Economic Consequence of Population Ageing in Asia

Bazlul H Khondker
Department of Economics
Dhaka University
Chairman
South Asian Network on Economic Modeling (SANEM)

Presented at 12th Global NTA Meeting
Mexico City
July 23 – 27, 2018
Asia: Some Key Facts

• Largest and most populous continent, located in both the northern and eastern hemispheres
• Size: 44.58 million KM²; Population: 4.463 billion (2016)
• Comprises 30% of the world's land area and 60% of the world's current population
Asia: Some Key Facts

• Asia has the world’s two most populous countries:
  • China 1.4 billion (2016) – accounting for 31.7% of Asia; 18% of global population
  • India 1.3 billion (2016) – accounting for 29.4% of Asia; 17.5% of global population

• It is a diverse continent — demography, culture, religion, labour market informality, technology, natural resources, conflict and economic well being

• Together Asia is the largest economy with 34.3% of the $74 trillion global economy (World Bank, Feb 1, 2017)

• Asia Per Capita Income: $6,317 (2016, IMF 2018); Singapore $55,000; Afghanistan $561
• Asia ageing very fast: in 2016 share of 60+ was 12%; in 2030 share of 60+ will be 17% and in 2050 25%

• In 2050, the population of older women will be 1.1 percentage points larger than older men; in 2016, it was 0.5 percentage points larger than men in all old-age cohorts

• Share of older women larger than men in all old-age cohorts
Changing Age Structure and Economy

Two periods of demographic dividend:

• Working population greater than consuming population -> per capita income boost ("first demographic dividend")
  • Transitory – working age population stops increasing

• Lower mortality, longer lives. Need more wealth to support future consumption

• More older population -> more wealth per capita, rise in productivity and asset income ("second demographic dividend")
  • Permanent – with adequate distributive wealth?
Life Cycle Deficit

Important: how is the second ‘LCD’ supported?

• Transfers
• Labour income (in old age?)
• Poverty
• Pensions (including social pension)
Old-Age Consumption Support and Income Source

- Asset-based reallocations dominant in Indonesia, the Philippines, India and Thailand
- Public transfers more significant in richer Asia: Japan, Korea, and Taiwan
- Minor role of public transfers in Asian middle-income countries compared to other middle-income countries such as Brazil

- Labour income is dominant source – especially in rural Asia
- Public and private transfers small
- The common assumption that familial support is the dominant income source in old age in Asia is not validated by the evidence
Old-Age Employment

HelpAge International Study (2016) of five Asia countries concludes:

- A large share of older people in employment, but work level decreases with age. Health and old age disability are major reasons

- **Labour participation declines with ageing**

*Older people (60+) in employment*

<table>
<thead>
<tr>
<th>Country</th>
<th>% of older people</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>38</td>
</tr>
<tr>
<td>Vietnam</td>
<td>38</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>39</td>
</tr>
<tr>
<td>Philippines</td>
<td>43</td>
</tr>
<tr>
<td>Nepal</td>
<td>66</td>
</tr>
</tbody>
</table>

*Levels of employment, by age (15+)*

*Sources: LFS 2013 (Bangladesh), LFS 2008 (Nepal), LFS 2012 (Philippines), LFS 2013 (Thailand), LFS 2014 (Vietnam)*
Old-Age Employment

WB Study (2016) for six East Asian countries also reported falling laborforce participation with ageing

- Weekly working hours dropped from 80 at age 40-50 to about 30-40 after the age 65
- Working hours by rural older persons higher than urban older persons
- Older women work less than older men
- Lowest working hours reported for urban women

Implication for income and labour market
Old-Age Poverty

Consumption poverty 2006-08 (%)
- Indonesia 2007
- Thailand 2006
- Mongolia 2007
- Vietnam 2006

Consumption poverty 2011-12 (%)
- Indonesia 2011
- Thailand 2011
- Mongolia 2011
- Vietnam 2012

Urban consumption poverty (%)
- Indonesia 2011
- Thailand 2011
- Mongolia 2011
- Vietnam 2012

Rural consumption poverty (%)
- Indonesia 2011
- Thailand 2011
- Mongolia 2011
- Vietnam 2012

Source: Household surveys; Poverty based on per capita daily income less than S$1.25 (2005 $PPP)
Old-Age Poverty

Key features:

• Declining poverty due to lower population growth and higher income growth
• Old-age income poverty much more volatile than consumption poverty – Reveals the role of savings and assets accumulation
• Lower poverty rates in Thailand and Mongolia compared to others highlight the role of wider coverage of social pensions

Key correlates:

