Abstract

[Excerpt] While Asia's high growth rates during the last 5 decades have been well documented and discussed, a facet perhaps less well-known is the great heterogeneity in economic transformation in the region. This term refers to a series of processes (changes) that have been observed to take place in developed countries during many decades, centuries, akin to laws of development. The most important of these changes is the decline in the shares of agriculture in gross domestic product (GDP) and in total employment; and concomitantly the increase in the shares of industry and services. Second, is the diversification of the production and export structures. Modern economies not only produce more than ancient economies, but they have a much more diversified output range. Third, is the use of more technologically advanced methods of production. Fourth is urbanization. Cities are today's engines of growth. And finally, key social changes accompany the transformation of economies, e.g., the role of women. These changes, together, drive the long-term performance of an economy and, although not seen on a day-to-day basis, they are felt over decades.

Keywords
Asia, development, economic growth, industrial economies

Comments

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Key Indicators 2013 Special Chapter

Asia’s Economic Transformation: Where to, How, and How Fast?*

While Asia’s high growth rates during the last 5 decades have been well documented and discussed, a facet perhaps less well-known is the great heterogeneity in *economic transformation* in the region. This term refers to a series of processes (changes) that have been observed to take place in developed countries during many decades, centuries, akin to laws of development. The most important of these changes is the decline in the shares of agriculture in gross domestic product (GDP) and in total employment; and concomitantly the increase in the shares of industry and services. Second, is the diversification of the production and export structures. Modern economies not only produce more than ancient economies, but they have a much more diversified output range. Third, is the use of more technologically advanced methods of production. Fourth is urbanization. Cities are today’s engines of growth. And finally, key social changes accompany the transformation of economies, e.g., the role of women. These changes, together, drive the long-term performance of an economy and, although not seen on a day-to-day basis, they are felt over decades.

While Japan, the Republic of Korea, and Taipei, China evolved from agrarian economies into industrial and into service economies (with Hong Kong, China and Singapore directly developing manufacturing and services) very rapidly during the 1950s–1980s, this has not happened in most other economies across the region. While Asia is a service economy from the output perspective, when looked at from the employment perspective, agriculture is still Asia’s largest employer, well ahead of industry and services (Figure 1). Over 40% of Asia’s workers are still employed in agriculture, amounting to over 700 million workers. In the People’s Republic of China (PRC) (38%), India (50%), Indonesia (35%), Bangladesh (48%), Pakistan (43%), the Philippines (35%), Thailand (37%), or Viet Nam (50%), agriculture is still a major employer. And in economies like Bhutan, Nepal, Cambodia, or Papua New Guinea, employment in agriculture still represents over two-thirds of total employment. For reference, employment in agriculture represents less than 5% of total employment in the advanced economies.

* The special chapter was written by Jesus Felipe, in collaboration with Roehlano Briones, Aashish Mehta, and Hubertus Verspagen.

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Many Asian economies have achieved significantly high shares of manufacturing value added (25%–30% of GDP), not different from those achieved by most Organisation for Economic Co-operation and Development (OECD) economies in the 1960s and 1970s. However, except in the five most advanced Asian economies, in most others, the share of manufacturing employment in total employment is significantly smaller than it was in the OECD economies (Table 1). In other words, many Asian economies have not industrialized in employment (Table 2).

As a consequence of the changes mentioned above, the type of economic transformation that is taking place in many parts of Asia is a shift of workers from agriculture into services that quite often is of not much higher productivity (Figure 2). The reallocation of labor from sectors of low productivity into sectors of high productivity has not been the major driver of productivity growth in the region (Figure 3).

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**Table 1**  
Peak Manufacturing Share in Output and Employment, Asian Economies

