

# **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

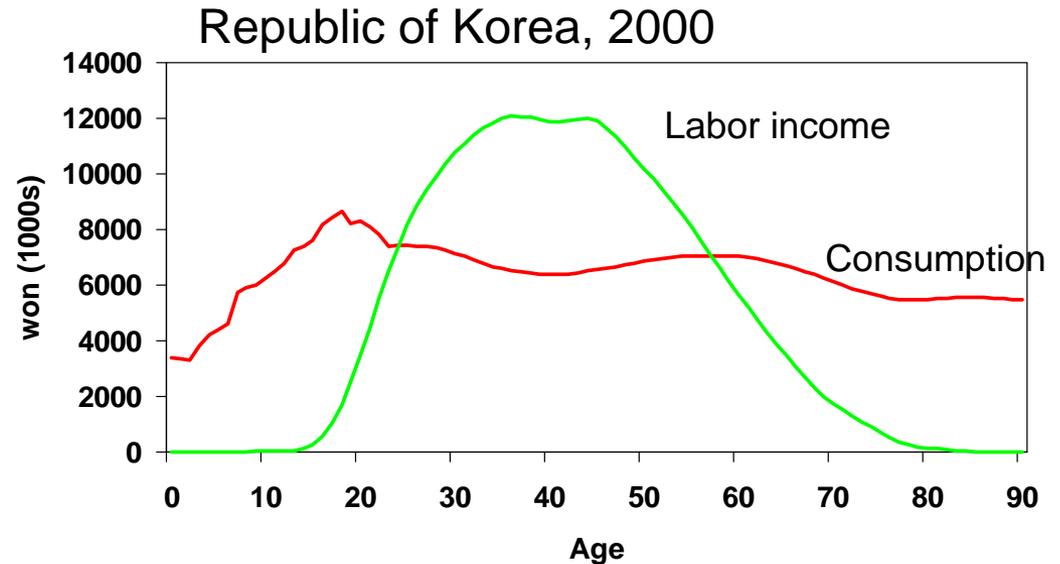
- How will population aging influence
  - economic growth (per capita and aggregate)
  - generational equity (cross-sectional and longitudinal)
- What policies can be pursued to influence the outcome?
  - Changes in the economic lifecycle
  - Investment in physical or human capital

# 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 Amonthep
  - 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](http://www.ntaccounts.org)

# Economic Lifecycle

- 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.



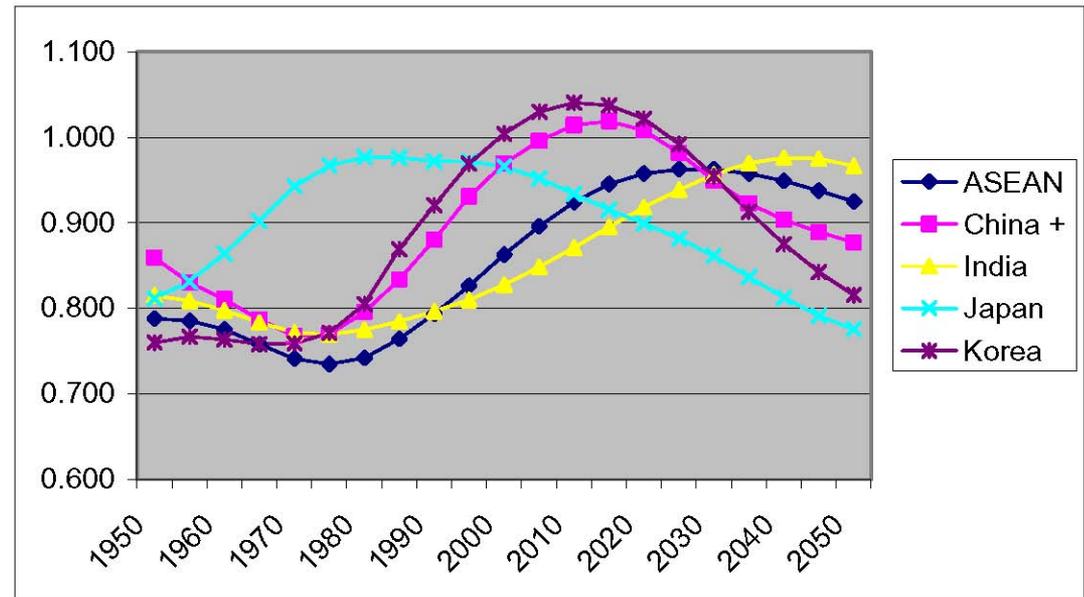
Source: An et al., forthcoming; [www.ntaccounts.org](http://www.ntaccounts.org).

