

Aging and Economic Growth in the Pacific Region



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Aging Population

Potential risks of aging population:

1. Fiscal burden through public pension and health insurance plans.
2. Economic growth slowdown

Pacific region: one of the most rapidly aging regions

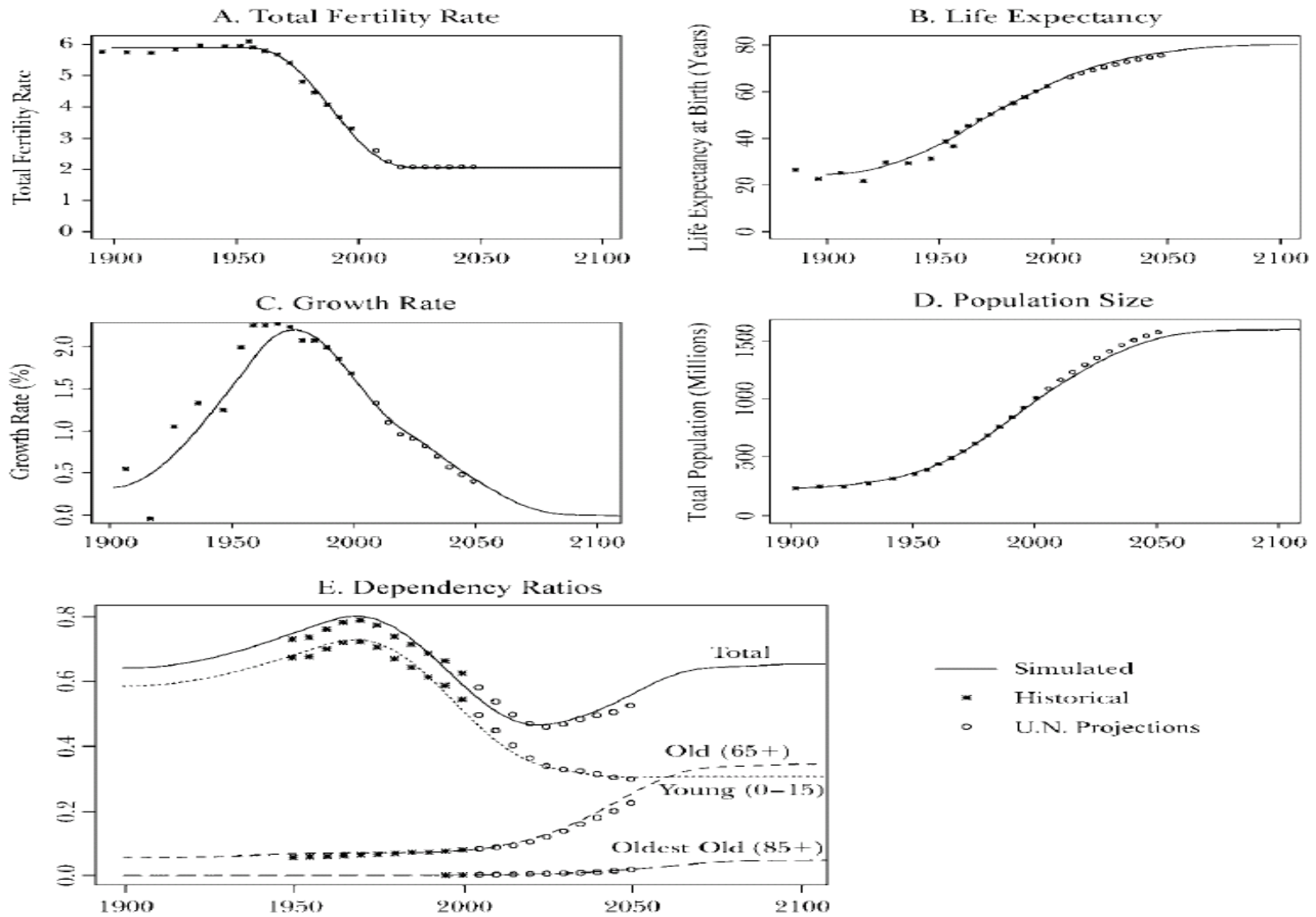


Global Population Trends over the Demographic Transition: 1700-2100

	<i>Life Expectancy</i> (Years at Birth)	<i>Total Fertility Rate</i> (Births per Woman)	<i>Pop Size</i> (Billions)	<i>Pop Growth Rate</i> (%/Year)	<i>Pop < 15</i> (% of Total Pop)	<i>Pop > 65</i> (% of Total Pop)
1700	27	6.0	.68	0.50	36	4
1800	27	6.0	.98	0.51	36	4
1900	30	5.2	1.65	0.56	35	4
1950	47	5.0	2.52	1.80	34	5
2000	65	2.7	6.07	1.22	30	7
2050	74	2.0	8.92	0.33	20	16
2100	81	2.0	9.46	0.04	18	21

Lee, Ronald, 2003, "The Demographic Transition: Three Centuries of Fundamental Change," *Journal of Economic Perspectives*, Vol. 17, No. 4, pp. 167–90.

