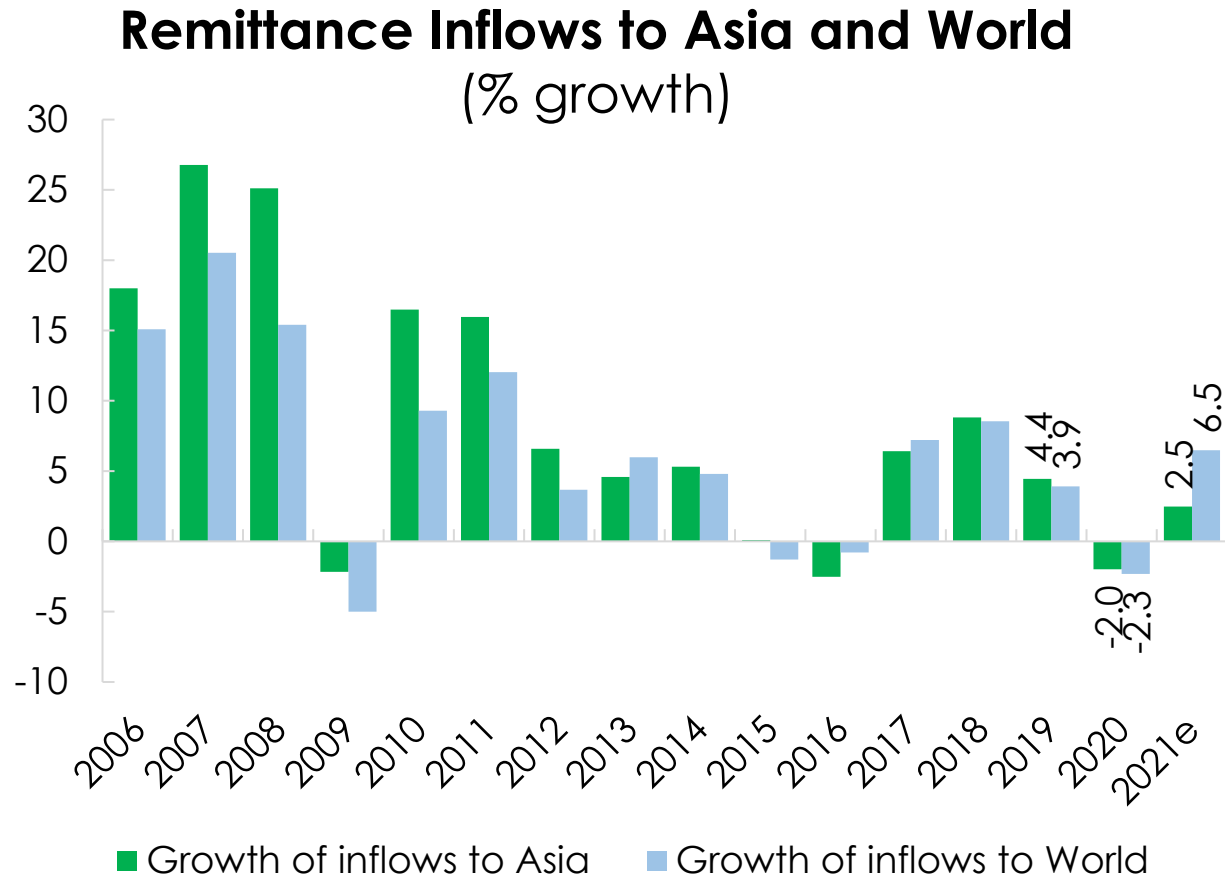
The shares of Asian migrants have risen over the past 30 years.



Note: Asia's share of total global migrants is computed as (migrants from Asia / total global migrants) *100.

Source: ADB calculations using data from United Nations. Department of Economic and Social Affairs, Population Division. [International Migrant Stock 2020](#). (accessed May 2021); and United Nations. Department of Economic and Social Affairs, Population Division. [World Population Prospects](#). (accessed October 2021).

Remittance inflows to the region fell 2% in 2020; several factors explain the resilience



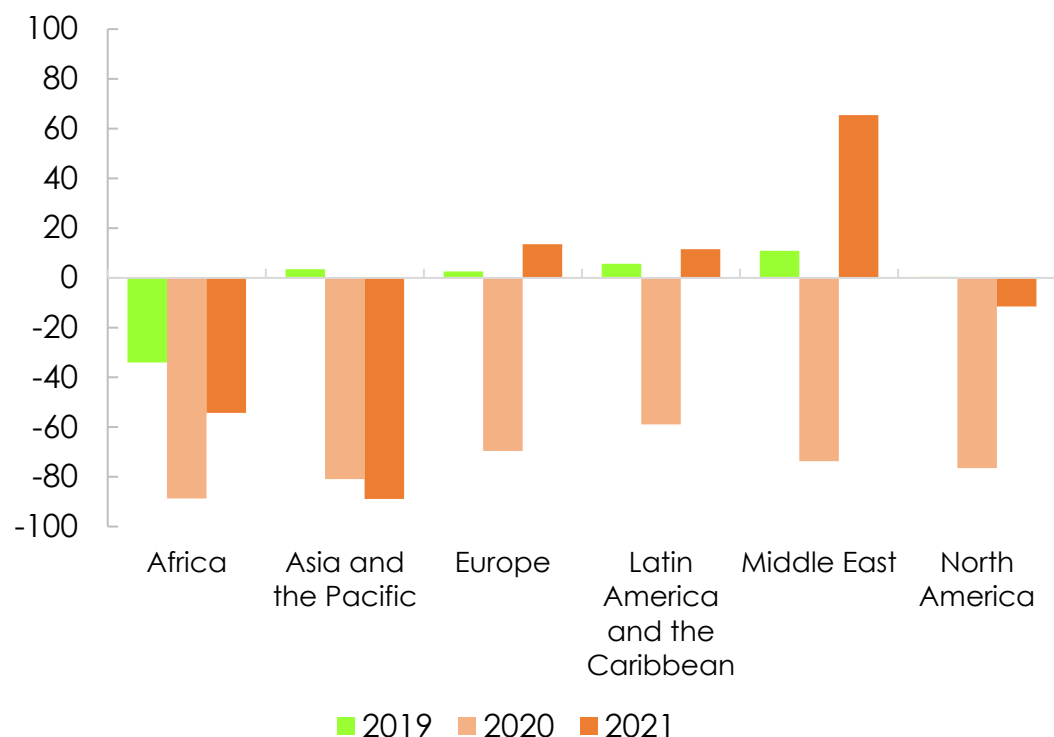
Factors Affecting the Resilience of Inflows to Asia