## 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.

# 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.



Source: Mason, Lee, and Lee forthcoming.

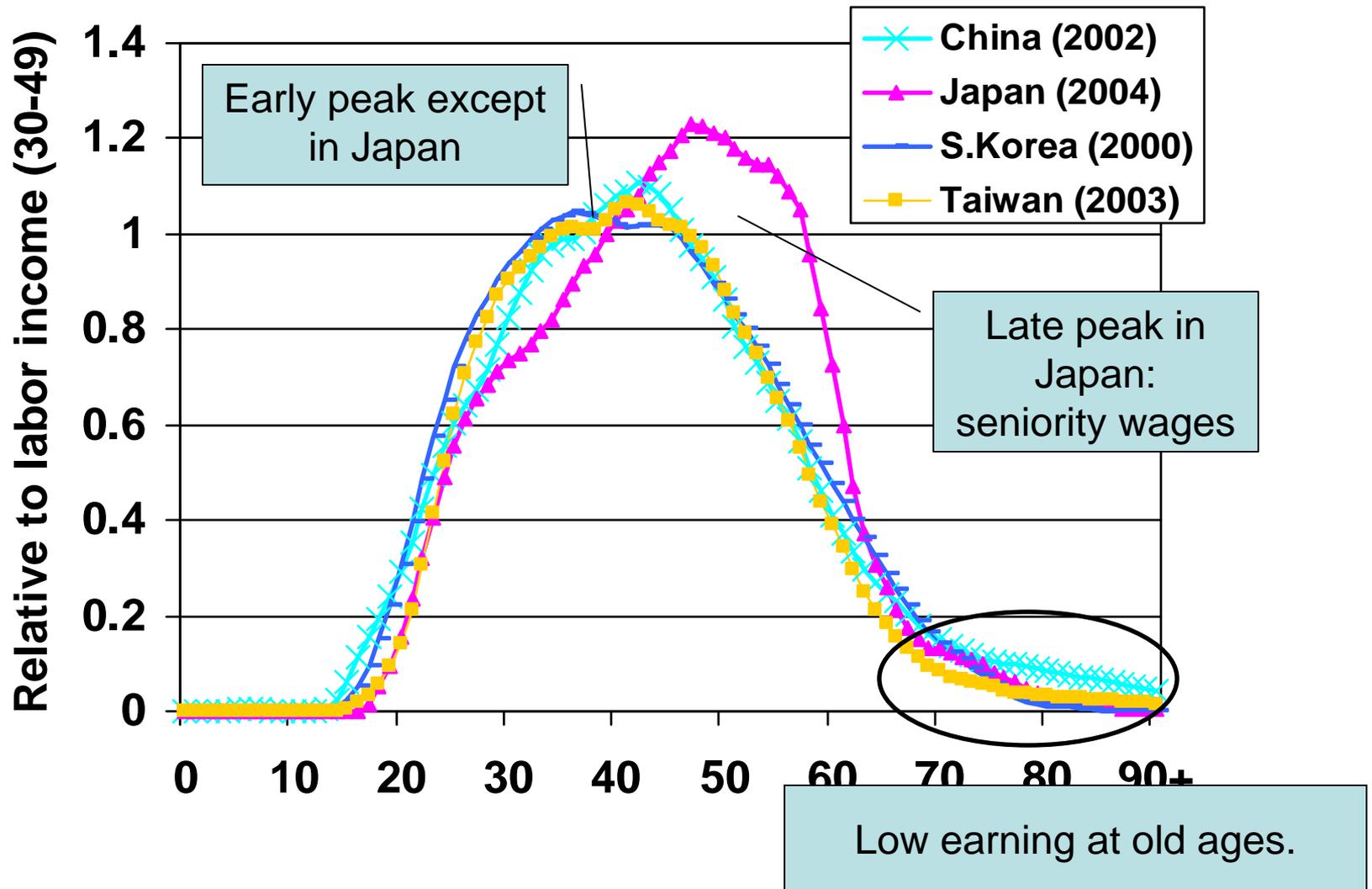
$$SR(t) = \frac{\sum_x w(x)N(x)}{\sum_x c(x)N(x)}$$