A Classic Demographic Transition: India, 1900-2100



Lee, Ronald, 2003, "The Demographic Transition: Three Centuries of Fundamental Change," *Journal of Economic Perspectives*, Vol. 17, No. 4, pp. 167–90.

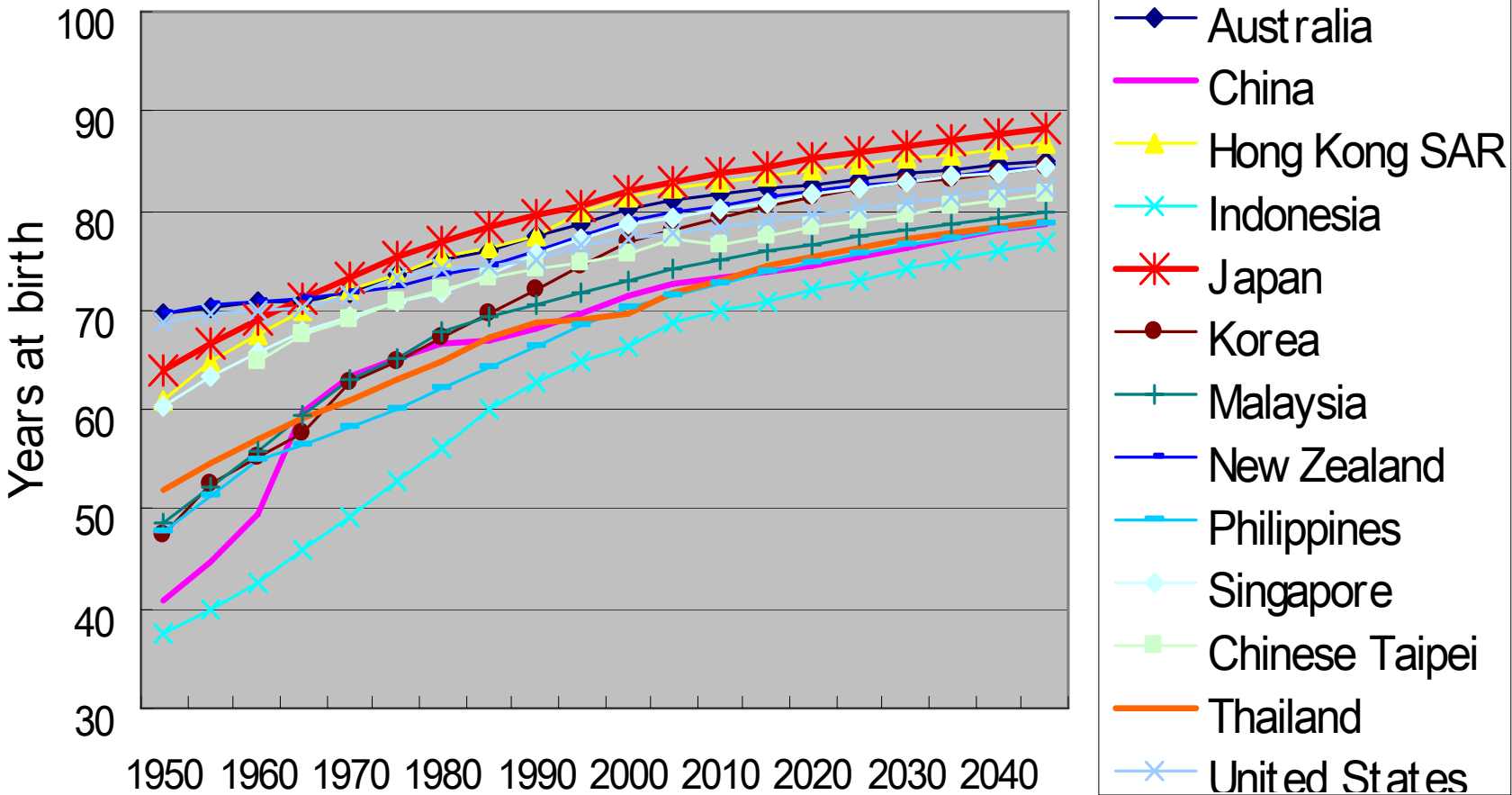


Demographic Trends

Global demographic transition, but with considerable variation across countries and regions due to very different fertility and mortality trends.