- Altruistic motivation to support families' needs in home economies
- Fiscal stimulus in developed migrant-host economies, specifically cash transfers
- Greater use of digitally-enabled remittance transfers accelerated the capture of remittance data
- Tax and related incentives improved the use of formal remittance channels

Source: ADB calculations using data from [KNOMAD \(Global Knowledge Partnership on Migration and Development\)](#) (accessed November 2021).

The pandemic continues to take its toll on international tourism

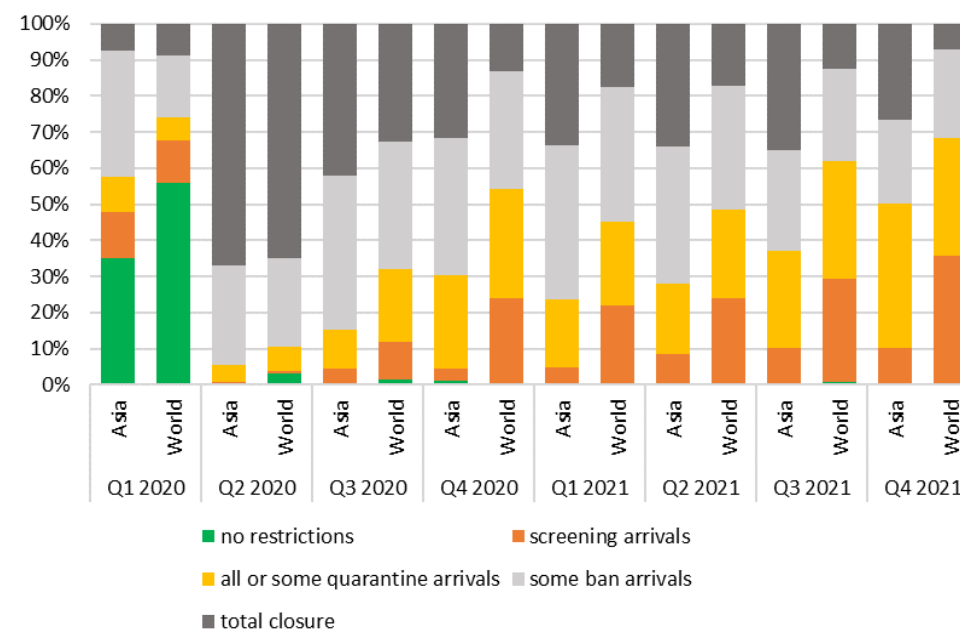
Tourist arrivals remain deeply stunted in Asia and other major tourism regions.



Source: ADB calculations using data from CEIC Global Database (accessed January 2022).