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

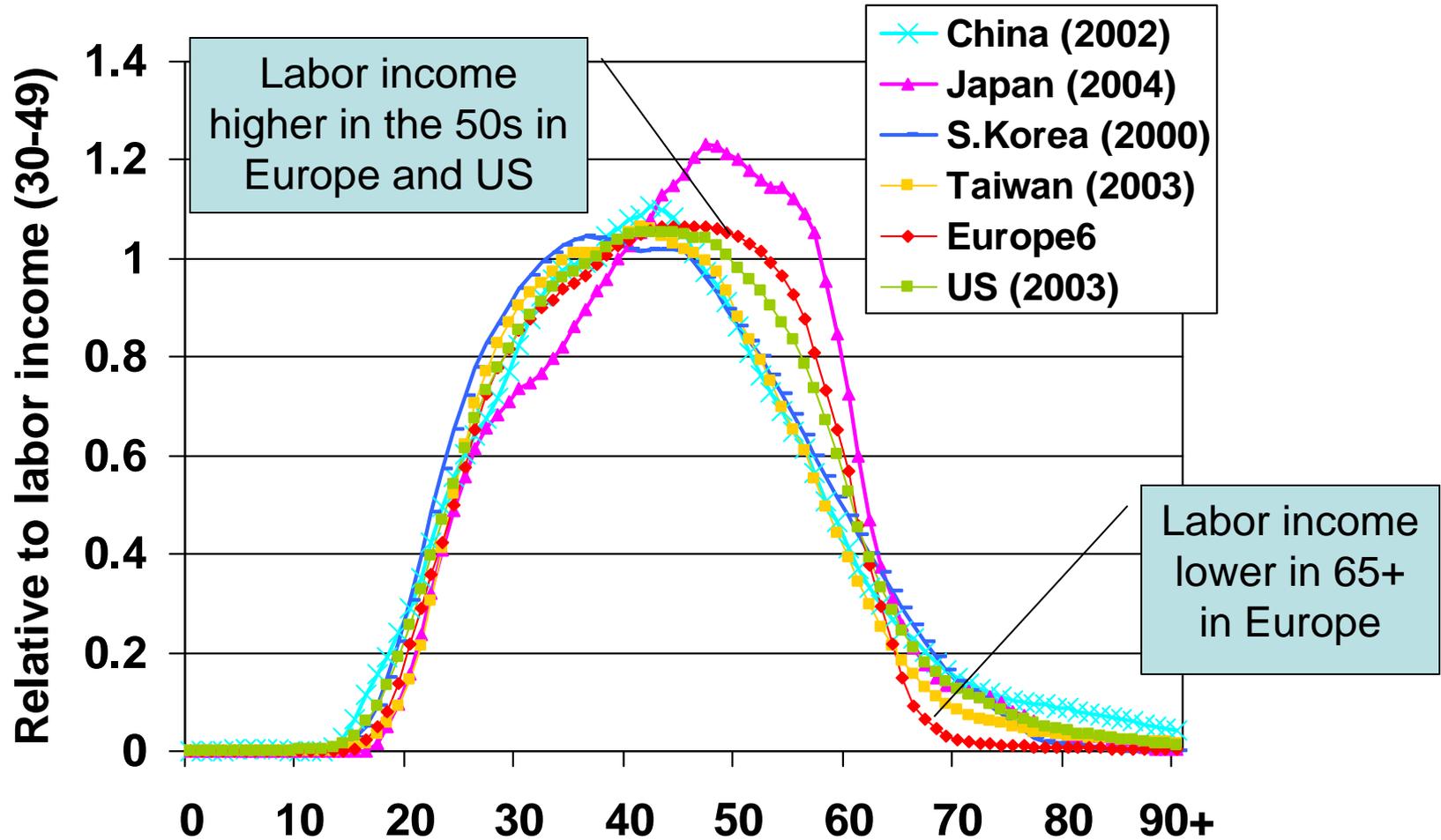
# Is there more to say?