• Highly educated older people less likely to be poor
• Older people with highly educated children less likely to be poor
• Old-age employment does not always lead to lower old-age poverty

Pensions are associated with significant (1%-5% level) poverty reduction – both for urban and rural old people [Source: WB 2016, Bangladesh : HAI 2014]

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>-10.5</td>
<td>-12.7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>-8.8</td>
<td>-13.9</td>
</tr>
<tr>
<td>Thailand</td>
<td>-0.6</td>
<td>-1.2</td>
</tr>
<tr>
<td>Vietnam</td>
<td>-5.6</td>
<td>-22.1</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>-8.9</td>
<td>-16.3</td>
</tr>
</tbody>
</table>
Pensions

Given the state of consumption support and income sources, enhanced public transfers (social pensions) are needed, especially for elderly poor

**High-income Asian economies**: Broad coverage and financially sustainable. *Challenge*: Pension adequacy

**Middle-income economies**: Dual challenges – improve sustainability of existing coverage and expand coverage of large informal sectors

**Low-income economies**: Exploring suitable models to ensure broad coverage within the constraints of fiscal space

<table>
<thead>
<tr>
<th>Country (year)</th>
<th>Deficit/surplus in 2040 (% of GDP)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>China (2011)</td>
<td>-3.5</td>
<td>Herd et al (2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ma, Zhang and Li (2012)</td>
</tr>
<tr>
<td>Korea (2013)</td>
<td>-1.4</td>
<td>National pension service</td>
</tr>
<tr>
<td>Mongolia (2011)</td>
<td>-4.5</td>
<td>World Bank 2011</td>
</tr>
<tr>
<td>Vietnam (2012)</td>
<td>-1.7</td>
<td>Government service insurance system; Mesa-Lago et al 2011</td>
</tr>
<tr>
<td>Thailand (2011)</td>
<td>- from 2041</td>
<td>Yamabana 2011</td>
</tr>
<tr>
<td>Philippines (2011)</td>
<td>- from 2029</td>
<td>ILO FACTS 2013</td>
</tr>
</tbody>
</table>

Estimated increases in pension spending from 2014 to 2050 (% of GDP) [source Pradelli and Van Doorn 2015]
Contributory and Social Pensions

Increasing contributory pension coverage among the poor in Asia will be difficult, as they nearly always work in the informal sector (WB 2016)

Social pension could be an option for the elderly poor in Asia

- Universal coverage
- Pension tested
- Means tested

Low coverage associated with large exclusions and inclusions – defies the purpose of the scheme (Household Income Expenditure Survey 2010)
Contributory and Social Pensions

In most countries about one-half of older people (or more) receive no pension [HAI 2016]

- Earnings-related pensions (“contributory”)
  - Low coverage (less than 20% of older people)
  - Share of younger generations actively contributing to pensions also remains low

- Social pensions make the biggest contribution to coverage in all countries
  - Significant variation in design (universal, pension-tested, means-tested) and adequacy
  - Particularly important for women
Is there a trade-off between pensions and investment?

Social Accounting Matrix  
SAM Multiplier Model

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Activity</th>
<th>Factors</th>
<th>Institution</th>
<th>Total Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>A1</td>
<td>LAB</td>
<td>HH</td>
<td>RoW</td>
</tr>
<tr>
<td></td>
<td>...</td>
<td>...</td>
<td>...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>An</td>
<td>CAP</td>
<td>GoV</td>
<td>INV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factors</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Institution</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rest of the world</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Is there a trade-off between pensions and investment?

**Social Accounting Matrix**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Factors</th>
<th>Institution</th>
<th>Total Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>...</td>
<td>...</td>
<td>An</td>
</tr>
<tr>
<td>LAB</td>
<td>CAP</td>
<td>HH</td>
<td>GoV</td>
</tr>
<tr>
<td>INV</td>
<td>RoW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SAM Multiplier Model**

- **Endogenous** [Multiplier]
- **Exogenous** [Investment]
- **Leakage**
- **Other**

**Simulated effects (% change over base values)**

- Little trade-off between spending on pensions or investing in a physical infrastructure project
- Income effect similar
- Consumption effect much higher with pensions

Source: HAI 2014-2017
Concluding Observations

• Notwithstanding differences between countries, Asia is ageing fast
• Transfers (public, private and familial) may not be adequate to support old age LCD is Asia
• Many elderly are compelled to work to supplement transfers
• But there are limits to labour-market participation due to:
  • Health
  • Disability
  • Lack of skills and opportunities
• Expanding contributory pensions among Asian poor is constrained by their participation in the informal sector
• Social pensions with increased coverage and adequate generosity may be a pragmatic approach
• Most important: Needs urgent action, delay not an option