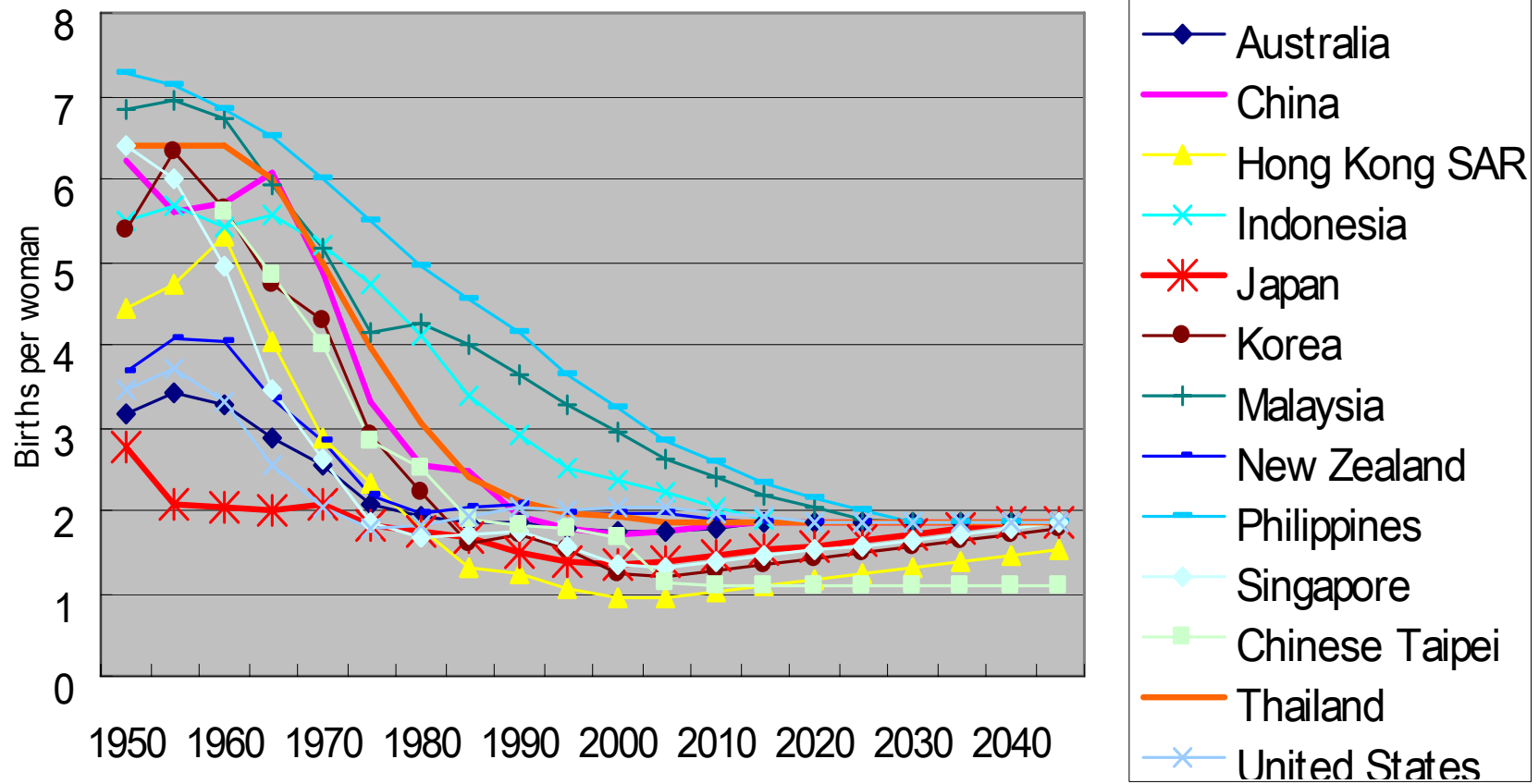
PECC region covers the most rapidly aging economies in the world.