<table>
<thead>
<tr>
<th>Economy</th>
<th>Data since</th>
<th>Year when highest share was obtained</th>
<th>Value of highest share</th>
<th>Data since</th>
<th>Year when highest share was obtained</th>
<th>Value of highest share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>1993</td>
<td>2004</td>
<td>19.9</td>
<td>1993</td>
<td>2006</td>
<td>10.8</td>
</tr>
<tr>
<td>China, People’s Rep. of</td>
<td>1965</td>
<td>1978</td>
<td>40.5</td>
<td>1978</td>
<td>1988</td>
<td>15.9*</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>1970</td>
<td>1970</td>
<td>29.6</td>
<td>1974</td>
<td>1976</td>
<td>45.3</td>
</tr>
<tr>
<td>India</td>
<td>1960</td>
<td>1979</td>
<td>17.3</td>
<td>1960</td>
<td>2002</td>
<td>12.9</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1960</td>
<td>1999</td>
<td>30.9</td>
<td>1975</td>
<td>1997</td>
<td>27.6</td>
</tr>
<tr>
<td>Singapore</td>
<td>1975</td>
<td>2004</td>
<td>27.5</td>
<td>1970</td>
<td>1981</td>
<td>30.4</td>
</tr>
<tr>
<td>Thailand</td>
<td>1960</td>
<td>2007</td>
<td>35.6</td>
<td>1950</td>
<td>2007</td>
<td>16.4</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td>27.8</td>
<td></td>
<td></td>
<td>20.8</td>
</tr>
<tr>
<td>OECD</td>
<td></td>
<td></td>
<td>25.9</td>
<td></td>
<td></td>
<td>25.7</td>
</tr>
</tbody>
</table>

OECD = Organisation for Economic Co-operation and Development.

* This refers to both urban and rural manufacturing employment. Available data for employment is only up to 2002. The share of urban manufacturing employment in total manufacturing employment is about 28% (for 2000–2010).

Note: OECD output and employment averages refer to 23 economies. See Appendix Table 5 of Key Indicators 2013.


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(continued from page 2)

Table 2  Industrialization, Deindustrialization, and Nonindustrialization in Asia

<table>
<thead>
<tr>
<th>Output</th>
<th>Industrialized and deindustrialized</th>
<th>Industrialized and not deindustrialized</th>
<th>Not industrialized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Armenia; Azerbaijan; China, People’s Rep. of; Hong Kong, China; Japan; Kyrgyz Rep.; Mongolia; Taipei, China; Tajikistan</td>
<td>Cambodia; Indonesia; Korea, Rep. of; Malaysia; Pakistan; Philippines; Singapore; Sri Lanka; Thailand; Viet Nam</td>
<td>Bangladesh, Georgia, India, Kazakhstan, Nepal, PNG</td>
</tr>
<tr>
<td></td>
<td>Azerbaijan; Hong Kong, China; Japan; Korea, Rep. of; Singapore; Taipei, China</td>
<td>Malaysia; Sri Lanka</td>
<td>Armenia, Bangladesh, Cambodia, PRC, Georgia, India, Indonesia, Kazakhstan, Kyrgyz Rep., Mongolia, Nepal, Pakistan, PNG, Philippines, Tajikistan, Thailand, Viet Nam</td>
</tr>
</tbody>
</table>

Lao PDR = Lao People’s Democratic Republic, PNG = Papua New Guinea.
Source: Authors.

Figure 2  Productivity Growth and Change in Employment Shares: Six Asian Economies

Restructuring through employment

Dynamic

Productivity growth, 1995–2009 (% per year)

Percentage point change in employment share (1995–2009)

Six Asian Economies: China, People’s Rep. of; India; Indonesia; Japan; Korea, Rep. of; Taipei, China

Note: Size of bubbles represents employment share in 2009. Identified bubbles are the sectors with the largest decrease and increase in employment shares for each of the economies used in this data set.

Source: Authors based on Timmer (2012).
While Asia will continue moving forward, it is important to be aware of what has happened in the past and the consequences that the economic transformation that many Asian economies have experienced may have for the medium and long-term prospects of the region. One such consequence is that, most likely, we will not witness another episode of fast transformation like the one experienced by the East Asian economies.

As mentioned earlier, more than 700 million workers are employed in agriculture, the sector with the lowest productivity (this variable being the key determinant of wages and incomes). While this sector is fundamental for the take-off of modern growth, the key development question for the region will be: will industry and services be able to generate enough productive employment to accommodate these workers? Our projections indicate that in 2040, agriculture will still employ significant shares of workers in many countries, e.g., over 30% in India and over 20% in the PRC. The sector needs modernization through the deployment of significant infrastructure, a shift into agribusiness and increase linkages to agricultural global value chains.

Historical evidence indicates that, with a few exceptions, today’s high-income economies industrialized (in the sense that they attained manufacturing and employment shares above 18% for a sustained period). This tells us that industrialization is a step that, in general, cannot be bypassed to become a high-income economy. Manufacturing has played a key role in economic development, as it is subject to increasing returns to scale, has high linkages with other sectors of the economy, and is fundamental for innovation and research and development. As noted above, the region has not industrialized in employment (low manufacturing employment shares) and it will be difficult that this happens in the future (at least in the short-term) as new technologies as very labor-saving. Achieving a sizeable manufacturing share, together with significant infrastructure, well-educated population, and a high-tech manufacturing sector, increase significantly the odds of becoming a high-income economy.

