Panel Discussion on the International Conference on Trends and Problems of the World Population in the 21st Century, 50 years since Rome 1954

Changing age structures of population in Asia and their implications for development

Naohiro Ogawa
Maliki
Rikiya Matsukura
Age Structure of Asia’s Population in 2005
Age Structure of Asia’s Population in 2050
Age Structure of Japan’s Population in 2005
International Comparison on the Speed of Population Aging

Singapore
Korea
China
Japan
Thailand
Sri Lanka

Japan’s most important graph reflects a host of vital economic and social factors

Changing earnings profile

Hours worked

Women’s labor force participation

Sectoral allocation of the labor force
Child care and old age leave

Change in retirement age

Change in the remuneration system

Pension benefits

Enrollment rates in tertiary education

Parasite singles

Freeters and Neets
Per Capita Lifecycle Deficits for Selected Asian Countries: Those Aged 30-40 = 1
Per Capita Lifecycle Deficits for Selected Asian Countries: Those Aged 30-40 = 1

- Japan
- Korea
Per Capita Lifecycle Deficits for Selected Asian Countries: Those Aged 30-40 = 1
Per Capita Lifecycle Deficits for Selected Asian Countries: Those Aged 30-40 = 1
## Crossing Ages in Japan and Selected Asian Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Crossing ages for consumption and labor income $Y(x) &gt; C(x)$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Younger Age</td>
</tr>
<tr>
<td>Japan (1989)</td>
<td>25</td>
</tr>
<tr>
<td>Japan (1994)</td>
<td>26</td>
</tr>
<tr>
<td>Japan (1999)</td>
<td>27</td>
</tr>
<tr>
<td>Japan (2004)</td>
<td>28</td>
</tr>
<tr>
<td>South Korea, 2000</td>
<td>27</td>
</tr>
<tr>
<td>Thailand, 1998</td>
<td>26</td>
</tr>
<tr>
<td>India, 2000</td>
<td>29</td>
</tr>
<tr>
<td>Indonesia, 1996</td>
<td>29</td>
</tr>
<tr>
<td>Philippines, 1999</td>
<td>26</td>
</tr>
</tbody>
</table>
Average age of mandatory retirement in large firms
### Public Consumption Allocation to the Youth and Elderly (%) in Selected Asian Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Youth (&lt; 20)</th>
<th>Elderly (65+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan, 2004</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>South Korea, 2000</td>
<td>38</td>
<td>7.4</td>
</tr>
<tr>
<td>Thailand, 1998</td>
<td>51</td>
<td>4.4</td>
</tr>
<tr>
<td>India, 2000</td>
<td>50</td>
<td>6.1</td>
</tr>
<tr>
<td>Indonesia, 1996</td>
<td>50</td>
<td>3.8</td>
</tr>
<tr>
<td>Philippines, 1999</td>
<td>60</td>
<td>2.9</td>
</tr>
<tr>
<td>United States, 2000</td>
<td>29</td>
<td>42</td>
</tr>
</tbody>
</table>
## Average Age of Earnings and Current Consumption in Selected Asian Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Consumption</th>
<th>Labor Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan, 2004</td>
<td>47.3</td>
<td>46.0</td>
</tr>
<tr>
<td>South Korea, 2000</td>
<td>33.8</td>
<td>38.9</td>
</tr>
<tr>
<td>Thailand, 1998</td>
<td>31.9</td>
<td>39.1</td>
</tr>
<tr>
<td>India, 2000</td>
<td>31.1</td>
<td>40.1</td>
</tr>
<tr>
<td>Indonesia, 1996</td>
<td>28.9</td>
<td>37.9</td>
</tr>
<tr>
<td>Philippines, 1999</td>
<td>27.6</td>
<td>36.9</td>
</tr>
<tr>
<td>United States, 2000</td>
<td>42.0</td>
<td>43.0</td>
</tr>
</tbody>
</table>
## Ratio of Transfers Received by Elderly/Children Based upon NTA

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public transfers on health, education, and pension</strong></td>
<td>Aggregate</td>
<td>0.96</td>
<td>1.55</td>
<td>2.07</td>
</tr>
<tr>
<td></td>
<td>Per capita</td>
<td>1.62</td>
<td>1.95</td>
<td>2.01</td>
</tr>
<tr>
<td><strong>Total transfers, both inter-vivos and public on health, education, and pension</strong></td>
<td>Aggregate</td>
<td>0.7</td>
<td>1.16</td>
<td>1.55</td>
</tr>
<tr>
<td></td>
<td>Per capita</td>
<td>1.18</td>
<td>1.46</td>
<td>1.51</td>
</tr>
</tbody>
</table>
Net Transfer Flow in Japan, by Sector, Trillion Yen, 1999
Net Transfer Flow in Japan, by Sector, Trillion Yen, 2004
Finance of Consumption among Those 65+ in Selected Countries