Life Expectancy



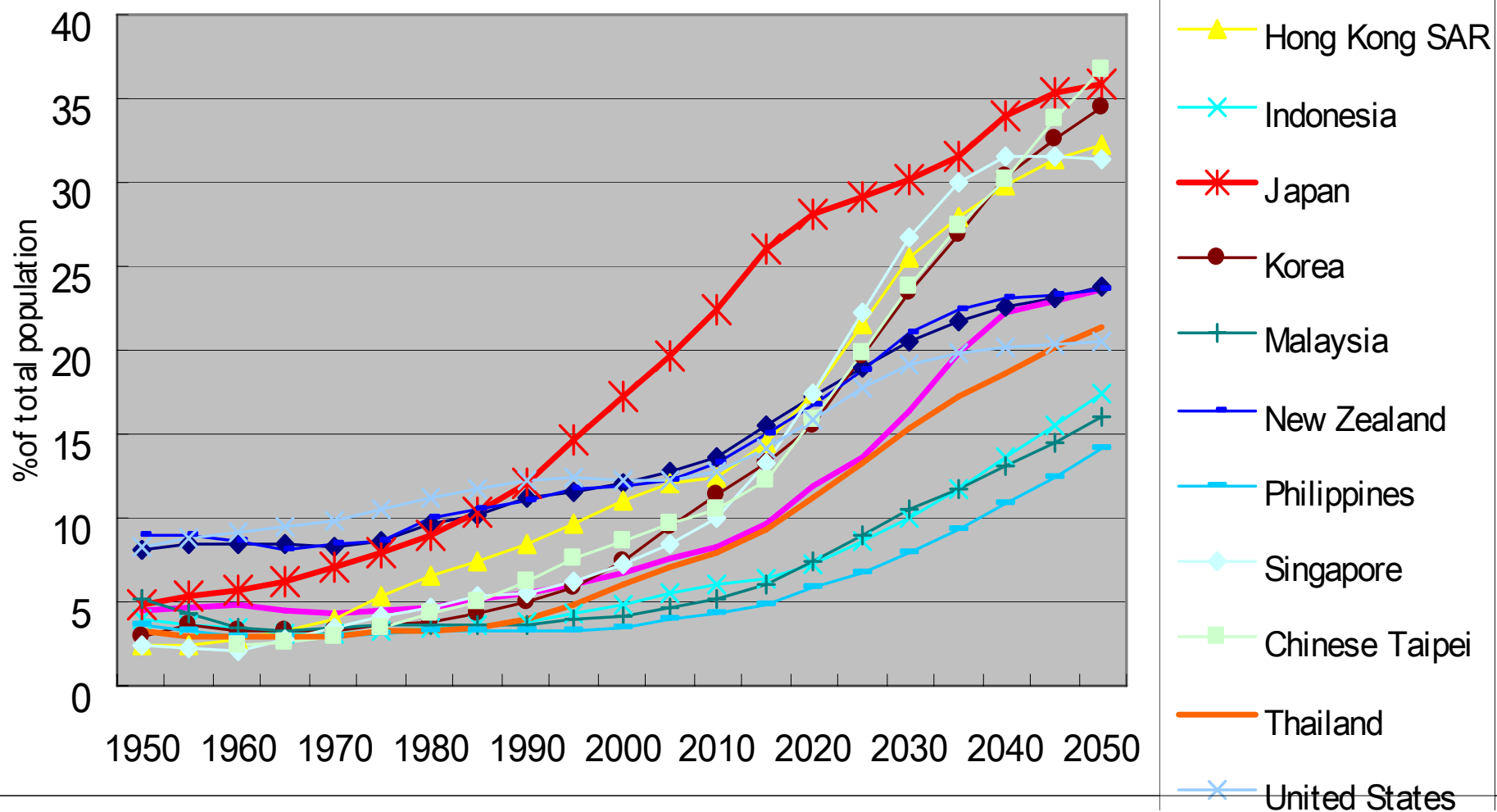
Kohsaka, Akira, ed., *Aging and Economic Growth Potentials in the Pacific Region*, Japan Committee for Pacific Economic Outlook, Osaka, Japan, July 2007, pp. 1-255.