- 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

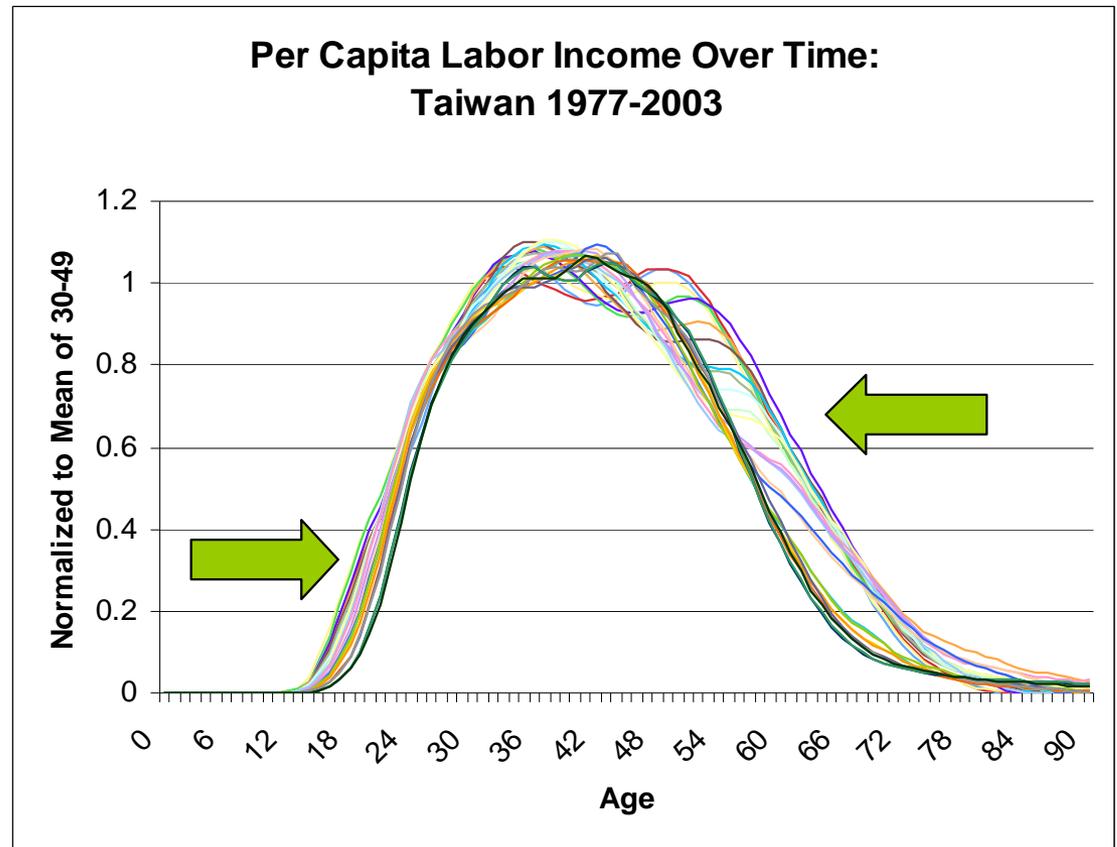


# Comparison with Europe and US