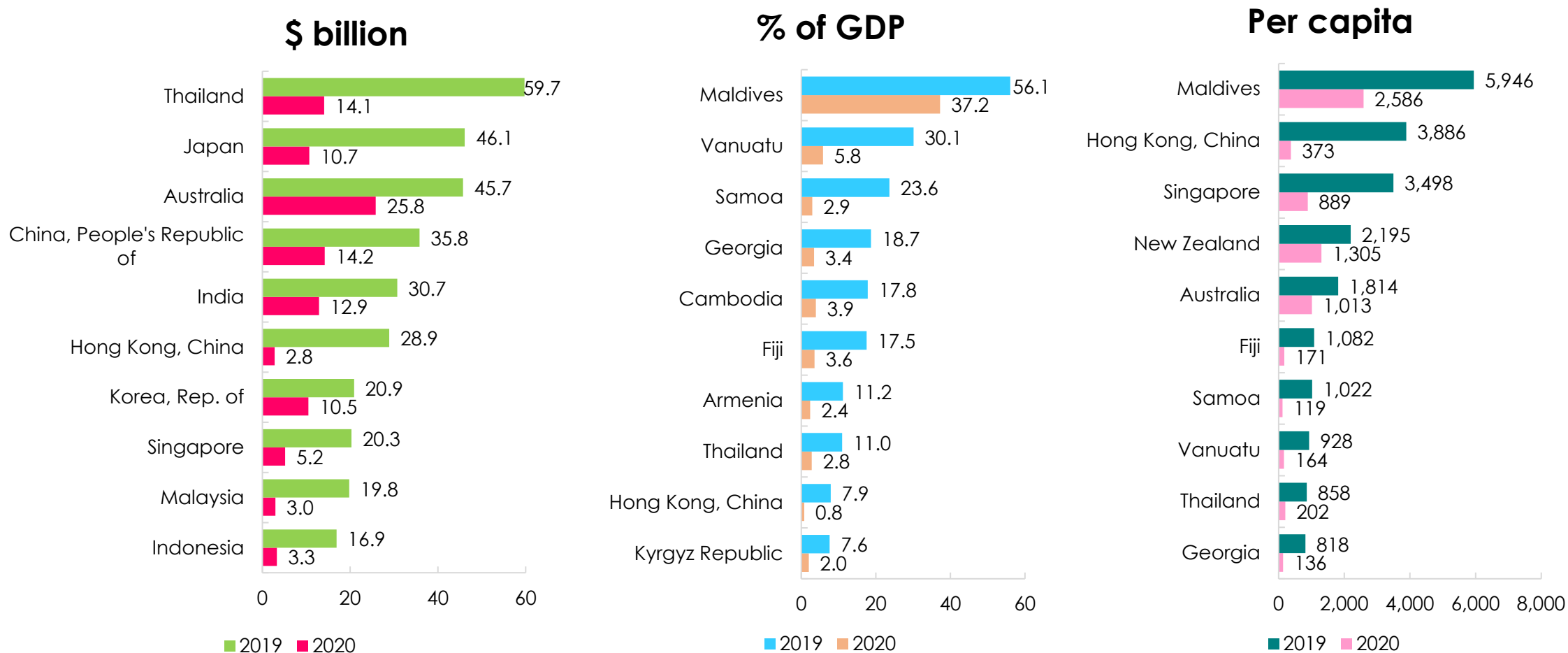
Access to Asia remains restricted by partial-to full lockdowns, resulting in poor performance

International Travel Restrictions



Sources: ADB calculations using data from Hale et al. 2021. [A global panel database of pandemic policies \(Oxford COVID-19 Government Response Tracker\)](#) (accessed January 2022).

The decline in tourism receipts severely affects tourism-dependent economies including Pacific DMCs



Recovery in international tourist arrivals remains uncertain, but domestic tourism may recover sooner

Domestic Tourism in Selected Asian Economies

Economy	Contraction in Domestic Tourism, 2019–2020		Share of Domestic to Total Tourism Spending	
	in %	in \$ billion	in 2019	in 2020
China, People's Republic of	36.1	502.8	86%	88%
Japan	30.3	64.4	81%	95%
Korea, Republic of	34.0	9.1	51%	68%
Cambodia	36.1	0.6	23%	46%
Indonesia	35.2	7.6	55%	78%
Malaysia	32.7	7.1	51%	81%
Philippines	35.5	22.9	84%	94%
Singapore	36.1	3.8	29%	50%
Thailand	28.0	7.6	30%	57%

Source: [World Travel and Tourism Council](#) (accessed August 2021).

- Domestic tourism is nearly six times the size of international tourism, around 9 billion domestic trips in 2018 based on UNWTO data.
- Asian economies constitute 50% of total domestic trips.
- In 2018, domestic overnight trips represented more than 80% of all tourist arrivals in India, the PRC, Japan, Republic of Korea, Thailand, and Malaysia.
 - Government support was provided to boost domestic tourism in major Asian tourism economies.
- Cruise tourism offers potential for domestic and subregional tourism.

