Population Aging and Intergenerational Transfers in Taiwan

(NTA Workshop III)

Andy Mason, U. of Hawaii An-Chi Tung, IEAS Nicole Mun Sim Lai, U. of Hawaii Comfort Sumida, U. of Hawaii

Outline

I. Progress and problems time series; cross-country (MLTLM)... Problems: population, macro, micro data, ... II. US-Taiwan Comparison ✓ from Taiwan's perspective **III**. An Application economic returns of childrearing

I. Progress

time series:

- o 1981-2003
- LCD: private C, public C, YL, ...
- MLTLM: Taiwan 1998 vs. US 2000

Taiwan LCD 1981-2003



real LCD (deflated by 2001 GDP deflator)



real LCD, per capita (deflated by 2001 GDP deflator)



real LCD, per capita (deflated by 2001 GDP deflator)



real LCD, by cohort (deflated by 2001 GDP deflator)



real LCD, per capita, by cohort (deflated by 2001 GDP deflator)



Observations

- LCD: higher on both ends, lower in the middle part
- Cohort trend: earlier to retire, (but later to work?)...

(cross-country comparison reported later.)

Problems of data

population accuracy

- o survival rate >1 for young ages \rightarrow backward extrapolation
- No detail for 80+/90+ in some \rightarrow use lifetable,...

macro controls

- <u>NHI not included in Gov</u>! \rightarrow need separate estimates
- education and health: gov C on edu \neq (public) edu exp.
- change of accounting system: SNA68 to SNA93 last year

micro data

• change in definition, coding ...

II. US and Taiwan

Taiwan in 1998 vs. USA in 2000

✓data: MLTLM

✓ perspective: relevance for Taiwan

per capita LCD

Taiwan 1998 vs. USA 2000



Note: normalized by Mean YL, age 20-40

Per Capita LCD

Taiwan 1998 vs. US 2000



Note: normalized by Mean YL, age 20-40

Observations (1)

- Large lifecycle differences
- Americans retire later than Taiwanese.
- American elderly consume more than the non-elderly and Taiwanese, ...

Observations (2)

Differences in C benefits

- □ Taiwan: more spent on (private) education
- □ US: more spent on <u>health</u>

Differences in C financing

- □ Taiwan: more from *inter vivos* transfers
- US: from <u>asset reallocation</u> (capital income and dissaving) or <u>public</u> transfers

Consumption by Components



Finance of C age 0-19 (per capita)



Finance of C

age 65+ (per capita)



Questions Not Yet Answered

¿ future Taiwan ≈ current US?

¿ implications?

Past records and future challenges

(a) first approximation – varying weights
(b) current USA as analog – LCD patterns
(c) data by cohort – adjustment on trend
(d) Japan as analog – shifting expectations (source: Ogawa & Matsukura, 2005)

(a) I mpact of Aging





Population Aging in Taiwan



LCD of Taiwan

weighted by size of age group



Note: normalized by Mean YL, age 20-40

Impact of Aging on LCD

weighted by size of age group



Note: normalized by Mean YL, age 20-40

1st Approximation

- the same LCD profile, with older population structure,
- □ a substantial rise for the elderly
- with minor reduction for the young, and little change for the working age group.

(b) US as Future of Taiwan

Findings from MLTLM







US as Proxy of Future Taiwan

US elderly spend more

US elderly rely more on public transfers or self-help (from dis-saving..), rather than family support,...

Q: Is Taiwan more like the US over time?

(c) LCD by Cohorts

(cohort born 1898~1998, p.c. ,, real 2001 GDP deflator)



LCD Increase on Both Sides

- Increase in LCD for both the young and the elderly over time,
- Iarger contribution during working age

(d) Effect of Expectations

Macro evolution is based on micro behavior.

- People are forward-looking, therefore expectation matters (Lucas Critique)
- What to do in long-term projection?

Japan vs. Taiwan

□ Similarity in culture: Confucianism,...

- Ahead of Taiwan in many aspects
 - "Flying geese" in industrial development
 - Demographic transformation: e.g., aging and decline in population size
 - ✓ Norm and expectations: e.g., family support

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



Japan's Plight Applicable to Taiwan?

Ogawa and Matsukura (2005)

- private transfers: reduced family supports
- public transfers: not to be relied on?
- demographic changes: aging + lowest low fertility
- □ <u>HC quality</u>: lower performance of young HC
- \Rightarrow Applicable to Taiwan, too?

What to Expect (1)

Findings from changes in weights, behavior, expectation:



What to Expect (2)

Implications

- Competition between the elderly and the young
- Allocation between public and private transfers

Problems

- Funding to the young, who have no votes, may be crowded out?
- Vicious circle: low HC investment, low growth, less resources available for both old and young, ...