Fertility Rate



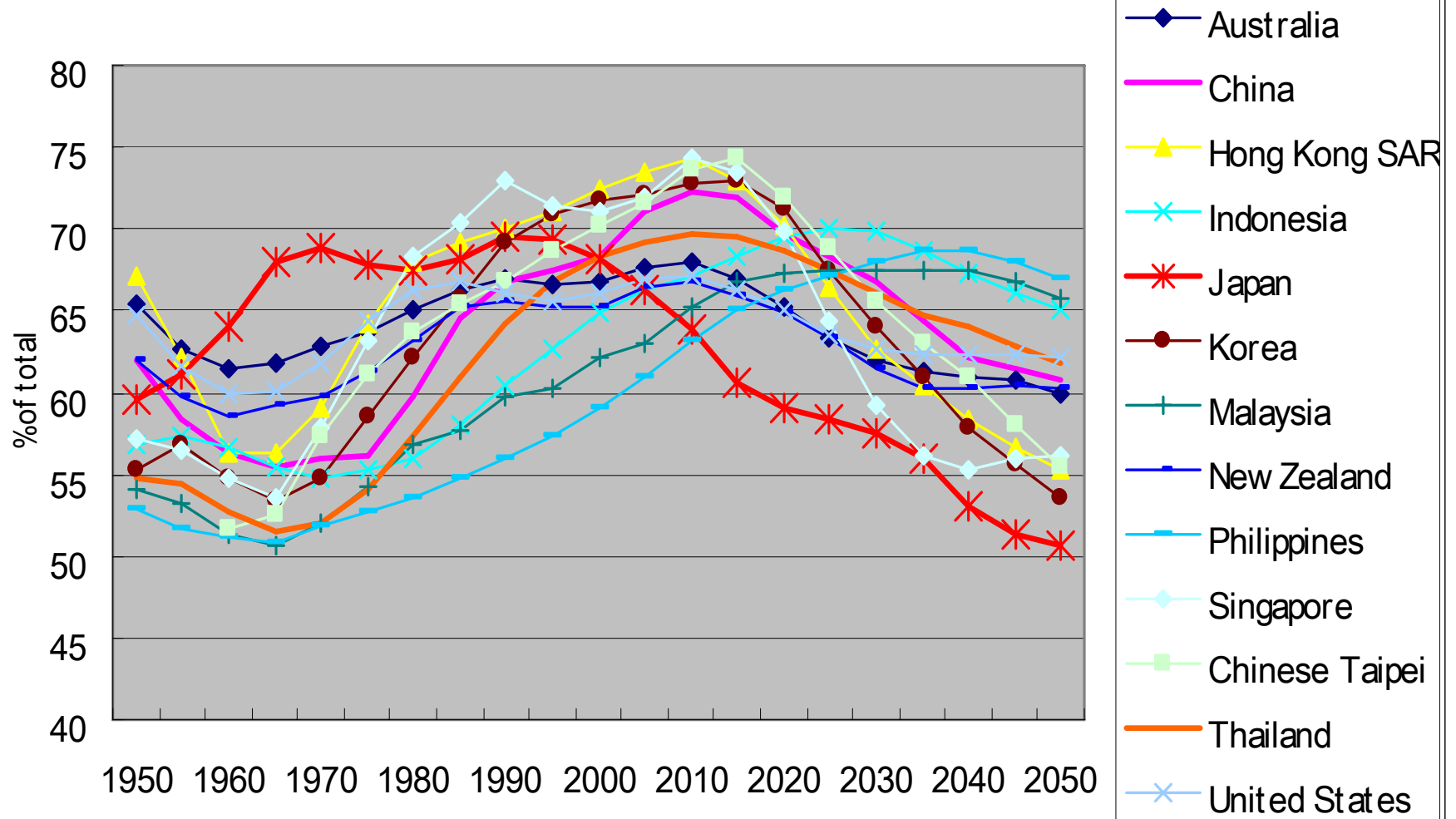
Kohsaka, Akira, ed., *Aging and Economic Growth Potentials in the Pacific Region*, Japan Committee for Pacific Economic Outlook, Osaka, Japan, July 2007, pp. 1-255.

Elderly Population (65- years old)



Kohsaka, Akira, ed., *Aging and Economic Growth Potentials in the Pacific Region*, Japan Committee for Pacific Economic Outlook, Osaka, Japan, July 2007, pp. 1-255.

Working Population (15- 64 years old)



Kohsaka, Akira, ed., *Aging and Economic Growth Potentials in the Pacific Region*, Japan Committee for Pacific Economic Outlook, Osaka, Japan, July 2007, pp. 1-255.



Aging Population

Hong Kong, Korea, Singapore and C. Taipei are joining the fastest aging club by 2040. Then Australia, New Zealand and the United States, being caught up with by China and Thailand by 2050.

Working population share will reach its peak by 2015 except for Indonesia, Malaysia and Philippines.



Impact of Aging on Economic Growth

Different timing and speed of demographic changes across economies

→ different age composition of populations

Economic growth comes from labor supply, capital formation and productivity growth.

→ Demographic changes affect the three channels directly and indirectly.



