Regional Agenda

World Economic Forum on East Asia
Background Facts and Figures

Prepared for the World Economic Forum by PwC

Nay Pyi Taw, Myanmar 5-7 June 2013
ASEAN intra-regional trade has grown 15% annually over the past 10 years.

ASEAN intra- and extra-regional trade, 2002 and 2011

Note: US Dollars at current prices and current exchange rates. Total trade with US, Japan, China and ROW are calculated as exports plus imports. ASEAN intra-regional trade calculated using exports.

Source: UNCTAD Statistics, PwC analysis
Greater ASEAN integration is expected to lead to positive gains in GDP across all ASEAN countries

Country welfare gains (2015) from implementing ASEAN Economic Community

<table>
<thead>
<tr>
<th>Country</th>
<th>Welfare Gains (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>9</td>
</tr>
<tr>
<td>Brunei</td>
<td>5</td>
</tr>
<tr>
<td>Cambodia</td>
<td>5</td>
</tr>
<tr>
<td>Thailand</td>
<td>4</td>
</tr>
<tr>
<td>ASEAN</td>
<td>3</td>
</tr>
<tr>
<td>Laos</td>
<td>2</td>
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<tr>
<td>Vietnam</td>
<td>2</td>
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<tr>
<td>Philippines</td>
<td>1</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1</td>
</tr>
<tr>
<td>Myanmar</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: Projections based on the following scenario: Completion of AFTA (ASEAN Free Trade Area) agreement through the elimination of remaining intra-ASEAN tariffs and non-tariff barriers, including regulatory barriers such as diverging standards and testing requirements. Since the base year of the data is 2004, these effects may include changes that have been already implemented at the current time. In the absence of detailed information on non-tariff barriers, they have been modelled by assuming a horizontal reduction in trade costs of 5 percent of trade values. The scenario has been implemented relative to an estimated 2015 baseline which incorporates the general expansion of ASEAN economies (based on IMF estimates) but freezes trade policy at 2004 levels.

Source: Peter A. Petri, Michael G. Plummer and Fan Zhai, *The Economics of the ASEAN Economic Community*, 15 September 2010.
There is significant trade of primary commodities within Asia

Some of the major primary commodity exports among large Asian economies, 2011

Note: Top 10 Asian economies chosen based on GDP (US Dollars at current prices and current exchange rates) in 2011. Vietnam and Philippines were added to the analysis to complete ASEAN major 6. Where “largest exporter” is indicated, this is defined as the largest exporter among those countries included in the analysis: China, Taiwan, India, Indonesia, Iran, Japan, Korea (Rep. Of), Malaysia, Philippines, Singapore, Thailand and Vietnam.

UNCTAD Statistics, PwC analysis
Travel and tourism has created almost 25 million jobs directly and indirectly in ASEAN

Travel and Tourism Competitiveness Index, ASEAN, select indicators

• Efforts to offer ASEAN single destination package is reflected in good average visa requirement performance, with relevant differences across members.
• Large gaps between the most advanced economies (mainly Singapore) and other members in air transport infrastructure.

Note: The Travel & Tourism Competitiveness Index measures enabling criteria of the Travel and Tourism (T&T) sector in different countries. It has 14 pillars across three subindices: T&T regulatory framework; T&T business environment and infrastructure; and T&T human, cultural and natural resources subindex.

Ground transport infrastructure in ASEAN is relatively less developed, especially railroads

Travel and Tourism Competitiveness Index, ASEAN, select indicators

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There is a significant gap in some elements of ICT infrastructure among ASEAN countries

Travel and Tourism Competitiveness Index, ASEAN, select indicators

The Travel & Tourism Competitiveness Index gap is particularly significant in areas such as use of the internet and penetration of mobile broadband technology

Note: The Travel & Tourism Competitiveness Index measures enabling criteria of the Travel and Tourism (T&T) sector in different countries. It has 14 pillars across three subindices: T&T regulatory framework; T&T business environment and infrastructure; and T&T human, cultural and natural resources subindex.

