ASIAN ECONOMIC INTEGRATION REPORT 2023
Trade, Investment, and Climate Change in Asia and the Pacific

Regional Cooperation and Integration Division
Economic Research and Regional Cooperation Department

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Key messages

- Asia’s regional integration progresses steadily on trade, investment and finance
- The region has great potential to deepen value chains in high-tech and services industries
- Digital technologies and regional cooperation could help streamline remittance inflows and accelerate tourism recovery
- Asia has been net exporter of CO₂ emissions, spurred by its rapid economic growth and industrialization
- Transition into more services driven economy and technological advancement will help reduce carbon intensities
- The region needs to better integrate trade and investment policies into climate action
Changing Landscape of Regional Cooperation and Integration
Asia’s regional integration has been resilient amid the pandemic

Intraregional Shares (% of total)

<table>
<thead>
<tr>
<th>Year</th>
<th>Trade</th>
<th>FDI</th>
<th>Equity</th>
<th>Debt</th>
<th>Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>58%</td>
<td>61%</td>
<td>21%</td>
<td>21%</td>
<td>35% (2020)</td>
</tr>
<tr>
<td>2019</td>
<td>58%</td>
<td>57%</td>
<td>20%</td>
<td>18%</td>
<td>36% (2015)</td>
</tr>
<tr>
<td>2001</td>
<td>53%</td>
<td>54%</td>
<td>12%</td>
<td>8%</td>
<td>43% (2000)</td>
</tr>
</tbody>
</table>

FDI = foreign direct investment.
Notes: Trade refers to exports plus imports. FDI inflows, equity and debt asset holdings, and outward migration are used.
Source: ADB, Asian Economic Integration Report Database.
Asia's integration progresses steadily, and GMS outperforms other subregional initiatives on multiple dimensions

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

GMS outperforms other subregional initiatives in Asia across multiple dimensions

CAREC = Central Asia Regional Economic Cooperation, EU = European Union, GMS = Greater Mekong Subregion, SASEC = South Asian Subregional Economic Cooperation.

Notes: Worldwide normalization is used for the left and middle panels, where the indicators are normalized using global maximum and minimum values across all regions. Estimates in the right-hand panel reflect intra-subregional integration. Higher values denote greater regional (intrasubregional) integration.

Source: ADB, Asia-Pacific Regional Cooperation and Integration Index Database (accessed September 2022).
Trade: High frequency data point to weakening trade environment

**Shipping Costs and Freight Rates—Weekly Indicators (Z-scores)**

Note: The indexes have been normalized using z-scores. Calculated mean and standard deviation of the indexes were for the period 5 January 2018 to 23 December 2022. Sources: Bloomberg; CEIC Data Company; Freightos, Freightos Baltic Index (FBX) accessed January 2023); and S&P Capital IQ Pro.

**Manufacturing Purchasing Managers Index**

Notes: The PMI new export orders index for Asia and the Pacific is the weighted average of economy-level indexes for Australia, Indonesia, India, Japan, Malaysia, the People’s Republic of China, the Philippines, the Republic of Korea, Taipei,China, Thailand, and Viet Nam, using export values as weights. A PMI reading over 50 indicates growth or expansion of the manufacturing sector as compared to the previous month, while a reading under 50 suggests contraction. Sources: CEIC Data Company; and International Monetary Fund. Direction of Trade Statistics (all accessed January 2023).
FDI: The rebound in cross-border investment is tempered since 2022 amidst growing economic headwinds

FDI = foreign direct investment; p = preliminary.

Quarterly Inward FDI to the World (balance of payment)

Quarterly Inward FDI to Asia and the Pacific (firm-level)

FDI = foreign direct investment; M&A = merger and acquisition.
Note: Based on firm-level greenfield FDI and M&As.
Sources: Bureau van Dijk. Zephyr M&A Database; and Financial Times. fDi Markets (both accessed October 2022).
Remittance and tourism: Remittance inflows remain resilient. While tourism recovery lags behind other regions, recent PRC’s reopening can provide a positive momentum.