Benchmark Estimates of the Impact

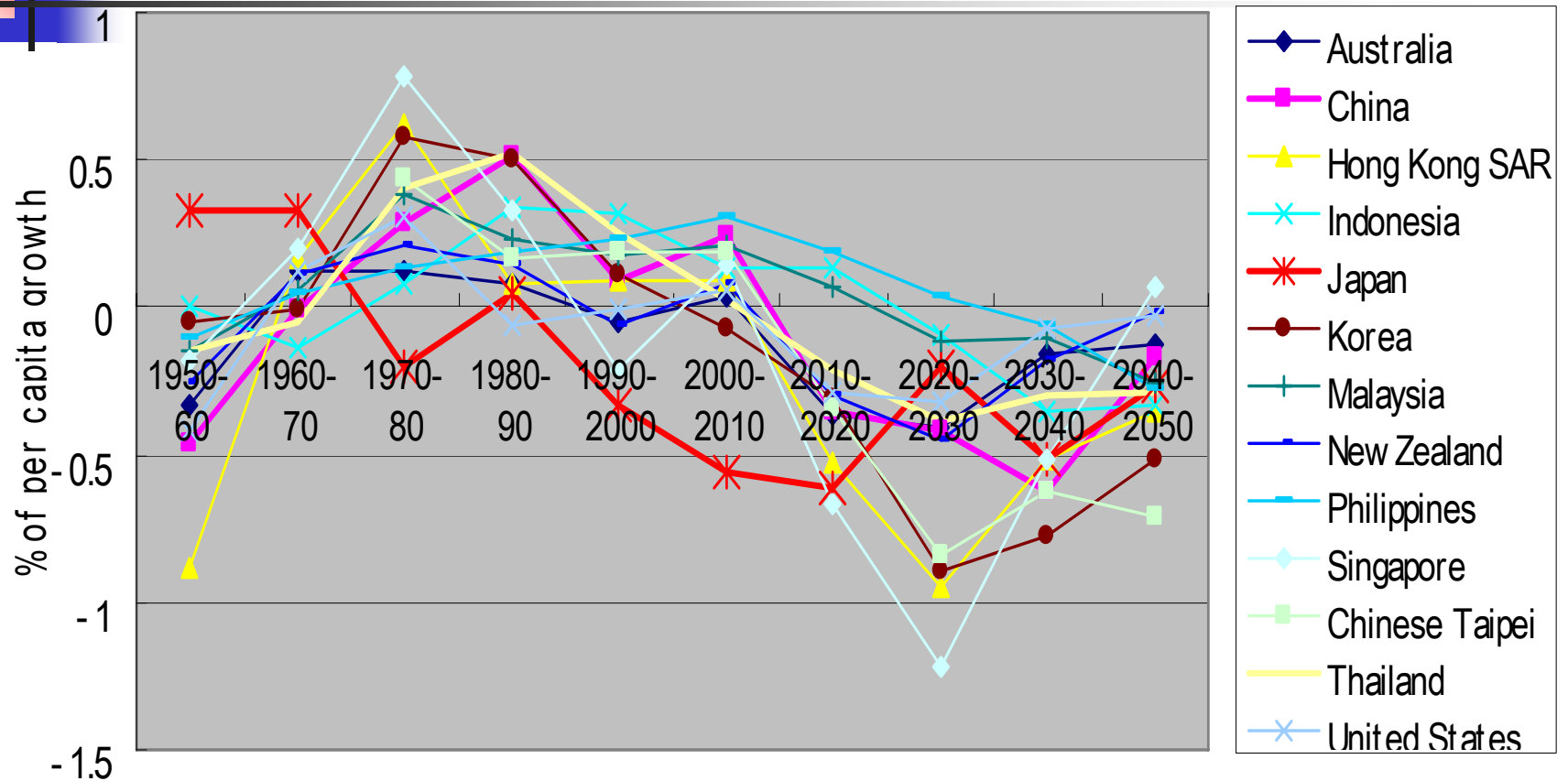
IMF [2004]: Growth regression using a 115-country panel data set for the period 1960–2000.

Per capita GDP growth is correlated:

(+) w/ working population share change

(--) w/ elderly population share change

Figure 5. Estimated Demographic Impacts on Per Capita Economic Growth



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Benchmark Implications?

Positive impacts of demographic changes on growth during the latter half of the 20th century.

The positive impacts mostly end by 2010, and negative ones would start toward 2050.

Both positive and negative impacts be larger in Hong Kong, Korea, Singapore and Taipei than the others, and the negative impacts would be sharper and more acute than the positive ones.



Missing Links (I): Panel Regression

Individual effects: regional and country differences neglected.

Time effects: globalization and other institutional developments and endogenous responses to them neglected.

Particularly the asymmetry between the young and elderly dependent in saving.



Missing Links (II):

Two Demographic Dividends

Only the *first dividend* due to higher working-age population taken into account.

Aging can lead to the *second dividend* due to human and physical capital accumulation per capita.



