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)

<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>2020</td>
<td>59%</td>
<td>54%</td>
<td>21%</td>
<td>19%</td>
<td>35%</td>
</tr>
<tr>
<td>2019</td>
<td>58%</td>
<td>56%</td>
<td>20%</td>
<td>18%</td>
<td>35%</td>
</tr>
<tr>
<td>2001</td>
<td>53%</td>
<td>47%</td>
<td>12%</td>
<td>8%</td>
<td>43% (2000)</td>
</tr>
</tbody>
</table>

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

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

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

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

Notes: Worldwide normalization is used for all estimations, where the indicators are normalized using global maximum and minimum values across all regions. Higher values denote greater regional integration. Source: ADB. Asia-Pacific Regional Cooperation and Integration Index Database (accessed October 2021).
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

- Border zone and trade facilitation projects support economic corridor development in the PRC and Mongolia.
Subregional responses to COVID-19 and ADB’s support

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

- Southeast Asia: $10.4 billion
- Central and West Asia: $6.7 billion
- South Asia: $6.6 billion
- The Pacific: $1.0 billion
- East Asia: $0.9 billion
- Regional: $0.2 billion

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)

- South Asia: $2.76 billion
- Southeast Asia: $0.68 billion
- Central and West Asia: $0.61 billion
- East Asia: $0.02 billion
- The Pacific: $0.02 billion
- Regional: $0.00 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.

APVAX = Asia Pacific Vaccine Access Facility, CPRO = COVID-19 Pandemic Response Option.
Financial Integration
Accommodative policy support and vaccine rollout buoyed financial market conditions in H1 2021, heightened uncertainties in H2 2021 pose risks.

Financial Conditions Overview

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.

* = 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.

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.

<table>
<thead>
<tr>
<th>Variance Decomposition—Equity Returns</th>
<th>Variance Decomposition—Bond Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-GFC</strong></td>
<td><strong>Pre-GFC</strong></td>
</tr>
<tr>
<td>11.4</td>
<td>6.8</td>
</tr>
<tr>
<td>15.7</td>
<td>10.7</td>
</tr>
<tr>
<td>72.9</td>
<td>82.6</td>
</tr>
<tr>
<td><strong>GFC</strong></td>
<td><strong>GFC</strong></td>
</tr>
<tr>
<td>18.2</td>
<td>8.5</td>
</tr>
<tr>
<td>25.3</td>
<td>9.8</td>
</tr>
<tr>
<td>56.5</td>
<td>81.7</td>
</tr>
<tr>
<td><strong>Post-GFC</strong></td>
<td><strong>Post-GFC</strong></td>
</tr>
<tr>
<td>11.0</td>
<td>10.8</td>
</tr>
<tr>
<td>18.1</td>
<td>6.9</td>
</tr>
<tr>
<td>70.9</td>
<td>82.3</td>
</tr>
<tr>
<td><strong>Pre-COVID-19</strong></td>
<td><strong>Pre-COVID-19</strong></td>
</tr>
<tr>
<td>8.0</td>
<td>6.2</td>
</tr>
<tr>
<td>10.6</td>
<td>6.8</td>
</tr>
<tr>
<td>81.3</td>
<td>87.0</td>
</tr>
<tr>
<td><strong>COVID-19</strong></td>
<td><strong>COVID-19</strong></td>
</tr>
<tr>
<td>8.9</td>
<td>7.9</td>
</tr>
<tr>
<td>20.3</td>
<td>14.2</td>
</tr>
<tr>
<td>70.8</td>
<td>77.9</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bank:</strong></td>
<td>$4.0 trillion (22.3%)</td>
<td>$4.9 trillion (19.3%)</td>
</tr>
<tr>
<td>Asia intraregional share:</td>
<td>35.3%</td>
<td>35.9%</td>
</tr>
<tr>
<td><strong>Portfolio Debt:</strong></td>
<td>$2.3 trillion (13.0%)</td>
<td>$3.7 trillion (14.5%)</td>
</tr>
<tr>
<td>Asia intraregional share:</td>
<td>27.3%</td>
<td>28.5%</td>
</tr>
<tr>
<td><strong>FDI:</strong></td>
<td>$7.5 trillion (41.9%)</td>
<td>$10.1 trillion (39.5%)</td>
</tr>
<tr>
<td>Asia intraregional share:</td>
<td>43.3%</td>
<td>45.8%</td>
</tr>
<tr>
<td><strong>Portfolio Equity:</strong></td>
<td>$4.1 trillion (22.8%)</td>
<td>$6.8 trillion (26.7%)</td>
</tr>
<tr>
<td>Asia intraregional share:</td>
<td>18.4%</td>
<td>20.3%</td>
</tr>
</tbody>
</table>

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).
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.