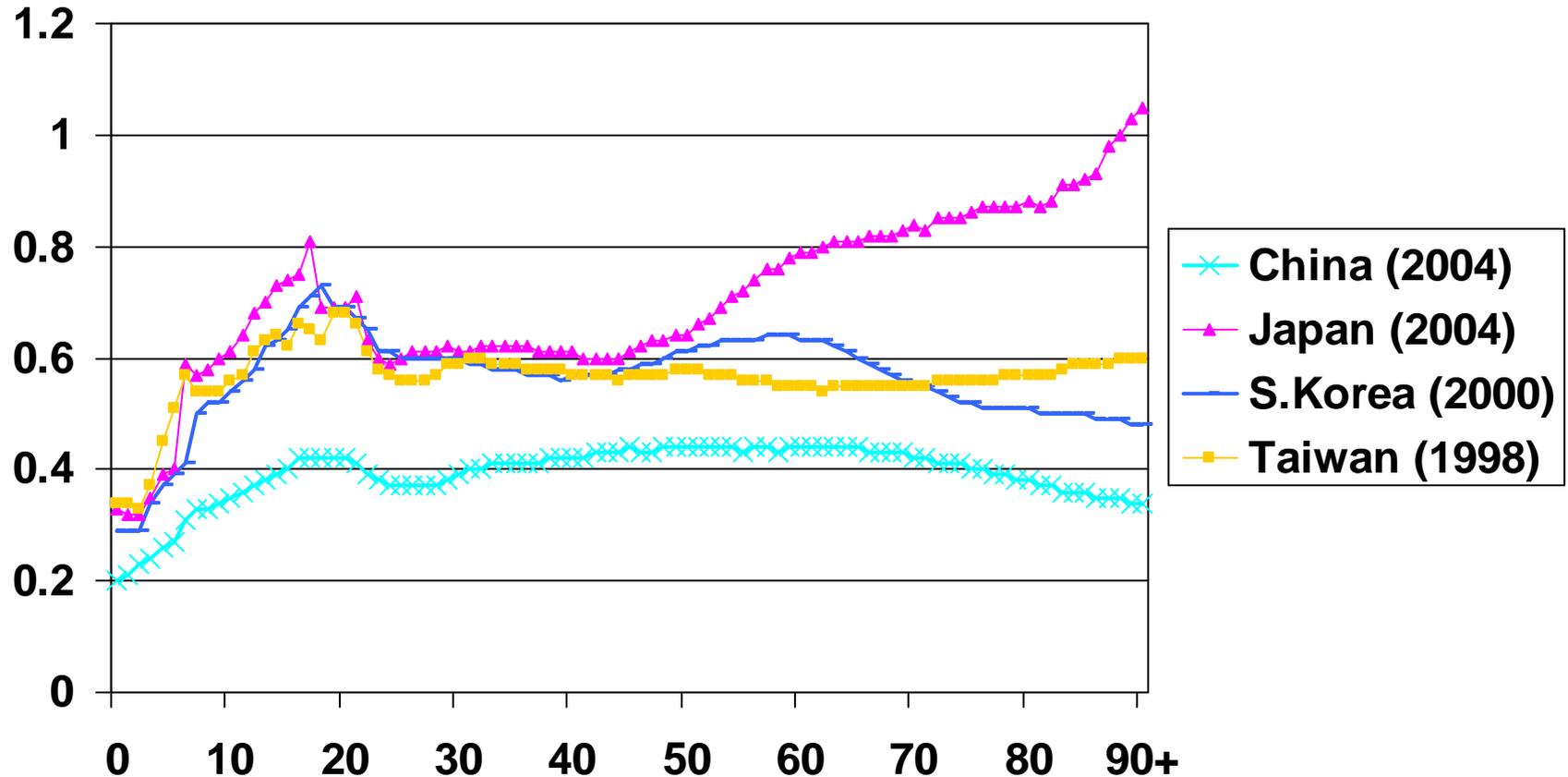
# Trend in Taiwan Labor Income

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