Possible Policy Options

Labor supply: *Increase labor market participation rates, permit more immigration, raise the retirement age, increase fertility rates (first dividend)*

Capital formation: *Fiscal consolidation, pension reforms, stable macroeconomic framework (second dividend)*

Productivity: *structural reforms to reduce the impediments to competition, to improve labor market and price flexibility, to upgrade human resources (second dividend)*

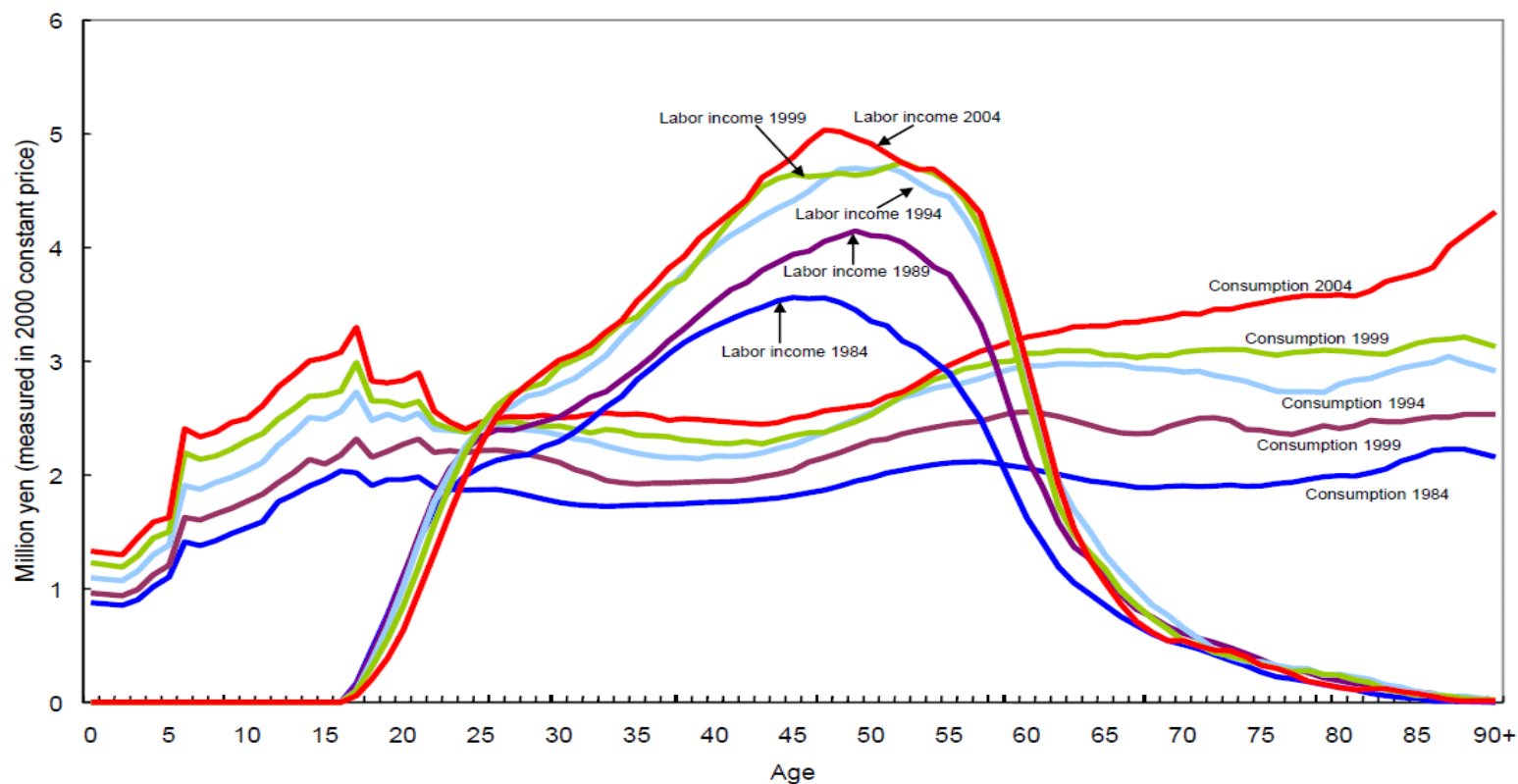
Financing Economic Life-Cycle



Figure 5. The Economic Lifecycle, Developing World Profile. Source: (Lee and Mason 2007).

Financing Growing Economic Life-Cycle

Figure 6. Age-specific profiles of per capita consumption and production: Japan, 1984-2004



Ogawa, Naohiro, Andrew Mason, Amonthep Chawla and Rikiya Matsukura, "Japan's Unprecedented Aging and Changing Intergenerational Transfers," paper for the East Asian Seminar on Economics, Seoul, June 19-21, 2008.

