ASIA’S JOURNEY TO PROSPERITY
Policy, Market, and Technology over 50 Years

Disclaimer: Views expressed in the presentation are those of the authors and do not necessarily reflect views of ADB or its Board of Governors or the governments they represent.
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   d) Importance of institutions
4. Asia’s challenges ahead
Asia’s key development achievements

• Rapid economic growth led to rising share in global gross domestic product...

Developing Asia’s share in global GDP increased from 4% to 24% in 1960-2018; including Japan, Australia and New Zealand, Asia’s share rose from 13% to 34%.


Asia’s key development achievements (cont.)

• ... and improvement in broad development indicators.

<table>
<thead>
<tr>
<th></th>
<th>Developing Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1960</td>
</tr>
<tr>
<td>Per capita GDP (constant 2010 $)</td>
<td>330</td>
</tr>
<tr>
<td>Extreme poverty rate (% of population)</td>
<td>...</td>
</tr>
<tr>
<td>Life expectancy at birth (years)</td>
<td>45.0</td>
</tr>
<tr>
<td>Infant mortality (per 1,000 live births)</td>
<td>137.8</td>
</tr>
<tr>
<td>Mean years of schooling (age 20-24)</td>
<td>3.5</td>
</tr>
</tbody>
</table>

... = data not available, GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Notes: Poverty refers to the rate of extreme poverty using the $1.90 per day international poverty line at 2011 purchasing power parity for 1981, 2002, and 2015. Life expectancy refers to life expectancy at birth in years. Infant mortality rate refers to infant deaths per 1,000 live births. Mean years of schooling are for those aged 20–24; data for 2018 refer to 2010.

What explains Asia’s economic success?

• Peace and stability, especially after the Viet Nam War
• Favorable demographic conditions
• Freer trade and investment policies in advanced countries
• A low-income level providing potential to catch up
• Critically, Asia’s economic success owes much to creating better policies and stronger institutions.
In the last half century, Asian development policy shifted from state-led industrialization to market-oriented growth:

- Late 1940s - late 1950s: Post-war political independence, reconstruction, and start of state-led Industrialization and import substitution.
- Late 1950s - late 1970s: Export promotion and market-led growth in Japan and “four tigers”, and state control and inward orientation in the People’s Republic of China (PRC), India, and many other countries.
- 2008 - present: Global financial crisis, Asia leading global growth, promotion of inclusive growth and good governance, and rethinking positive role of the state in overcoming market failure.
Structural transformation (ST) is the primary driver of growth across the world.

Stylized fact about ST: Over time, resources are transferred from agriculture to industry (up to a certain level) and services, and, within each of the three sectors, from low- to high- productivity production.

Asia is no exception, but with a faster pace.

### Output and Employment Shares, 1970-2018

- **Agricultural Output Share**
- **Agricultural Employment Share**
- **Industrial Output Share**
- **Industrial Employment Share**
- **Services Output Share**
- **Services Employment Share**

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Industry</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970s</td>
<td>71.0%</td>
<td>14.1%</td>
<td>14.9%</td>
</tr>
<tr>
<td>2018</td>
<td>33.5%</td>
<td>25.5%</td>
<td>41.0%</td>
</tr>
</tbody>
</table>


Structural transformation also involves shift from low- to high-productivity production within each sector, through technological progress.

Asian economies first adopted foreign technologies, then began to innovate their own, using a variety of ways:

- inviting experts from and sending students abroad;
- buying foreign licenses;
- importing machinery;
- promoting trade and foreign direct investment (FDI);
- conducting reverse engineering;
- investing in research and development (R&D)

**Top 5 Patent Grantees in the United States**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Patents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>52,409</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>17,924</td>
</tr>
<tr>
<td>Germany</td>
<td>16,549</td>
</tr>
<tr>
<td>Taipei, China</td>
<td>11,690</td>
</tr>
<tr>
<td>PRC</td>
<td>8,116</td>
</tr>
</tbody>
</table>

**Average 1965—1969**

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Patents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>3,810</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,739</td>
</tr>
<tr>
<td>France</td>
<td>1,524</td>
</tr>
<tr>
<td>Japan</td>
<td>1,416</td>
</tr>
<tr>
<td>Canada</td>
<td>935</td>
</tr>
</tbody>
</table>

**Number of patents granted in the US**

<table>
<thead>
<tr>
<th>Year</th>
<th>Physical capital</th>
<th>Labor</th>
<th>Human capital</th>
<th>TFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1985</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995-2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010-2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

( ) = negative, GDP = gross domestic product, TFP = total factor productivity.