Finally, Asia is already a service economy from the output point of view and this trend will continue. And given the hurdles to industrialize in employment, this sector will also become the largest in employment. The challenge for most Asian economies will be how to nurture high-productivity services so as to ensure growth; and, simultaneously, create enough jobs in labor-intensive services so as to accommodate employment.
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Asia is a very heterogeneous region and what small economies like Nepal or Cambodia have to do is radically different from what India will have to do. While counties should initially follow their comparative advantage, some type of government industrial policy may be necessary to expedite transformation.

Reference

Development Imperatives for the Asian Century

By Peter Petri and Vinod Thomas*

Many Asian economies are still delivering growth rates that are the envy of the developed world. But widening income inequality and worsening environmental conditions across the region threaten the sustainability of this remarkable performance. In response, countries and multilateral banks in varying degrees are broadening their development priorities to focus on a triple bottom line—economic growth, social inclusion, and the environmental sustainability.

Our paper attempts to examine how Asian institutions and policymakers can manage this ambitious goal. Striving for a new pattern of development does not mean abandoning growth as a prime objective. Low-income countries anyway need to make their dash for growth, while some middle-income ones face the prospect of slowdowns. Rather, as countries are increasingly recognizing, multiple development goals need to be addressed simultaneously.

* Vinod Thomas is Director General of Independent Evaluation Department at ADB, and Peter Petri is Carl Shapiro Professor of International Finance at Brandeis University.

The priority for growth has meant that crucial, non-economic aspects of development in Asia have been neglected or underemphasized (education being the notable exception). Yet attractive and doable options exist for achieving the triple bottom line, and many more will emerge, yielding social, environmental, and economic benefits.

Over the last decade, inequality has worsened substantially in countries that account for 80% of Asia’s population, and has become most marked in the region’s largest economies. The Gini coefficient for developing Asia increased from 39 in the mid-1990s to 46 in the late 2000s. Had equality remained stable in countries where it increased, the same level of growth in 1990–2010 would have lifted about 240 million more people out of poverty than it actually did (ADB 2012).

Asia’s record on the environmental Millennium Development Goals, meanwhile, is glaringly negative on carbon emissions and biodiversity loss, both major global concerns.

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To evaluate whether these harmful trends follow the Kuznets curves—produce worsening side-effects at first, but improve later (Kuznets 1955, Shafik 1994)—we plot recent data on Gini coefficients and carbon emissions for 45 economies against per capita income. As shown in Figures 1 and 2, data confirms the hopeful perspectives offered by the Kuznets relationship, with the curves declining over time. Unfortunately, the process will be too slow to avoid the distributional and environmental side-effects of growth now so apparent (Petri and Zhai 2013). This is not because Asia is on a worse trajectory on either of these than other economies have been; instead, they are developing with greater momentum and at a time when the constraints on these social and environmental issues are becoming much more binding. In short, this exercise found no grounds to postpone policies and interventions to implement a triple bottom line.

Decision makers may be understandably reluctant to abandon the growth-alone approach, which has worked so well. The misconception among officials of an unavoidable trade-off between environmental care and growth is still widespread. And in the area of social protection, a critical intervention to promote more inclusive economic growth, government’s still tend to ramp up investments during crises rather than building comprehensive systems in stable times (Thomas and Luo 2012, IED 2012).

Resistance from vested interests is also to be expected, as action will involve real costs, such as expenditures, changes in regulations, and removing barriers to economic activity. Assembling political support and overcoming opposition will be essential. Here, credible voices can help make public debates more persuasive in national and global policy debates.

We underscore the importance of good governance for delivering social and environmental results (Figures 3 and 4). Asia’s techniques of
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governance have not yet caught up with the challenges of the triple bottom line—and are still tied too closely to the very different requirements of economic growth alone. And, as the Bhargava and Bolongaita (2004) point out, a less corrupt Asia would result in “more growth, improved foreign investments, higher per capita income, lower infant mortality, increased literacy, stronger property rights” and less environmental damage.