- Japan, 1999
- US, 2000
- Taiwan, 1998
- Thailand, 1998
- Indonesia, 1996
- The Philippines, 2000

Legend:
- Asset Rerallocation
- Work
- Inter-vivos Transfers
- Public Transfers
- Bequest
Finance of Consumption in Japan, 1989

Legend:
- Labor Income
- Asset Reallocations
- Public Transfers
- Intervivos Transfers
Finance of Consumption in Japan, 2004

Labor Income
Asset Reallocations
Public Transfers
Intervivos Transfers
First Dividend in Selected Asian Countries, 1920 - 2100
First Dividend in Selected Asian Countries, 1920 - 2100

- Japan
- Korea
First Dividend in Selected Asian Countries, 1920 - 2100

- Japan
- Thailand
- Korea
First Dividend in Selected Asian Countries, 1920 - 2100

- Japan
- Thailand
- Indonesia
- Korea
Growth of reserved funds for all public pension schemes combined, 1965-2002

Age profile of assets and pension wealth in Japan, 1999
Second Dividend of Selected Asian Countries, 1950 - 2050

- Japan
- Korea

Graph showing the trend of dividends for Japan and Korea from 1950 to 2050.
Second Dividend of Selected Asian Countries, 1950 - 2050
Second Dividend of Selected Asian Countries, 1950 - 2050

[Graph showing the second dividend for Japan, Thailand, Indonesia, and Korea from 1950 to 2050.]

- Red line: Japan
- Green line: Thailand
- Light blue line: Indonesia
- Blue line: Korea
Projected elderly population by health status, Japan 2000-2025

(based on health status transition rates)
Two simulations

(1) All healthy persons work

(2) Retirement age from 60 to 65
Simulation exercises for alternative labor force participation among the elderly in Japan, 2005-2025

<table>
<thead>
<tr>
<th>NUPRI Model projection (Base run)</th>
<th>Simulation 1</th>
<th>Simulation 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potential GDP (Trillion yen)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>561.2</td>
<td>653.8 (16.5%)</td>
</tr>
<tr>
<td>2015</td>
<td>600.6</td>
<td>747.2 (24.4%)</td>
</tr>
<tr>
<td>2025</td>
<td>619.1</td>
<td><strong>791.3 (27.8%)</strong></td>
</tr>
<tr>
<td><strong>Potential GDP per capita (Million yen)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>4.4</td>
<td>5.1 (16.5%)</td>
</tr>
<tr>
<td>2015</td>
<td>4.8</td>
<td>5.9 (23.9%)</td>
</tr>
<tr>
<td>2025</td>
<td>5.1</td>
<td><strong>6.5 (26.7%)</strong></td>
</tr>
<tr>
<td><strong>Labor force (1000 persons)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>66958</td>
<td>86803 (29.6%)</td>
</tr>
<tr>
<td>2015</td>
<td>62827</td>
<td>89107 (41.8%)</td>
</tr>
<tr>
<td>2025</td>
<td>59172</td>
<td><strong>87880 (48.5%)</strong></td>
</tr>
</tbody>
</table>

Simulation 1: We assume that the all healthy persons aged 65 and over will participate with labor force throughout the projection.

Simulation 2: We assume (1) that the labor force participation rates of those aged 60-64 are raised to those of 55 to 59 and (2) that the participation rates of those aged 65 and over are raised by 10 percentage points above the current rates.
Future Japanese elderly persons will be wealthy!
Future Japanese elderly persons will be not only wealthy but healthy!
Future Japanese elderly persons will be wealthier, healthier and cleverer!
Future Japanese elderly persons may save Japan!

◆ Even fertility may recover!!!
Changing family support!
Who provides care to the elderly?
Change in the proportion of those 60+ living in three-generational households, selected countries, 1981-2001
Trends in the proportion of marriages that were arranged and the proportion of newly married couples who coresided with parents at the time of marriage: Japan, 1955-96

Source: Three-year moving averages based on pooled data for currently married women age 15-49 from nine rounds of the National Survey on Family Planning between 1981 and 1998.
Change in the proportion of deaths at residence

Year

Home

Hospital
Family support ratio (Women 40-59 / 65-84), 1995-2050
Projected number of centenarians

Million

Year


Government
Sudden Value Shift
Trends in norms and expectations about care for the elderly: Japan, 1950-2004

"Good Custom" or "Natural Duty"

Expect to Depend on Children

Those aged 50+ living in Tokyo Metropolitan Area

• Husbands 41%
• Wives 19%

• What are these percentages?
Thank you!