THEME CHAPTER

Advancing Digital Services Trade in Asia and the Pacific

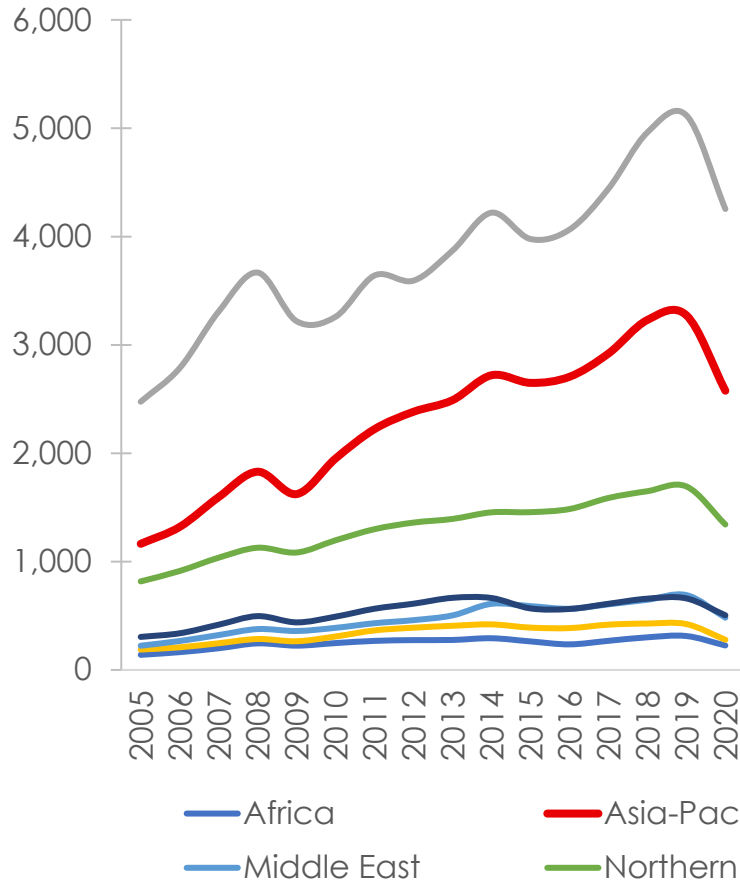


Key Messages

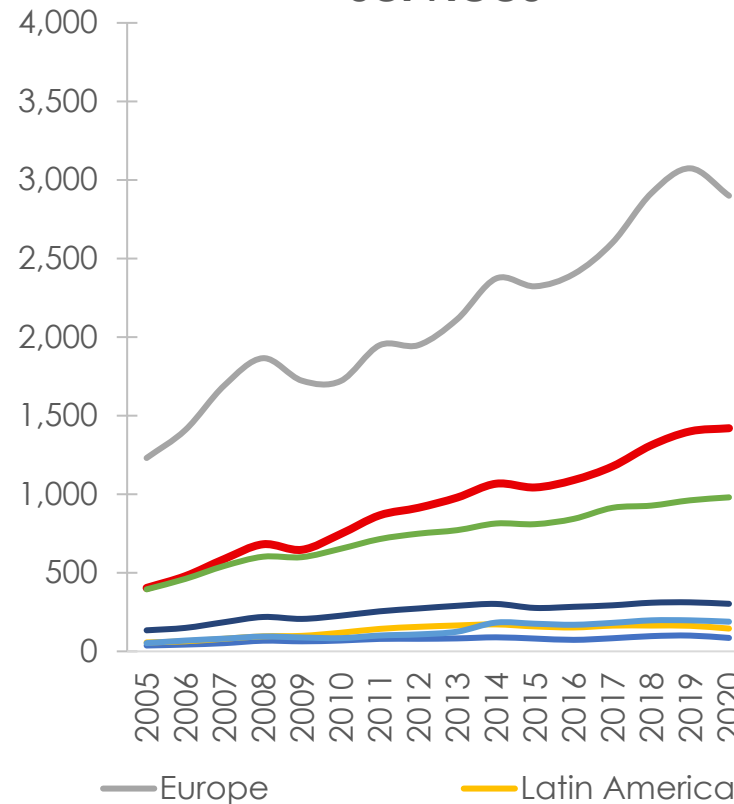
- Asia's trade in digital services has grown rapidly but its share remains below other regions due to low productivity and high regulations
- The ability to unlock its potential hinges on investment in human and physical capital, digital connectivity, and policy environment (e.g., freer access to internet and data flows)
- Liberalization and deregulation of digitally deliverable services can raise real income and help strengthen GVC participation across the board
- The need for safeguarding cybersecurity, data protection and privacy should be weighed against supporting freer data flows
- Economy-level regulatory reforms should be complemented by bilateral and regional cooperation through FTA, ITC and MRA

Digital services trade accelerating in Asia and the Pacific while its global share increasing

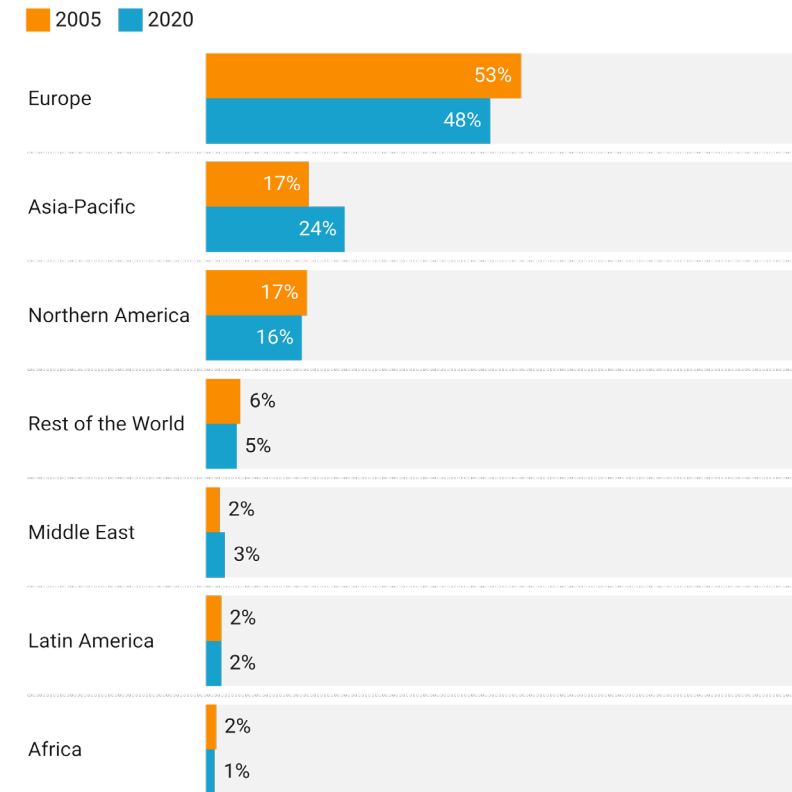
Total services



Digitally Deliverable services



Global share in digitally delivered services trade



Drivers of digital services trade

■ Human Capital:

educational attainment, technical skills to make full use of digital technologies