Trade and Global Value Chains
Asia’s merchandise trade dipped less and recovered faster than global trade in 2020 and 2021
High-frequency indicators suggest logistics bottlenecks and pursuant rising shipping costs

**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

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**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.
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 (%)**

- **EDA & Core IP (3%)**
- **Logic (30%)**
- **DAO (17%)**
- **Memory (9%)**
- **Manufacturing Equipment (12%)**
- **Materials (5%)**
- **Wafer fabrication (19%)**
- **Assembly, packaging & testing (6%)**
- **Overall Value Chain (100%)**

**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 excl. PRC’s trade share with Other Economies

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.

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

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 diagonal cumulation

**Japan**
Parts of lasers: TL 90139020
MFN 8%

**Rep. of Korea**
Laser HS 901320
MFN 6%

**PRC**

Reduced duty rate only if origin requirement is met (Lasers originating in Rep. of Korea)

All customs duties to be removed with full RCEP implementation and compliance with Rules of Origin

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

Source: Crivelli and Inama (2022).
Cross-Border Investment
Global inward FDI slipped in 2020 while recovery is underway

Global Inward Foreign Direct Investment

- Inward FDI to Asia (left)
- Inward FDI to ROW (left)
- Inward FDI to Asia (% of GDP, right)

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.

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

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

FDI = foreign direct investment.
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.

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

- 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

The pandemic continues to take its toll on international tourism

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

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


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

Source: UNWTO Tourism Dashboard and UNWTO International Tourism and COVID-19 (accessed September 2021); Maldives Monetary Authority Statistical Database; Pacific Tourism Organization; International Monetary Fund, World Economic Outlook; and United Nations Department of Economic and Social Affairs, Population Division.
Recovery in international tourist arrivals remains uncertain, but domestic tourism may recover sooner.

- 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.

### Domestic Tourism in Selected Asian Economies

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

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

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

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**Expected Years of Schooling**

**International Bandwidth per Internet User (bit/s)**

**Mobile Broadband Subscriptions**

Note: Values are for reporters.
Source: ADB calculations based on BATIS and UNDP (accessed July 2021)
Policies: Deregulation and trade liberalization

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

Digital Services Trade Restrictiveness Index—Asia

Source: OECD.
Trade liberalization and deregulation can have spillover impact through GVC linkages

Source: ADB estimates

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

Backward GVC participation

Forward GVC participation

Scenario 1

Scenario 2

DDS sectors
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

<table>
<thead>
<tr>
<th>Sectors/Region</th>
<th>Digital services imports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
</tr>
<tr>
<td>World</td>
<td>-14%</td>
</tr>
<tr>
<td>Non-Asia</td>
<td>-9%</td>
</tr>
<tr>
<td>Asia</td>
<td>-70%</td>
</tr>
</tbody>
</table>

α = 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

**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

**International Cooperation in Domestic Regulations**
- Mutual recognition agreements
- 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

**Compliance**
- Domestic and international law amendments required
- Administrability of tax admin., firm-data collection
- Coordination to enter into force in 2023

**Competition / FDI**
- 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
Infrastructure and digital connectivity integration in Asia and its subregions has improved since 2006.

Dimensional indexes - Asia and the Pacific

ARCII = Asia-Pacific Regional Cooperation and Integration Index, EU = European Union.
Notes: Worldwide normalization is used for all estimations, where the indicators are normalized using global maximum and minimum values across all regions. Higher values denote greater regional integration.
Source: ADB. Asia-Pacific Regional Cooperation and Integration Index Database (accessed October 2021).