Intergenerational Transfers and National Transfer Accounts in East Asia

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Demography

• Vital rates are changing in East Asia
  – Increased longevity
  – Low TFR
    • China: 1.4
    • Japan: 1.3
    • Korea: 1.2

• Leading to rapid and large changes in age structure
  – Temporary increase in share of working-age population
  – Followed by a “permanent” decline in the share of the working-age population and a rise of the retired population.
Key Issues

• How will population aging influence
  – economic growth (per capita and aggregate)
  – generational equity (cross-sectional and longitudinal)

• What policies can be pursued to influence the outcome?
  – Changes in the economic lifecycle
  – Investment in physical or human capital
Evidence

• Important research by Bloom, Canning, and Williamson and Kelly and Schmidt. Also Samuelson, Diamond, Lee, and Willis.

• Research with Ron Lee, Sang-Hyop Lee, Hiro Ogawa, Tim Miller, An-Chi Tung, and others.

• National Transfers Accounts estimates
  – China: Li Ling, Quilin Chen, and Yu Jiang
  – Japan: Naohiro Ogawa, Rikiya Matsukura, Chawla Amontheep
  – Korea: Chong-Bum An, Young-Jun Chun, Sang-Hyop Lee
  – Taiwan: An-Chi Tung and Mun-Sim Lai
  – Research teams in 24 other countries
  – www.ntaccounts.org
Effects of age structure depend on economic lifecycle.

Labor income is concentrated in a relatively small portion of the lifespan.

Consumption exceeds labor income over a relatively large portion of the lifespan.

Large deficits for young and old.

A Thought Experiment

Change population age structure holding economic lifecycle constant

How will the effective number of producers change relative to the effective number of consumers?

Economic support ratio answers this question.

Source: An et al., forthcoming; www.ntaccounts.org.
Swings in the Economic Support Ratio

- Decline in fertility produces a boom (first demographic dividend), then a bust.
- Decline in Japan is well underway.
- Peak is near in China and Republic of Korea.

\[ SR(t) = \frac{\sum_x w(x)N(x)}{\sum_x c(x)N(x)} \]

w(x) – productivity weights; c(x) – consumption weights.

Is there more to say?

• Economic lifecycle might change
  – Changes in retirement and productivity of older workers.
  – Changes in costs of health care and long-term care.

• Changes in age structure might lead to a second demographic dividend
  – Investment in physical capital
  – Investment in human capital
Labor Income Profiles: E Asia

Early peak except in Japan

Late peak in Japan: seniority wages

Low earning at old ages.
Comparison with Europe and US

Labor income higher in the 50s in Europe and US

Labor income lower in 65+ in Europe
Trend in Taiwan Labor Income

- Labor income has become compressed in Taiwan over time
- Later entry into the labor market
- Earlier retirement
Consumption Profiles in East Asia

Per capita values (normalized on mean labor income 30-49)
Consumption Profiles: Europe and US

Per capita values (normalized on mean labor income 30-49)

Steep increases at old ages in Finland, Germany, Sweden, and US
Economic Lifecycle

• Potential for increasing productivity and labor income of older workers in E Asia.

• Economic research, e.g. Gruber and Wise, shows that incentives influence age at retirement (Europe versus US and Japan).

• Many impediments, e.g., mandatory retirement that can be addressed

• BUT strong trend towards early retirement and potential for substantial growth in consumption at old ages.
Possible responses to the decline in the economic support ratio

• First dividend is consumed; standards of living will fall.
• Dividend is invested in physical capital
  – Workers increase their saving
    • Fewer children upon whom to rely in old-age
    • Longer life and duration of retirement.
  – Response depends on expectations about public and familial transfer systems.
• Dividend is invested in human capital
  – Quality-quantity tradeoff: fewer children, but invest more per child
  – Return on investment depends on continuation of transfer systems.
• Results: Possible to maintain standards of living of the elderly and overall standards of living despite population aging.
Aging and Accumulation of Assets

Simulation results
- Open economy
- General equilibrium
- Old-age transfers exogenous


<table>
<thead>
<tr>
<th>Region</th>
<th>IG trans share low (0.35)</th>
<th>IG trans share high (0.65)</th>
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<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td>China +</td>
<td>2.6</td>
<td>4.4</td>
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<tr>
<td>Japan</td>
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<tr>
<td>Korea</td>
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Key Results
If elderly rely on transfer programs for 65% of their lifecycle deficit, assets increase by very little and standards of living fall.
If elderly rely on transfer programs for only 35% of their lifecycle deficit, assets increase substantially and standards of living rise.
Human Capital – Fertility Tradeoff

- Strong tradeoff between TFR and HK.
- Estimated elasticity is close to -1.
- Implies that total investment in human capital doesn’t decline with fertility.
- China has very low HK spending given its TFR.

Notes: HK is synthetic cohort measure of lifetime spending on child health and education. Values are normalized on mean labor income of workers 30-49.

Figure 6. Macro Indicators: Baseline Results

Bottom line: Low fertility leads to higher consumption. Human capital investment has moderated the impact of fertility swings on standards of living.

Source: Lee and Mason forthcoming.
Wrapping Up

- Perhaps changes in the economic lifecycle will ameliorate the adverse effects of population aging, but large decline in economic support ratio is almost certain.

- Investment in physical and human capital can lead to a second demographic dividend and sustain higher standards of living.

- The role of transfer programs is complex as they undermine capital accumulation but complement human capital accumulation.
Importance of policy

• Removing impediments to productivity for older workers.
• Controlling costs of health and long-term care.
• Restoring the health of the global financial system.
• Developing sustainable transfer programs.
• For China, increased investment in human capital.
The End