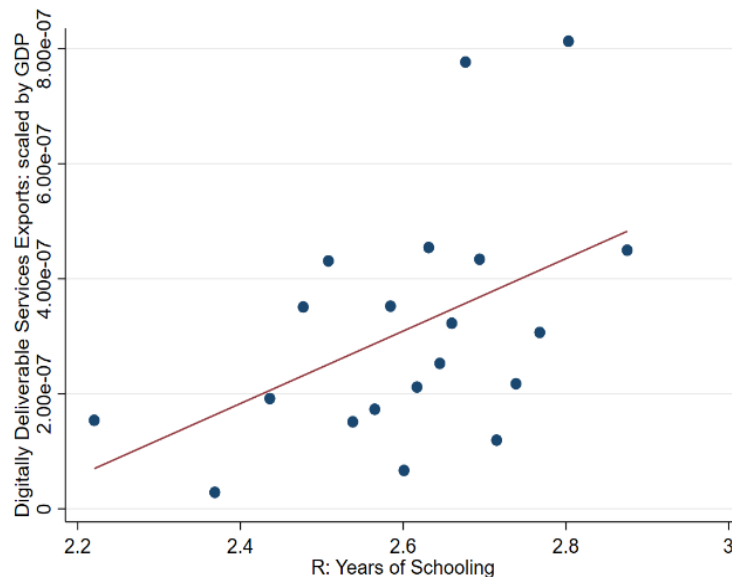
■ Digital connectivity:

availability, quality, cost and divide

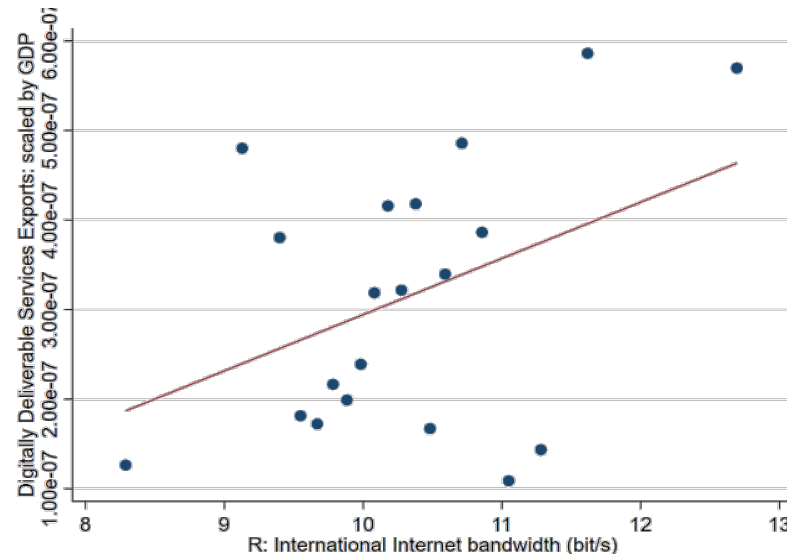
■ Investments:

telecommunication and digital solutions

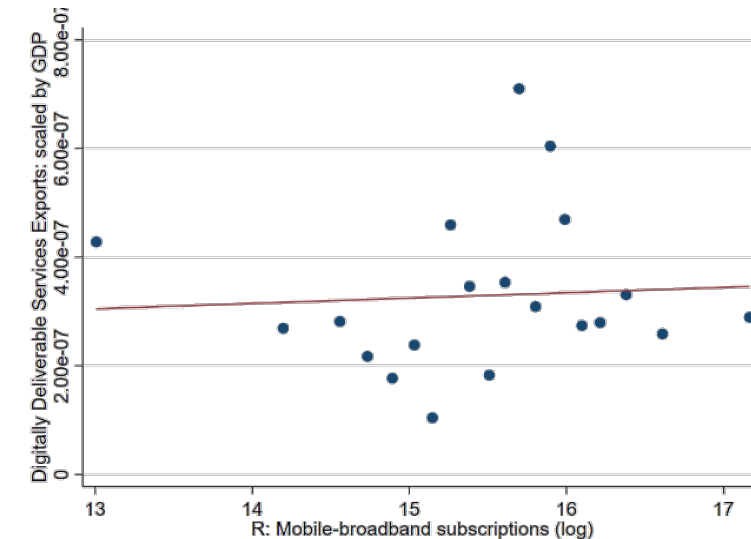
Expected Years of Schooling



International Bandwidth per Internet User (bit/s)