Civil society and other stakeholders are an important constituency for making the new development paradigm work, and the paper urges their greater engagement in policy formation. Innovations in governance for better accountability, transparency, and feedback will be necessary for achieving these priorities. For one thing, giving everyone greater access to information about the functioning of agencies may reduce opportunities for corruption and improve data collection and decision making.

Figure 3 Government Effectiveness Versus Poverty Headcount Rate

![Graph showing government effectiveness versus poverty headcount rate](image)

**Figure 3** Government Effectiveness Versus Poverty Headcount Rate

\[ y = -0.0862x + 0.1389 \]

\[ R^2 = 0.261 \]

**Note:** Governance effectiveness scores range from –2.5 (weak) to 2.5 (strong).

**Source:** Basu (2013a) based on data from World Governance Indicators and Povcalnet databases.

(continued on next page)
Evidence-based strategies were at the center of Asia’s economic success in the last half century and will be even more needed in the next stage of development. International institutions and the donor community will have an important role to play in an era of such triple-bottom-line policies, as the new priorities will require broader policy perspectives than the traditional focus on growth alone, more data and information, and more unconventional financing to implement them.

References


With natural-resource dependent economies isolated by expanses of ocean and exposed to substantial weather risk, Pacific countries are highly vulnerable to the effects of climate change. A recent ADB study models future climate possibilities in the Pacific, and quantifies broader implications of climate change over coming decades. The study conducted downscaling of Global Climate Models (GCMs) to predict future climate conditions in the Pacific. By 2070, under the medium emissions scenario, the average temperature in the region is expected to rise from 2.0 to 3.0 degrees Celsius, relative to the 1990 level. Rainfall is found to increase and become more intense. The frequency of El Niño Southern Oscillation (ENSO) cycles is likely to increase, leading to potentially more extreme weather events in the region. Assessment of GCMs suggests that sea level increases are likely to increase, posing risks of inundation to economically important coastal areas and salinization of freshwater resources.

Some key economic sectors could sustain potentially high losses. In agriculture, impacts on staple food and commercial crops are assessed to show significant long-term declines in yields. Modeling of changes in tourism finds large decreases in economic contributions as a result of a less attractive climate, effects which may be further compounded by coral bleaching. These sectoral impacts may be exacerbated by health effects on vector borne disease and heat stress.

When climate change effects and sectoral impacts are considered together via integrated assessment models, economic cost of climate change in the Pacific region could range from 2.9% to as high as 12.7% of annual gross domestic product equivalent by 2100 if the business-as-usual growth strategy is followed. Appropriate adaptation strategies must be considered and implemented. To mitigate the climate change risks, climate change needs to be mainstreamed in planning processes and low-regret adaptation strategies should be pursued. These include investment in improved information to reduce climate uncertainties, enhanced disaster risk management and climate proofing of infrastructure investments.
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• ADO 2014 Theme Chapter Workshop: Fiscal Policy and Inclusive Growth in Asia
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• Dissemination activities for TA 7898 Service Book at PRCM, Beijing and Korea Development Institute and Ministry of Strategy and Finance
  13–17 December, Beijing and Seoul

• Viet Nam National Consultation Workshop: Assessment of Power Sector Reform in Asia and the Pacific
  17 December, Ha Noi

January 2014

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  1st Qtr (TBC), venue TBD
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Key Indicators for Asia and the Pacific 2013

The Key Indicators for Asia and the Pacific 2013 (Key Indicators), the 44th edition of this series, includes the latest available economic, financial, social, and environmental indicators for the 48 regional members of the Asian Development Bank (ADB). This publication aims to present the latest key statistics on development issues concerning the economies of Asia and the Pacific to a wide audience, including policy makers, development practitioners, government officials, researchers, students, and the general public. Part I of this issue of the Key Indicators is a special chapter—"Asia’s Economic Transformation: Where to, How, and How Fast?". Parts II and III comprise of brief, non-technical analyses and statistical tables on the Millennium Development Goals (MDGs) and seven other themes. This year, the 2013 edition of the Framework of Inclusive Growth Indicators, a special supplement to Key Indicators is also included.

Asian Development Outlook 2013 Update: Governance and Public Service Delivery

The annual Asian Development Outlook, generally launched in April, presents an analysis of developing Asia’s recent economic performance plus its prospects for the next 2 years. This Update shows whether these forecasts were met, explaining divergence between forecasts and the actual outturn, and firms the forecasts for the next 18 months or so.