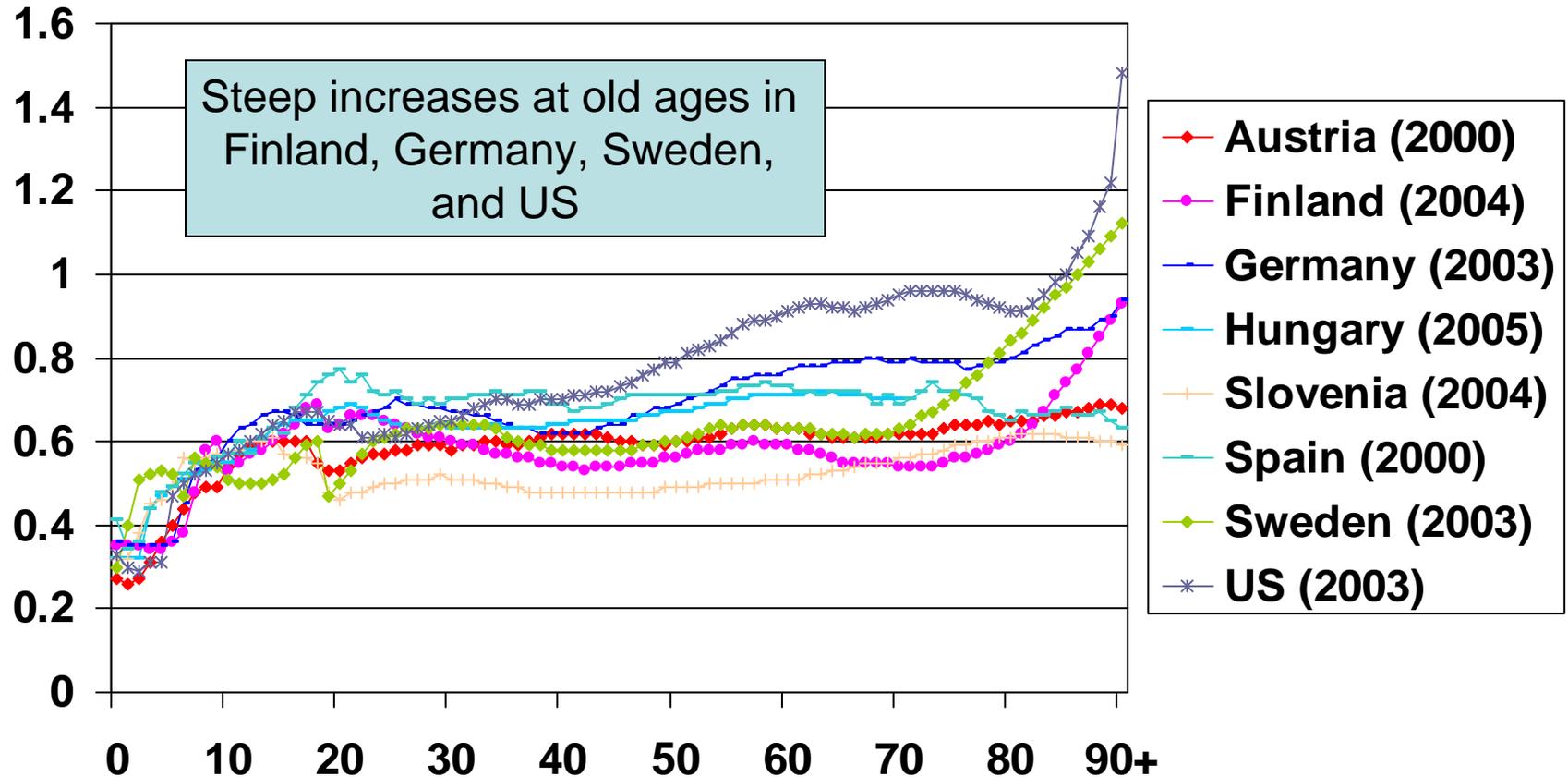
# Consumption Profiles in East Asia

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)