**High-growth Asian economies made large investments in physical capital, financed largely by domestic savings.**

<table>
<thead>
<tr>
<th>Region</th>
<th>Physical capital stock (2011 constant $, trillion)</th>
<th>Capital stock growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>2017</td>
<td>1960–2017</td>
</tr>
<tr>
<td>Developing Asia</td>
<td>3.9</td>
<td>176.0</td>
</tr>
<tr>
<td>Central Asia</td>
<td>-</td>
<td>2.4</td>
</tr>
<tr>
<td>East Asia</td>
<td>1.3</td>
<td>108.2</td>
</tr>
<tr>
<td>PRC</td>
<td>1.0</td>
<td>94.9</td>
</tr>
<tr>
<td>South Asia</td>
<td>1.4</td>
<td>34.8</td>
</tr>
<tr>
<td>India</td>
<td>1.2</td>
<td>29.9</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>1.1</td>
<td>30.5</td>
</tr>
</tbody>
</table>

=Gross Domestic Savings and Investment (% of GDP)=


... = data not available, US = United States.

(3) Investing in productive capacity (cont.)

- A key part of physical capital investment was for infrastructure—transport, power, water and sanitation, and telecommunications.

- During 1971-2018, per capita electricity generation increased by 35 times in the Republic of Korea, 30 times in the PRC, 19 times in Thailand, 14 times in Malaysia, and 9 times in India, significantly narrowing the gaps with advanced countries.

**Electricity Generation per Capita (kWh/capita)**

<table>
<thead>
<tr>
<th>Country</th>
<th>1971</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>321</td>
<td>11,491</td>
</tr>
<tr>
<td>Australia</td>
<td>4,120</td>
<td>10,363</td>
</tr>
<tr>
<td>Japan</td>
<td>3,648</td>
<td>8,709</td>
</tr>
<tr>
<td>OECD</td>
<td>4,247</td>
<td>8,615</td>
</tr>
<tr>
<td>Malaysia</td>
<td>343</td>
<td>5,277</td>
</tr>
<tr>
<td>PRC</td>
<td>165</td>
<td>5,092</td>
</tr>
<tr>
<td>World</td>
<td>1,398</td>
<td>3,501</td>
</tr>
<tr>
<td>Thailand</td>
<td>134</td>
<td>2,722</td>
</tr>
<tr>
<td>India</td>
<td>117</td>
<td>1,215</td>
</tr>
</tbody>
</table>

kWh = kilowatt-hour, OECD = Organisation for Economic Co-operation and Development.

Note: Per capita electricity generation estimated with Enerdata’s electricity generation data and World Bank’s population data.

(4) Building human capital

- Many Asian economies made efforts to build human capital by making education a basic right through compulsory education, investment in schools, and education reform.

During 1970s-2010s, developing Asia’s public spending on education increased from 2.1% to 3.6% of GDP. Public spending on education contributed to rising school enrollments at all levels.

• High-growth Asian economies all maintained open trade and investment regimes, making Asia a center of global manufacturing production and value chains.

• They initially promoted exports of labor-intensive manufacturing products, and over time, moved up to export more sophisticated products such as cars, electronics and machines. In the last 2-3 decades, they participated in global value chains.

• To attract FDI, they set up special economic zones (SEZs) and provided tax incentives, making developing Asia one of the most attractive FDI destinations, accounting for 35% of the world total in 2017.


Note: Asia refers to the 49 Asian Development Bank regional members for which data are available.

Compared with other developing regions, Asia did better in macroeconomic management, whether looking at growth, inflation, or frequency of economic crises. Good macro management provided the basis for sustained growth, and reforms in response to the Asian financial crisis laid the foundation for future resilience.
(7) Promoting social inclusiveness and gender equality

• Rapid economic growth and targeted policies led to rapid poverty reduction.