Remittance Inflows to Asia and the World

International Tourist Arrivals (as share of 2019 level)

Note: 2022 numbers refer to Jan-Aug 2022 as share of annual 2019 data. 2022 data do not include the People’s Republic of China.
Issues and Way Forward
Regional trade integration remains robust, with further room to grow.

Intraregional Trade Share—Asia and the Pacific, EU+UK, and North America (%)

Asia and the Pacific (ex. PRC)’s Trade Share with Other Economies (% of total)

Notes: Values expressed as percentage of the region’s total merchandise trade (sum of exports and imports). North America covers Canada, Mexico, and the United States.

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Regional value chains weighted more in primary and low-tech sectors, with greater potential for growth in high-tech and services industries.

RVC–GVC Intensity by Major Sector—Asia

GVC = global value chain, RVC = regional value chain.

Notes: RVC–GVC intensity is the ratio of RVC participation and GVC participation rates. Sectoral classification is based on ADB (2015). Business services includes personal and public services.

Sources: ADB calculations using data from ADB. Multi-Regional Input–Output Tables; and methodology by Borin and Mancini (2019).
Cooperation is crucial for food and energy security

**Policy Recommendations**

- Prohibiting export restrictions through international cooperation to ensure seamless flow of essential goods
- Streamlining of supply chain through trade facilitation and exploration of alternative transportation routes
- Promoting multilateral cooperation for public stockholding
- Providing targeted income subsidies to vulnerable groups

FDI concentrations by investor and sector have been declining, yet varying degree of concentration exists across economies.

FDI Concentration Index—Firm-Level Investment

(a) Investor (source) concentration

(b) Sector concentration

(c) FDI source concentration by economy, Asia and the Pacific, 2017–2021 average

Notes: The FDI concentration index was computed using the Herfindahl-Hirschman market concentration index, as featured in Lapid, et al. (2021). Values range from 0 to 1, with 0 indicating low concentration and 1 indicating high concentration. Based on current consensus, values larger than 0.25 already indicate a high concentration.


EU = European Union, FDI = foreign direct investment, UK = United Kingdom.

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Digitalization could help lower transaction costs of remittance (< 3%: SDG goal)

Policy responses and cooperation are crucial for the recovery of tourism back to pre-pandemic level

Top 3 obstacles to tourism recovery
- Economic reasons (such as global economic slowdown, high travel cost due to inflation etc)
- Ease of cross-border travel and border restrictions
- Tourist confidence

Key policy priorities
- Regional cooperation on border openings to accelerate tourism recovery
- Forming bilateral partnership and diversifying tourist source economies
- Expanding investments in tourism infrastructure
- Harnessing digital technology to promote sustainability and evidence-based policy making

Mode of Transfer and Payment Instrument, Q2 2022 (% of transaction amount)

- Banks
- MTOs
- Cash
- Mobile money
- Debit and credit cards

Service provider: World
- Asia and the Pacific
- Central Asia
- South Asia
- Southeast Asia
- Pacific

MTO = money transfer operator.
Theme Chapter: Trade, Investment, and Climate Change in Asia and the Pacific
Asia’s CO2 emissions embodied in production has exceeded consumption as major provider of products to meet global demand

Production- and Demand-Based CO2 Emissions

CO2 = carbon dioxide.

Notes: Aggregate for Asia includes Australia; Bangladesh; Brunei Darussalam; Cambodia; Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Lao People’s Democratic Republic; Malaysia; New Zealand; Pakistan; the People’s Republic of China; the Philippines; the Republic of Korea; Singapore; Taipei, China; Thailand; and Viet Nam. The shaded areas in the graph represent the absolute difference between production-based (CO2 emissions based on production, i.e. emitted by economies) and demand-based (CO2 emissions embodied in domestic final demand, i.e. consumed by economies) CO2 emissions.