## Use of mobile learning in Asia is high in tertiary education but low in other levels of schooling

### Mobile learning in primary to tertiary education, select Asian countries, 2011

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>Indonesia</th>
<th>Japan</th>
<th>S. Korea</th>
<th>Malaysia</th>
<th>Singapore</th>
<th>Taiwan</th>
<th>Thailand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td><img src="Image" alt="Cell" /></td>
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<td>Lower Secondary</td>
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<tr>
<td>Upper Secondary</td>
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<td>Post Secondary</td>
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<tr>
<td>Tertiary</td>
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</tbody>
</table>

**Note:** UNESCO conducted a survey in October 2011 of experts in mobile learning research and educational policy, who were asked to indicate the level of mobile learning activities instigated by education institutions and local and national government initiatives across the various educational sectors (as classified by the International Standard Classification of Education). Mobile learning is defined as the use of mobile phones, either alone or in combination with other technological tools, for the purpose of learning. Levels of mobile learning were categorised as low, high or very high. Low: Activity is in the early stages of development, probably sporadic and rarely going beyond one particular school or institution. High: Programmes or activities have reached a critical mass of schools or learners, so as to become publicly noticeable. Very high: There are programmes or activities that can be considered widely used by schools or learners.

**Source:** UNESCO, "Turning on Mobile Learning in Asia" (2012)
A significant percentage of students are not moving beyond primary education in East Asia, but there is a big variance in drop-out rates between primary and secondary education, East Asian countries.
Language learning is the most popular use of educational mobile apps across ASEAN-5 nations

Top five educational mobile apps for iPhone and Android in ASEAN-5 nations, 2013

<table>
<thead>
<tr>
<th>Android</th>
<th>iPhone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Malaysia</td>
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<tr>
<td>1</td>
<td></td>
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<td>2</td>
<td></td>
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<td>3</td>
<td></td>
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<td>4</td>
<td></td>
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<tr>
<td>5</td>
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</tbody>
</table>

Source: App Annie ranks up to 1.3 million apps daily and is one of the largest companies globally in terms of app store market data tracked. App Annie ranks top apps by category and region based on Google Play and iPhone App Store downloads. Data accessed 4th April 2013. The top 5 education apps for Android and iPhone for each country were selected from apps listed under the iPhone category “education” and the Android category “education (application)”; apps in these categories deemed to be ‘edutainment’ were excluded. ASEAN 5 nations: Indonesia, Malaysia, Philippines, Thailand and Vietnam.

Source: App Annie, 4th April 2013
14% of ASEAN food trade is intra-region, but both intra- and extra-ASEAN food trade is booming

Value of ASEAN food trade with different parts of the world

Note: Total trade calculated as exports plus imports. Regions as defined by UNCTAD Stat. Asia Pacific ex ASEAN includes Eastern and Southern Asia and New Zealand and Australia. Territories not falling within the six main geographic categories were excluded.

Source: UNCTAD Stat; PwC analysis
Regional integration can result in increased agricultural output, based on experience of previous trade agreements

Agricultural sector output before and after NAFTA, Mercosur and COMESA

<table>
<thead>
<tr>
<th></th>
<th>Mercosur</th>
<th>NAFTA</th>
<th>COMESA Fair Trade Agreement</th>
</tr>
</thead>
</table>
| Compounded annual growth rate of agricultural sector, 10 year periods
| 1992-2001      | ![1992-2001](chart)  | ![1995-2004](chart)  | ![2001-2010](chart)  |

Note: Agricultural sector defined as agriculture, hunting, forestry, fishing. Value added is calculated in constant 2005 US dollars. Mercosur includes: Argentina, Brazil, Paraguay, Uruguay and Venezuela (Bolivarian Republic of). NAFTA includes: Canada, Mexico and United States. COMESA Fair Trade Agreement includes: Djibouti, Egypt, Kenya, Madagascar, Malawi, Mauritius, Zambia and Zimbabwe. Sudan excluded from analysis due to lack of data.

Source: UNdata; PwC analysis
FDI into energy infrastructure in the ASEAN countries continues to focus on fossil fuels

FDI into fossil fuels and renewable energy, ASEAN countries, 2008-2013

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</thead>
<tbody>
<tr>
<td>US</td>
<td>52.1%</td>
<td>47.9%</td>
<td>$283.1</td>
</tr>
<tr>
<td>Japan</td>
<td>60.3%</td>
<td>39.7%</td>
<td>$3.2</td>
</tr>
<tr>
<td>China</td>
<td>66.6%</td>
<td>33.4%</td>
<td>$35.3</td>
</tr>
<tr>
<td>ASEAN</td>
<td>90.6%</td>
<td>9.4%</td>
<td>$147</td>
</tr>
</tbody>
</table>

FDI into energy infrastructure as % of total FDI

Note: Data shows absolute cumulative FDI from March 2008 to March 2013 in US$ billions.