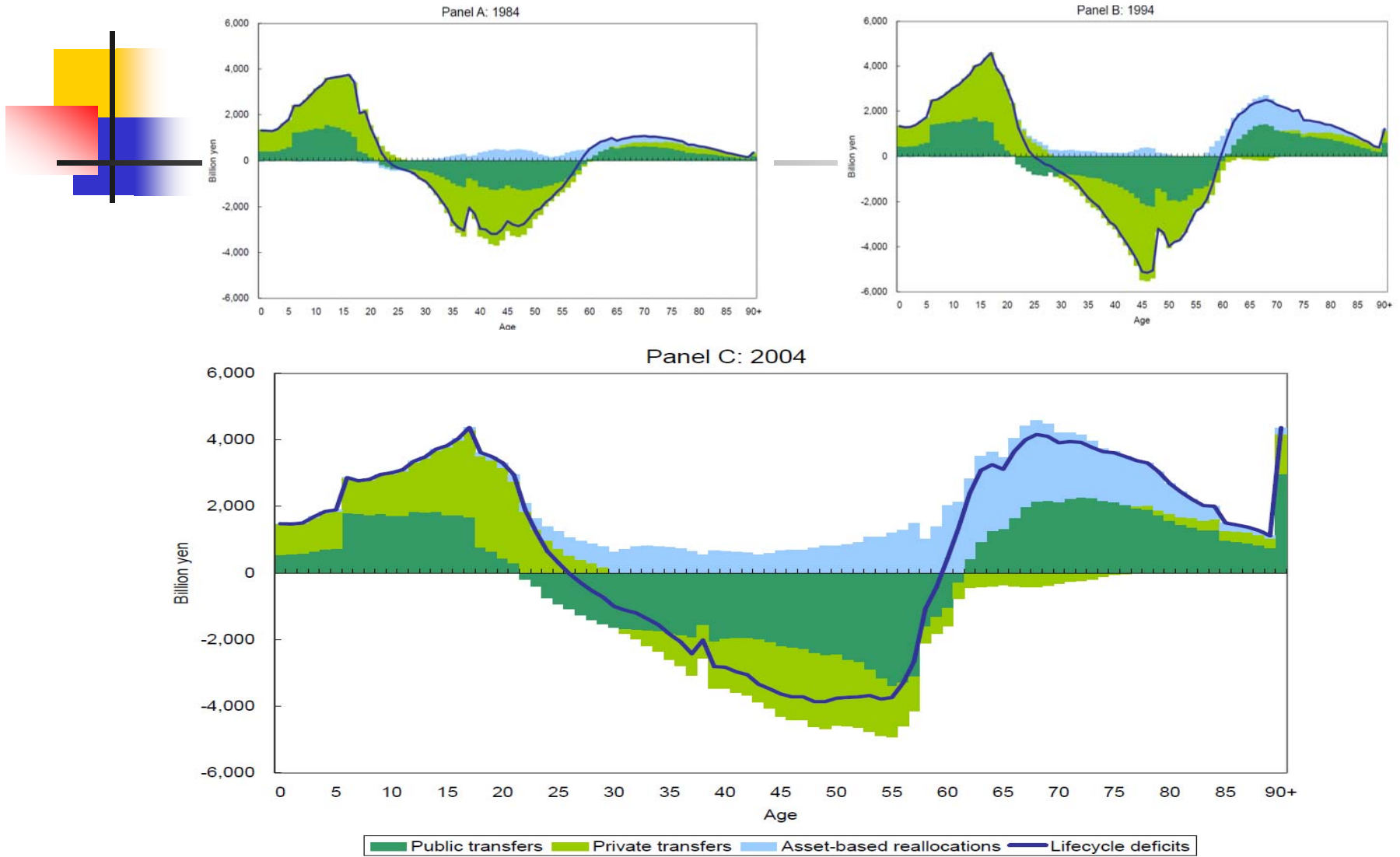


How to Sustain Growing Economic Life-Cycle

Elderly consumption to be financed through:

1. private saving or fully-funded public transfers (maintaining second dividend)
2. private and PAYGO public transfers (consuming second dividend)

Financing Life-Cycle Deficits: Japan, 1984-2004



Ogawa, Naohiro, Andrew Mason, Amonthep Chawla and Rikiya Matsukura, "Japan's Unprecedented Aging and Changing Intergenerational Transfers," paper for the East Asian Seminar on Economics, Seoul, June 19-21, 2008.



To Sum Up (I)

Some prior empirical studies, concentrating on the first dividend, tend to understate country differences and time effects as well as possible future adjustments.

Even so, the estimated negative impacts on per capita economic growth in the PECC member economies appear modest.



To Sum Up (II)

If elderly consumption is financed by lifecycle saving rather than intergenerational transfers, aging will lead to further capital accumulation favoring economic growth.

This second demographic dividend as well as behavioral change in response to demographic transition will likely outweigh the disappearing first dividend.



To Sum up (III)

Since the present dramatic population aging is unprecedented, it will inevitably bring serious economic and political challenges.

Life in aging, capital-intensive and culturally diverse countries in itself is part of our ultimate goals.

There seems no reasons for negative impacts of aging on potential economic growth in the PECC region.