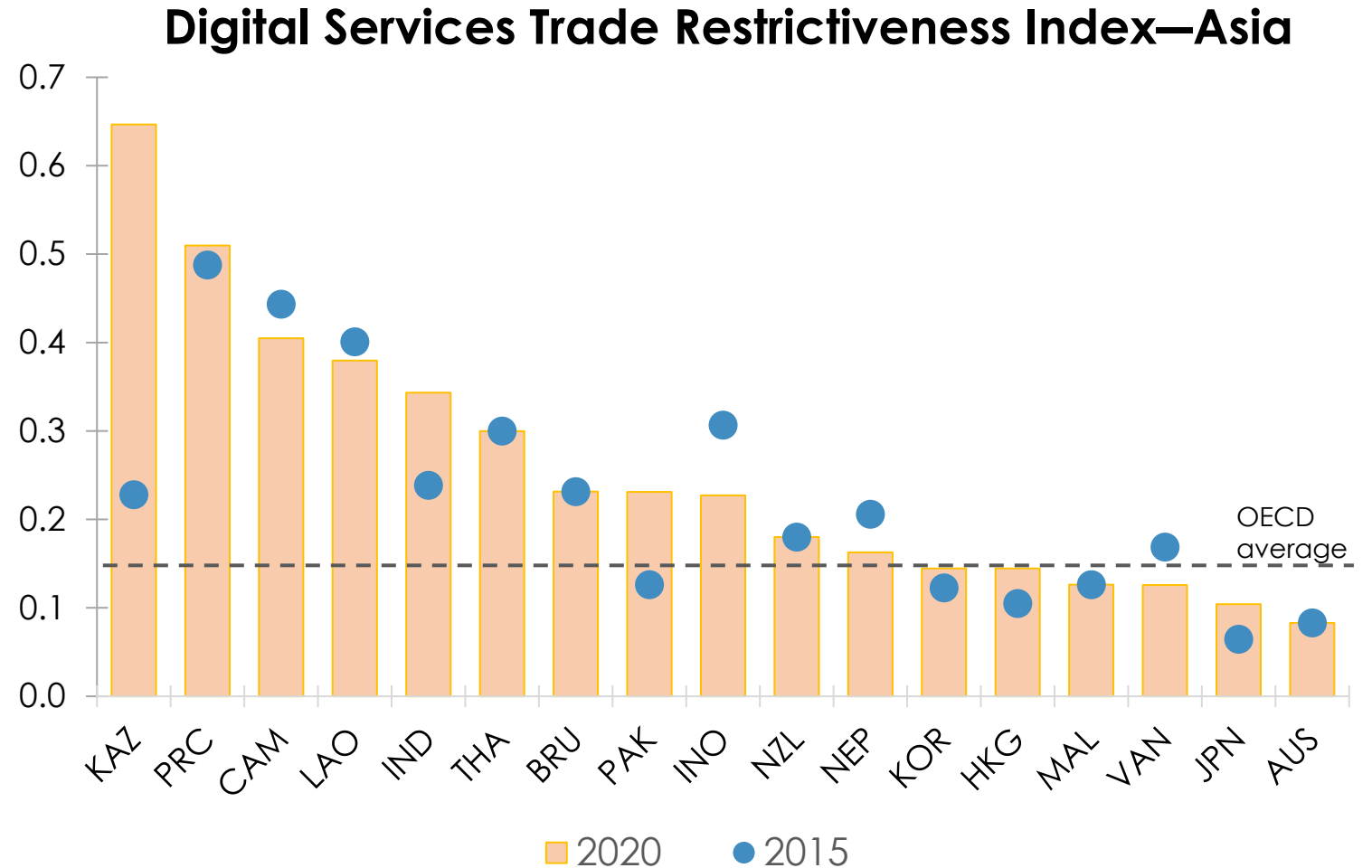


Mobile Broadband Subscriptions



Policies: Deregulation and trade liberalization

- Regulation (ex. data restrictions)
- Trade liberalization (ex. Regional trade agreements)
- International co-operation (ex. Mutual recognitions arrangement)

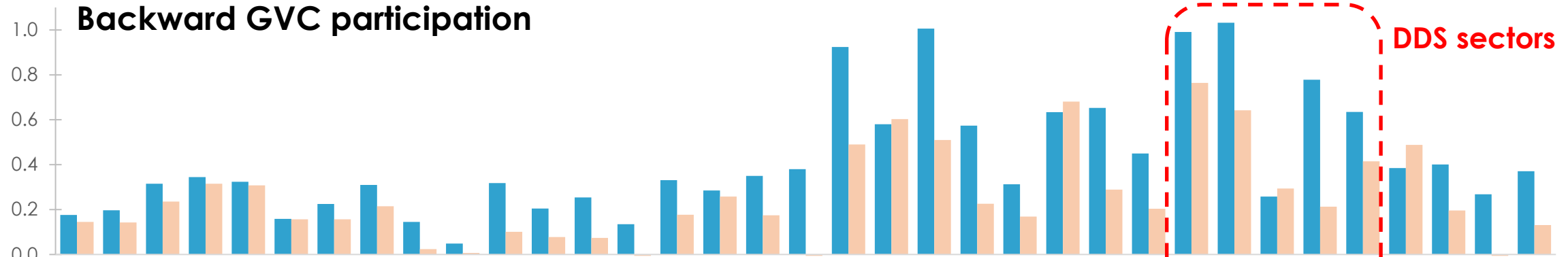


Source: OECD.