(based on international poverty lines)

\[ y = 0.25x + 0.42 \]
\[ R^2 = 0.38 \]

Annual growth of per capita GDP (%)

Changes in Income Inequality and Annual per Capita GDP Growth, 1960s-1980s

(based on international poverty lines)

\[ y = 0.25x + 0.42 \]
\[ R^2 = 0.38 \]

Annual growth of per capita GDP (%)

Changes in Income Inequality and Annual per Capita GDP Growth, 1960s-1980s

• Asia had stable inequality in the 1960s-1980s, a pattern known as “growth with equity” in East Asia; since the 1990s, growth has been accompanied by rising inequality in some economies.
(8) Engaging with development partners and promoting RCI

- Asia benefited from engaging with bilateral partners and multilateral development banks in investing in development, especially infrastructure, education, and health.

- In South Asia and Southeast Asia, development assistance financed 10-20% of gross domestic investment in the 1970s and 1980s.

- Such partnerships remain relevant to Asia’s changing needs, providing responsive support by combining financing with policy advice.

Net Capital Inflows by Nonresidents to Developing Asia, 1970-2017
(% of gross domestic investment)

<table>
<thead>
<tr>
<th>Year</th>
<th>Net FDI inflows</th>
<th>Net official flows</th>
<th>Net bank lending and bonds</th>
<th>Net portfolio equity inflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>6.4</td>
<td>1.4</td>
<td>1.9</td>
<td>2.4</td>
</tr>
<tr>
<td>1975</td>
<td>5.9</td>
<td>2.4</td>
<td>1.9</td>
<td>2.4</td>
</tr>
<tr>
<td>1980</td>
<td>5.6</td>
<td>1.9</td>
<td>1.7</td>
<td>2.4</td>
</tr>
<tr>
<td>1985</td>
<td>3.4</td>
<td>1.7</td>
<td>2.7</td>
<td>13.3</td>
</tr>
<tr>
<td>1990</td>
<td>3.9</td>
<td>1.7</td>
<td>4.4</td>
<td>8.1</td>
</tr>
<tr>
<td>1995</td>
<td>2.7</td>
<td>1.1</td>
<td>13.3</td>
<td>1.6</td>
</tr>
<tr>
<td>2000</td>
<td>1.1</td>
<td>1.6</td>
<td>1.6</td>
<td>7.5</td>
</tr>
<tr>
<td>2005</td>
<td>0.7</td>
<td>7.5</td>
<td>1.1</td>
<td>0.7</td>
</tr>
<tr>
<td>2010</td>
<td>0.5</td>
<td>5.9</td>
<td>0.7</td>
<td>6.8</td>
</tr>
<tr>
<td>2015</td>
<td>0.5</td>
<td>5.9</td>
<td>0.7</td>
<td>6.8</td>
</tr>
<tr>
<td>2017</td>
<td>0.5</td>
<td>5.9</td>
<td>0.7</td>
<td>6.8</td>
</tr>
</tbody>
</table>

FDI = foreign direct investment.

Regional cooperation and integration (RCI) has played an important role in supporting Asian development by contributing to

- peace and security;
- intraregional trade and investment; and
- regional public goods.

In 2018, close to 60% of Asian trade were among Asian economies and 50% of FDI inflows were from within Asia and the Pacific region.

10 policy recommendations of the Washington Consensus

<table>
<thead>
<tr>
<th>Fiscal discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public expenditure reform</td>
</tr>
<tr>
<td>Tax reform</td>
</tr>
<tr>
<td>Financial liberalization &amp; market-determined interest rates</td>
</tr>
<tr>
<td>Competitive exchange rates</td>
</tr>
<tr>
<td>Import liberalization</td>
</tr>
<tr>
<td>FDI liberalization</td>
</tr>
<tr>
<td>Privatization of state-owned enterprises</td>
</tr>
<tr>
<td>Deregulation</td>
</tr>
<tr>
<td>Protection of property rights</td>
</tr>
</tbody>
</table>

• Some studies considered the Asian experience unique, i.e., there is an “Asian development model,” which emphasizes the role of state interventions, as opposed to the so-called “Washington Consensus,” which follows more closely the standard economic theory of market economies.

• The book argues that Asian economies implemented policies and reforms that are not very different from standard economic theories of market economies—in this sense, Asian development is not unique.

• Asian economies adopted a more gradual and pragmatic approach to implementing policy reforms, including the practice of testing major policy changes before full-scale implementation and careful sequencing. In this sense, Asian development is unique.
Many Asian economies used industrial policies (IP) to promote development. “Horizontal” IP has worked by improving business environment. But targeted IP has been more controversial, and outcomes mixed.

Targeted IP was discredited after Asian financial crisis but received renewed attention in recent years.