Source: World Bank
There are large differences in the quality of infrastructure among ASEAN member states

Quality of infrastructure score, ASEAN countries

Note: Infrastructure is assessed based on quality of overall infrastructure, quality of roads, quality of railroad infrastructure, quality of port infrastructure, quality of air transport infrastructure, available airline seat kilometres, quality of electricity supply, mobile telephone subscriptions and fixed telephone lines. All data, except for that on airline seat kilometres, mobile telephone subscriptions and fixed telephone lines, are from the World Economic Forum’s Executive Opinion Survey which asks respondents to assess a particular variable in their country, with 1 being ‘extremely underdeveloped’ and 7 being ‘extensive and efficient by international standards’.

The public sector continues to fund the bulk of the energy infrastructure projects in the ASEAN countries

Energy infrastructure investment and financing by source, ASEAN, 2010-2020

Source: Asian Development Bank
The Japanese earthquake in 2011 has been the costliest natural disaster in Asia in the last 10 years.

Overall losses, three largest natural disasters in Asia in the last 10 years:

- Japan earthquake (March 2011)
- China earthquake (May 2008)
- Thailand floods (August 2011)

Source: Munich Re
Up to 2.5% of government expenditure a year is spent on natural disaster recovery in ASEAN

Expected government costs as % of annual spend due to natural disasters, ASEAN

Note: Limited data available for Myanmar - annual expected losses may not accurately reflect long-term average annual losses, which may affect estimation of government costs. 40 percent of contingent liability is incurred within 12 months from the date of a disaster, in the form of recovery requirements. 60 percent of contingent liability is incurred 12-24 months from the date of a disaster, in the form of reconstruction requirements.

Asian Development Bank provided over US$1.5 bn in natural disaster response and recovery funding in 2005-2009
Region-specific response and recovery funds for natural disasters, Asia

Region-specific natural disaster funds, Asia

- **Asian Development Bank**—
  - Asia Pacific Disaster Response Fund—
  - Asian Tsunami Fund
  - Pakistan Earthquake Fund

- **Emergency Architects Australia**

- **Nazarene Compassionate Ministries**—
  - South Asia Disaster Response (Relief Aid)

- **ASEAN Disaster Management and Emergency Relief Fund**

- **United Nations**—ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness

Note: List of funds is not exhaustive. ‘Disaster recovery’ is the rehabilitation and reconstruction process whereby communities and the nation return to their normal level of functioning following a disaster. Initial rescue and relief comes under the category of ‘disaster transition’. Asian Development Bank funds go to: Armenia, Bangladesh, Georgia, Marshall Islands, the Federated States of Micronesia, Mongolia, Pakistan, Palau, Papua New Guinea, Sri Lanka, Timor-Leste, Uzbekistan, and Viet Nam, Afghanistan, Bhutan, Cambodia, Kiribati, Kyrgyz Republic, Lao People’s Democratic Republic, Maldives, Myanmar, Nauru, Nepal, Samoa, Solomon Islands, Tajikistan, Tonga, Tuvalu, and Vanuatu.

Source: Public domain; Asian Development Bank Special Evaluation Study 2012
Asia scores highest on the Banking Financial Services pillar of the Financial Development Index

Financial Development Index, Banking Financial Services pillar, regional scores

Note: The Banking Financial Services pillar is one of seven pillars that make up the Financial Development Index. It is in turn made up of 14 sub-pillars measuring the size of the banking system, the efficiency of the banking system and the degree of financial information disclosure. Each country is given a score of 1 (least developed) to 7 (most developed) for each sub-pillar. Regional averages derived from overall country scores for Pillar 4, weighted by GDP. GDP data is for 2011 for all countries except Bahrain, where the most recent data (2010) was used.

Myanmar lags behind most ASEAN countries in number of commercial bank branches and ATMs

Size of bank and ATM networks, select ASEAN countries, 2012

Source: IMF
Myanmar has far lower penetration of mobile phone subscriptions than most ASEAN countries

Mobile telephone subscriptions per 100 inhabitants, 2012

Source: International Telecommunication Union, 2012