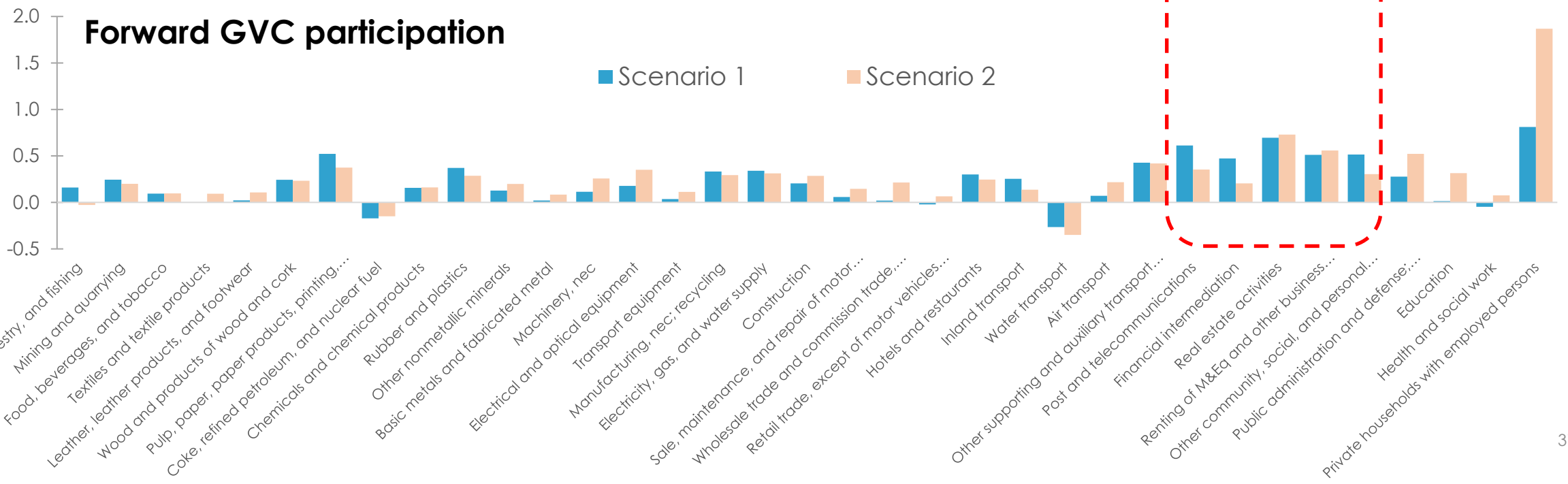
Trade liberalization and deregulation can have spillover impact through GVC linkages

Percentage of Gross Exports by Sector, Intra-Asia (% change over baseline)

Backward GVC participation



Forward GVC participation



Impact of data restrictions

- Trade in digital services is reliant on the transmission of data across economies
- Categories of data-related policies
 1. Data localization policies (DL)
 2. Local storage requirements (LS)
 3. Conditional flow regimes (CF)
- Proportion of data localization measures applied by Asian economies is larger than the rest of the world (70%).

Impact of Cross-Border Data Restrictions Summary of Results

		Digital services imports			
		Overall	DL	LS	CF
Sectors/Region		Reference: Non-Digital			
Digital	World	-14%			
	Non-Asia	-9%	-0.6% ^a	-24%	-8%
	Asia	-70%	-94%	-29%	-45%

^a = statistically insignificant; DS = Telecom, Computer, Information, Insurance, Financial.

International Regulations

World Trade Organization

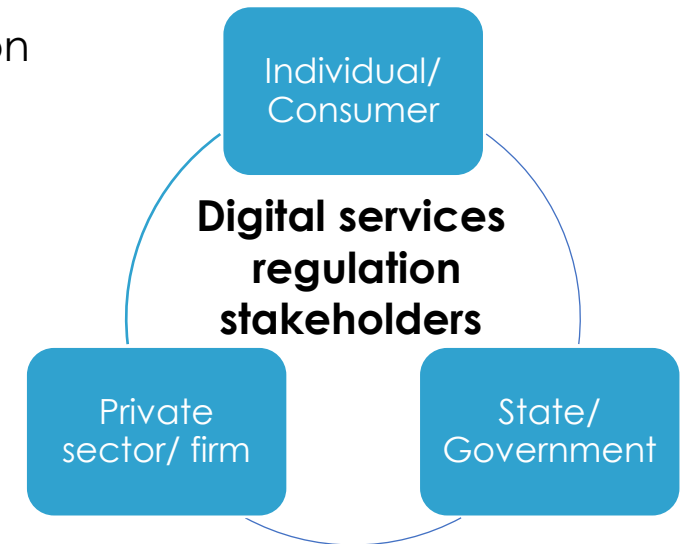
- Main obligations of the regulation of digital trade under the existing WTO legal framework can be found in the **GATS Telecom Annex**.

“service suppliers shall be accorded access to and use of public telecommunications transport networks and services on reasonable and non-discriminatory terms and conditions”

- **Three main issues:**
 - **Classification:** goods or services trade? Critical practical implication on border measures vs. domestic regulations
 - **Liberalization levels:** from «none» to «unbound»
 - **Exceptions:** allowing WTO Members to deviate from their trade obligations

Regional Trade Agreements

- Three main sovereign approaches (United States, the PRC, European Union) reflected in trade agreements
- Balancing the interests of stakeholders with different priorities.



Domestic Regulations

Services regulations

Transparency

Deregulation

Qualification requirements and procedures

Technical standards

Licensing requirements

International Cooperation in Domestic Regulations

Mutual recognition agreements

Cybersecurity

Safety of digital services trade transactions – cybercrime prevention

Confidentiality, integrity, and availability of information

Legitimate policy objectives vs. Protectionism?