The book argues that targeted IP, if used badly, can lead to rent-seeking, unfair competition, and inefficiency; but if used wisely, can be effective, especially in areas with strong positive spillovers and coordination problems.

Targeted IP is more likely to succeed when it is performance-based and promotes competition, with clear targets, sunset clauses, and transparent implementation rules.

As a country becomes more developed, IP should focus more on supporting R&D to promote technological innovation that are less intrusive.
Asian economies achieved high growth by promoting manufacturing and exports through large capital investment, R&D, trade and FDI, education and training, and SEZs.

Issue three: Can industrialization be bypassed?

- Historically, manufacturing was important almost in all high-income countries worldwide before de-industrialization.
- Why manufacturing is important: tradable and generates foreign exchange, has high income elasticity of demand, large scope for innovation, scale economies, and creates better paying jobs.
Issue four: The importance of institutions

- There is a positive association between quality of institutions and economic development, and Asia is no exception. But this correlation may vary across different dimensions of institutions and depends on a country’s stage of development.

- At a low-income stage, igniting growth is a priority, and government effectiveness, regulatory quality and control of corruption are important (see figure on the right). As a country becomes more developed, the priority is sustaining growth, and accountability and wide citizen participation could become more important.

- In some Asian economies, creating a vision for the future that was shared across a wide spectrum of society and promoted by forward looking leaders, made a difference, especially when backed by a component bureaucracy.

\[ y = 0.39x + 3.86 \]

\[ R^2 = 0.60 \]

GDP = gross domestic product.
Asia’s challenges ahead

• Asia’s development gaps with advanced countries remain large—in 2018, developing Asia’s per capita GDP was just 13% of OECD level.
• Asian economies should maintain sound policies that prove to have worked, and address remaining and emerging challenges, such as
  • Promoting innovation-based growth
  • Making growth more inclusive and narrowing gender gaps
  • Improving education quality and achieving universal health coverage
  • Reducing large infrastructure gaps
  • Protecting the environment and tackling climate change
  • Responding to demographic change and population aging
Improving education quality and achieving universal health coverage (1)

Average Science/Mathematics Test Scores
(% of student participants achieving 400+ and 600+)


Notes: PRC* includes only Beijing, Shanghai, Jiangsu, and Guangdong. India* includes only Himachal Pradesh and Tamil Nadu. The test scores are standardized to range from 0 to 1,000. Data are for 2015 Programme for International Student Assessment (PISA) / Trends in International Mathematics and Science Study (TIMSS) scores except for Armenia and the Philippines (TIMSS 2003); Mongolia (TIMSS 2007); Azerbaijan, India, and the Kyrgyz Republic (PISA 2009).

# Reducing large infrastructure gaps (2)

## Developing Asia’s investment needs, 2016–2030

($ billion in 2015 prices)

<table>
<thead>
<tr>
<th>Region</th>
<th>Baseline Total</th>
<th>Baseline % of GDP</th>
<th>Climate adjusted Total</th>
<th>Climate adjusted % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Asia</td>
<td>492</td>
<td>6.8</td>
<td>565</td>
<td>7.8</td>
</tr>
<tr>
<td>East Asia</td>
<td>13,781</td>
<td>4.5</td>
<td>16,062</td>
<td>5.2</td>
</tr>
<tr>
<td>South Asia</td>
<td>5,477</td>
<td>7.6</td>
<td>6,347</td>
<td>8.8</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>2,759</td>
<td>5.0</td>
<td>3,147</td>
<td>5.7</td>
</tr>
<tr>
<td>The Pacific</td>
<td>42</td>
<td>8.2</td>
<td>46</td>
<td>9.1</td>
</tr>
<tr>
<td><strong>Asia and the Pacific</strong></td>
<td><strong>22,551</strong></td>
<td><strong>5.1</strong></td>
<td><strong>26,166</strong></td>
<td><strong>5.9</strong></td>
</tr>
<tr>
<td><strong>Annual Average</strong></td>
<td><strong>1,503</strong></td>
<td><strong>5.1</strong></td>
<td><strong>1,744</strong></td>
<td><strong>5.9</strong></td>
</tr>
</tbody>
</table>

GDP = gross domestic product
Sources: ADB estimates.
Addressing rising income inequality (3)