Source: ADB calculations using data from Organisation for Economic Co-operation and Development. Carbon dioxide emissions embodied in international trade (TECO2) dataset.
In spite of steep declines in the carbon footprint of Asia’s trade, the region remains the most carbon intensive exporter and importer.

**CO₂ Emissions Intensity of Exports** …

**… and Imports**

CO₂ = carbon dioxide.

Note: Emission intensity of exports (imports) are CO₂ emissions per export (import) value, in tonnes CO₂ per $ million.

Source: ADB calculations using data from Organisation for Economic Co-operation and Development. Carbon dioxide emissions embodied in international trade (TECO₂) dataset.
Asia’s industrial structure matters for overall carbon intensity outcomes

**CO₂ Intensity per Industry, Exports**

<table>
<thead>
<tr>
<th>Industry</th>
<th>CO₂ Intensity</th>
<th>Industry Shares in Exports (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, hunting, forestry and fishing</td>
<td>0</td>
<td>23.5</td>
</tr>
<tr>
<td>Total services</td>
<td>500</td>
<td>22.8</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>1,000</td>
<td>18.9</td>
</tr>
<tr>
<td>Food products, beverages and tobacco</td>
<td>1,500</td>
<td>19.4</td>
</tr>
<tr>
<td>Construction</td>
<td>2,000</td>
<td>38.8</td>
</tr>
<tr>
<td>Basic and fabricated metal products</td>
<td>2,500</td>
<td>37.7</td>
</tr>
<tr>
<td>Furniture; other manufacturing, etc.</td>
<td>300</td>
<td>17.4</td>
</tr>
<tr>
<td>Chemicals; non-metallic mineral products</td>
<td>800</td>
<td>18.4</td>
</tr>
<tr>
<td>Computer, electronic products, etc.</td>
<td>400</td>
<td>41.7</td>
</tr>
<tr>
<td>Textiles, textile products, etc.</td>
<td>600</td>
<td>39.0</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>700</td>
<td>37.7</td>
</tr>
<tr>
<td>Wood and paper products and printing</td>
<td>1,100</td>
<td>59.8</td>
</tr>
<tr>
<td>Machinery and equipment, n.e.c.</td>
<td>1,300</td>
<td>62.7</td>
</tr>
<tr>
<td>Electricity, gas, steam, etc.</td>
<td>900</td>
<td>22.8</td>
</tr>
<tr>
<td>All industries</td>
<td>1,500</td>
<td>41.7</td>
</tr>
<tr>
<td>Most carbon-intensive</td>
<td>2,000</td>
<td>23.5</td>
</tr>
<tr>
<td>More carbon-intensive</td>
<td>2,500</td>
<td>38.8</td>
</tr>
<tr>
<td>Less carbon-intensive</td>
<td>3,000</td>
<td>37.7</td>
</tr>
</tbody>
</table>

CO₂ = carbon dioxide, EU = European Union (27 members), UK = United Kingdom.

- **a** Includes air conditioning and water supply; sewerage, waste management and remediation activities.
- **b** Includes repair and installation.
- **c** Includes optical products and electrical equipment.
- **d** Includes leather and footwear.

Despite higher carbon intensity on average in global carbon intensive sectors, data show Asia could achieve lower carbon intensity

Electricity, gas, steam and air conditioning and water supply

Basic metals and fabricated metal products

Chemicals and non-metallic mineral products

CO₂ = carbon dioxide, EU = European Union (27 members), UK = United Kingdom.
Note: First panel is for electricity, gas, steam and air conditioning and water supply; sewerage, waste management and remediation activities.
With right mix of policies **trade and investment** can become part of climate solutions

- Facilitating trade in environmental goods and services can help bring down the cost of adopting green technologies and promote knowledge spillovers

- Combining regulations, standards, and certifications with policy incentives can be effective in reducing pollutions and accelerating switch to less-polluting production process

- Trade and investment agreements can promote greener trade and investment through environmental commitments