# 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 9. Assets/Labor Income, Country Groupings.

	IG trans share low (0.35)			IG trans share high (0.65)		
	1995	2005	2025	1995	2005	2025
ASEAN	1.6	2.4	5.0	1.3	1.5	1.8
China +	2.6	4.4	7.1	1.5	1.7	2.0
India	1.1	1.5	3.9	1.0	1.2	1.7
Japan	10.2	13.6	14.9	2.5	2.6	2.8
Korea	5.2	8.9	12.7	2.1	2.2	2.3

Source: Mason, Lee, and Lee forthcoming.

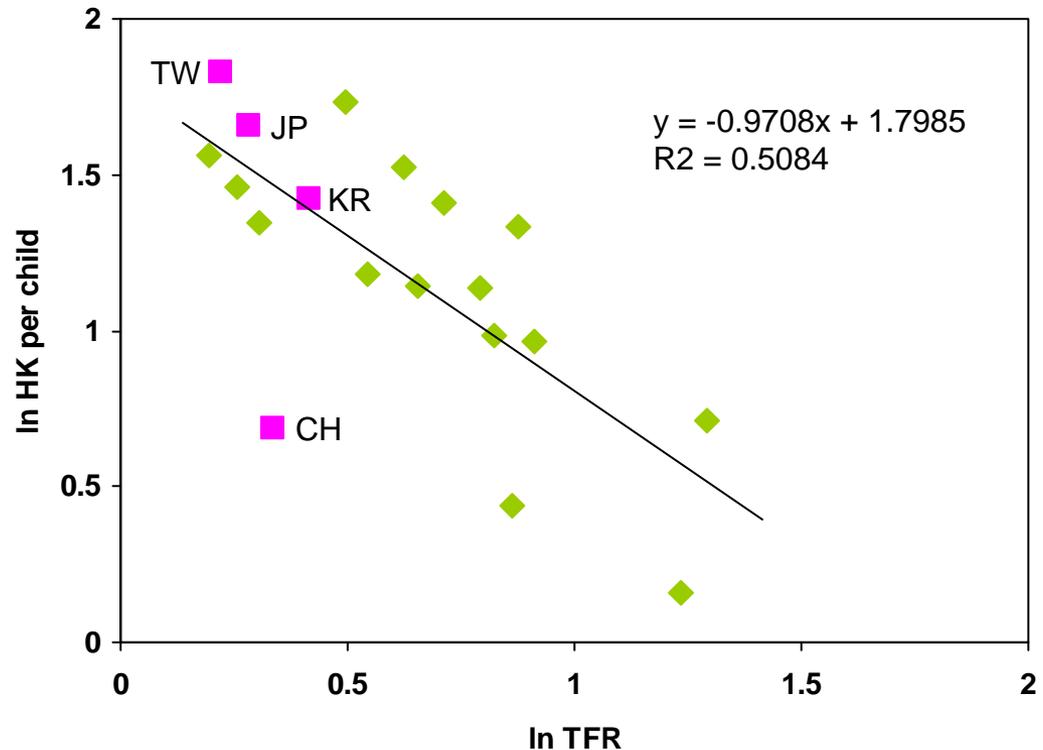
## Key Results

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