Lack of adequate regulatory framework and limited human and financial capacity in DC and LDCs

Formal (e.g., WTO plurilateral negotiations) or informal cooperation arrangements (e.g., MoU) cooperation among like-minded economies

New international tax rules and digital services: Implications for Asian economies



Tax revenues

- Different impacts across jurisdictions
- Higher tax certainty and sustainability
- Trend towards VAT/GST collection on imported digital services



Trade

- Risks of unilateral measures, tariffs or other barriers to trade
- Consistency between tax and WTO rules to prevent future disputes



Competition / FDI

- Domestic and international law amendments required
 - Administrability of tax admin., firm-data collection
 - Coordination to enter into force in 2023
- Ensuring level playing field between foreign and domestic providers
 - Change in preferential tax regimes may be necessary following Pillar 2 implementation

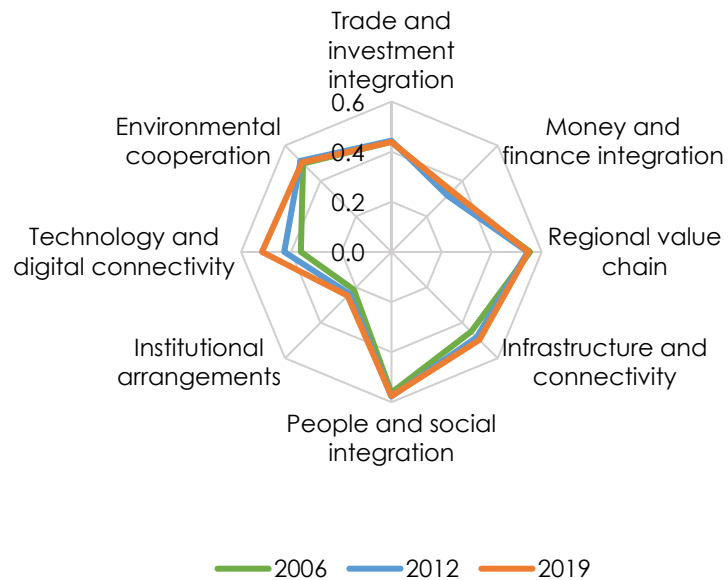
Policy Recommendations

- Investments in human capital (digital capacity), ICT infrastructure and connectivity
 - Services sector deregulation and trade liberalization
 - Balancing between data protection/privacy and data flows
 - International cooperation for transparent, fair and harmonized regulations, taxations, and liberalization through RTA and DEPA
 - Possible differential impacts and trade-offs, for example for skilled vs. unskilled workers, or in urban vs. rural area
- Governments' role in fostering competitiveness of digital services across society and addressing digital divide and distributional impact

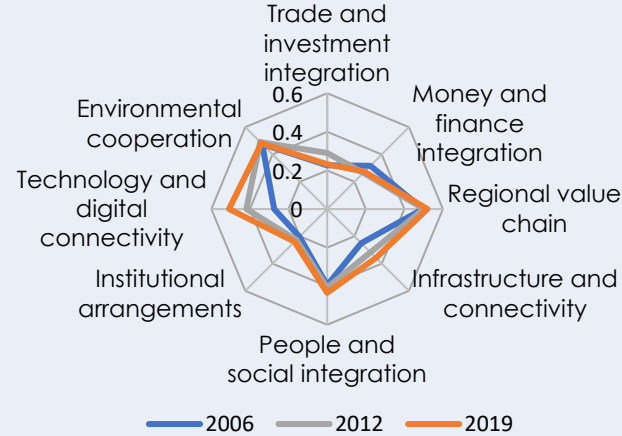
Annex

Infrastructure and digital connectivity integration in Asia and its subregions has improved since 2006.

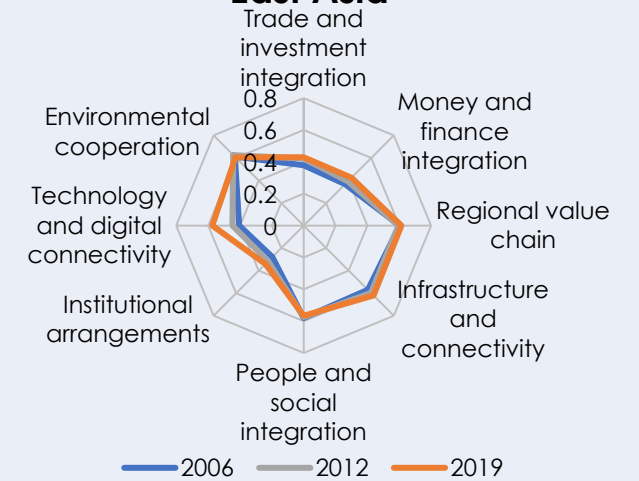
Dimensional indexes - Asia and the Pacific



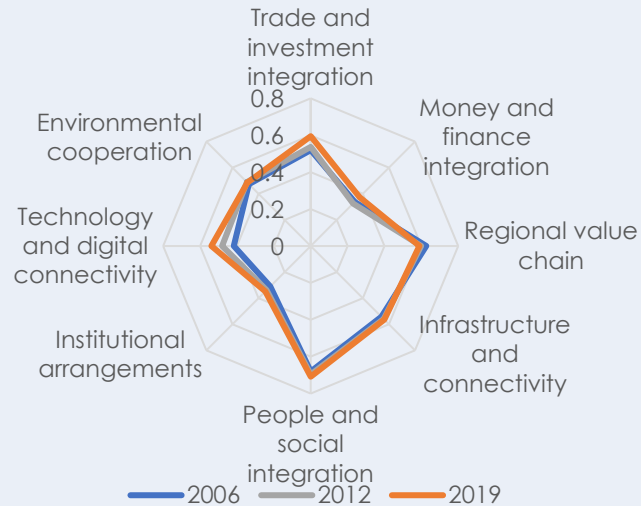
Central Asia



East Asia



Southeast Asia



South Asia