- Carbon pricing is crucial for efficiently curbing emissions from production and trade
I. Promoting trade in environmental goods and services

Price of Solar Modules for top producing economies 1992-2020

Leveraging EGS trade and investment

Potential
• Green technology adoption
• Reduction of carbon intensity
• Innovation and environmental spillovers

Way forward
• Addressing list-approach limitations
• Considering multilateral initiative for environmental services
• Targeted collaboration and certification

FDI in environmental goods and services – Asia and the Pacific


Sources: ADB calculations using classification from Asia Pacific Economic Cooperation (2012) and OECD; and Financial Times. fDi Markets (accessed March 2022).
II. Nurturing green businesses

Drivers of Green Business in Asia

- A reappraisal of existing **products** and **processes**
- Environmental **management systems** and tools for pollution prevention and resource use efficiency
- **Certification** to reduce asymmetric information on environmental attributes of products
- **Innovation** for new technologies to lower pollution and increase efficiency.

Share of ISO 14001 Certificates by Region (%)


- Certification scheme with **lower regulatory burden** is preferable
- **Mandatory certification** is more likely as national emissions commitments become more stringent

Notes: ISO 14001 sets out the criteria for an environmental management system and can be certified to. It maps out a framework that a company or organization can follow to set up an effective environmental management system. "Certificates" are the documents issued by ISO when the business demonstrates conformity to the standard.

Source: ISO. Committee 09: ISO Survey of Certifications to Management System Standards—Full Results
### III. Strengthening climate action through regional cooperation and new International Green Economy Collaborations (IGEC)

#### Trade
- Facilitate **interoperability** of certification systems.
- Expand the list of **environmental goods** and deepen the preferential treatment.
- Further negotiate and implement **trade facilitation** measures in RTAs.
- Incorporate separate **RTA chapter** on climate change mitigation policies for GHG reduction.

#### Investment
- Introduce a **model agreement** or ‘opt in’ instrument including substantive standards on climate change.
- Focus on **regulation** but also ‘positive’ investment areas (ie. market access, investment facilitation, green incentives) that favor climate investment as much as climate policy.

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**FTA** = free trade agreement, **RTA** = regional trade agreement.

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**Automatic Mutual recognition**

**Consistent embedded emissions accounting**

**Mutual recognition agreement on conformity assessment**

**Environmental chapters in FTAs**

**Memorandum of Understanding Joint Statement of Intent**

**Green Economy Agreements**
IV. Fostering carbon pricing mechanisms and cross-border carbon markets should underpin greening production and climate solutions

Risk to EU CBAM in Asia and the Pacific

<table>
<thead>
<tr>
<th>Region</th>
<th>Capacity to measure emissions</th>
<th>Emissions</th>
<th>Importance of EU trade for GDP</th>
<th>Reliance on EU trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Asia</td>
<td>Yellow</td>
<td>Green</td>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>East Asia</td>
<td>Yellow</td>
<td>Green</td>
<td>Orange</td>
<td>Red</td>
</tr>
<tr>
<td>Pacific</td>
<td>Red</td>
<td>Green</td>
<td>Orange</td>
<td>Red</td>
</tr>
<tr>
<td>South Asia</td>
<td>Red</td>
<td>Green</td>
<td>Orange</td>
<td>Red</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>Yellow</td>
<td>Green</td>
<td>Orange</td>
<td>Red</td>
</tr>
</tbody>
</table>

EU CBAM = European Union Carbon Border Adjustment Mechanism.
Note: Emissions refer to carbon intensity and absence of emission trading scheme and carbon tax initiatives.

Fostering cross-border carbon markets

- Direct and indirect linking of Emission Trading Systems to increase liquidity, expand abatement opportunities and reduce costs
- Bilateral agreements on emissions reductions and carbon storage under Article 6.2.
- Regional carbon market alliances to harmonize standards and limit carbon leakage
Thank you!