### Asia’s Inequality in the Global Context

<table>
<thead>
<tr>
<th>Region</th>
<th>Pre-tax and Pre-transfer Gini (mean)</th>
<th>Post-tax and Post-transfer Gini (mean)</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing Asia</td>
<td>40.0</td>
<td>37.4</td>
<td>(6.3)</td>
</tr>
<tr>
<td>Japan, Australia, and New Zealand</td>
<td>45.7</td>
<td>32.6</td>
<td>(28.6)</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>47.1</td>
<td>43.4</td>
<td>(7.7)</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>45.9</td>
<td>45.0</td>
<td>(1.8)</td>
</tr>
<tr>
<td>European Union</td>
<td>46.8</td>
<td>29.9</td>
<td>(36.0)</td>
</tr>
<tr>
<td>North America</td>
<td>48.6</td>
<td>34.5</td>
<td>(29.1)</td>
</tr>
<tr>
<td>OECD</td>
<td>46.4</td>
<td>31.0</td>
<td>(33.2)</td>
</tr>
</tbody>
</table>

Lao PDR = Lao People’s Democratic Republic, PRC = People’s Republic of China.

Notes: Green bars refer to changes in Gini coefficients between the two indicated periods. Numbers in the column on the right refer to levels of Gini coefficients for the final year. Symbols in parentheses indicate whether a Gini coefficient is income-based (I) or consumption expenditure-based (C).


( ) = negative, OECD = Organisation for Economic Co-operation and Development.

Note: Mean refers to the simple average of Gini coefficients of the countries in the region.

Narrowing gender gaps (4)

- Challenges to achieve gender equality:
  - Increase women’s access to the formal labor market and decent work
  - Reduce women’s unequal share of unpaid care and domestic work
  - Increase women’s public and political participation
  - Eliminate gender discrimination in laws, policies, and social norms

### Share of Vulnerable Employment of Women (% of total female employment)

- Central Asia: 38.4%
- East Asia (excl. ROK): 46.9%
- South Asia: 79.0%
- Southeast Asia: 53.2%
- The Pacific: 82.8%
- Developing Asia: 55.2%
- Japan: 22.0%
- ROK: 46.0%
- World: 38.1%

Notes: East Asia excludes the Republic of Korea. Workers in vulnerable employment include own-account workers (self-employed persons without engaging employees) and contributing family workers (self-employed persons working in an establishment operated by a relative of the same household).


### Gender Wage Gap in the World by Income Level, 1995–2015


Protecting environment and tackling climate change (5)

- Pressure from rapid economic development has created many environmental problems.
- Environmental policy responses were initiated and expanded in recent 2-3 decades.
- But much more action is needed to make the region’s development sustainable and contribute to global efforts.

Global Shares of Greenhouse Gas (Carbon Dioxide Equivalent) Annual Emissions

- Europe, 29.3%
- PRC, 8.7%
- India, 3.5%
- Japan, 3.4%
- AUS and NZL, 1.6%
- MENA, 5.3%
- Sub-Saharan Africa, 7.7%
- Latin America and the Caribbean, 10.4%
- North America, 19.0%
- Rest of Developing Asia, 11.3%
- Rest of Developing Asia, 12.7%
- Europe, 14.1%
- North America, 15.3%
- LAC, 8.4%
- Sub-Saharan Africa, 5.9%
- Middle East and North Africa, 8.1%
- Australia and New Zealand, 1.2%
- India, 6.8%
- People's Republic of China, 24.7%

**Note:** Figures include emissions from land use, land-use change, and forestry.

Source: Authors’ calculations from World Resources Institute. CAIT Climate Data Explorer. http://cait.wri.org. (accessed 26 October 2019)
Responding to demographic change and population aging (6)

Total Population (billion) and Population by Age (% of Total), Developing Asia, 1950–2018

Summary

• Asia’s economic success owes much to creating better policy and stronger institutions. The book highlights the following:
  1) relying on markets with proactive state support;
  2) promoting structural transformation;
  3) investing in productive capacity;
  4) building human capital;
  5) opening trade and investment;
  6) maintaining macroeconomic stability;
  7) promoting social inclusiveness; and
  8) engaging with development partners and promoting RCI.

• Going forward, Asia still faces many challenges and there is no room for complacency.

• Asia must continue to maintain good policy, strengthen institutions, and contribute to the development of science and technology and to tackling global issues.
Thank you!

The soft copy of the book can be downloaded at

https://www.adb.org/publications/asias-journey-to-prosperity