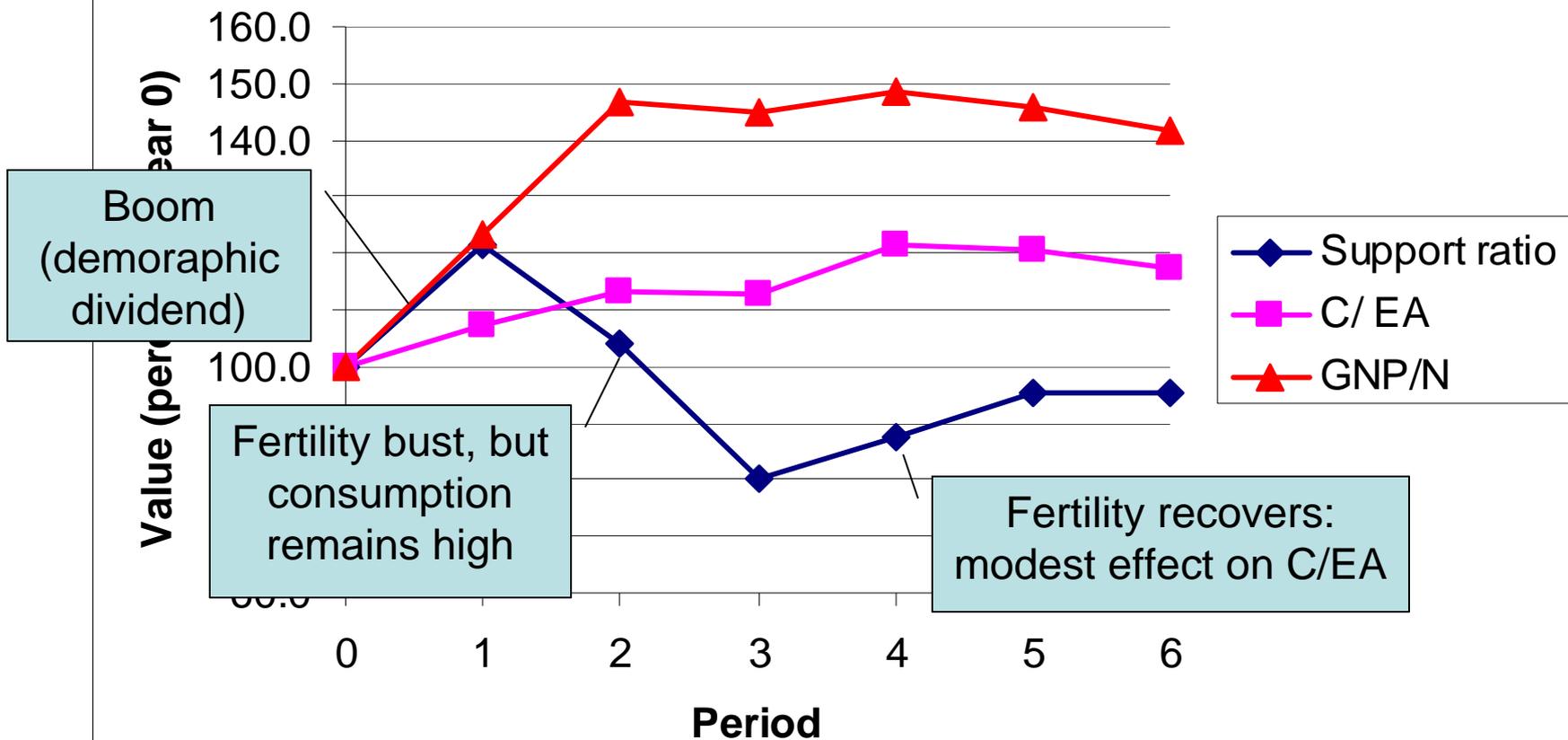
- Strong tradeoff between TFR and HK.
- Estimated elasticity is close to -1.
- Implies that total investment in human capital doesn't decline with fertility.
- China has very low HK spending given its TFR.



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.

Source: Lee and Mason, forthcoming. *European Journal of Population*; Source of data: National Transfer Accounts, [www.ntaccounts.org](http://www.ntaccounts.org).

**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