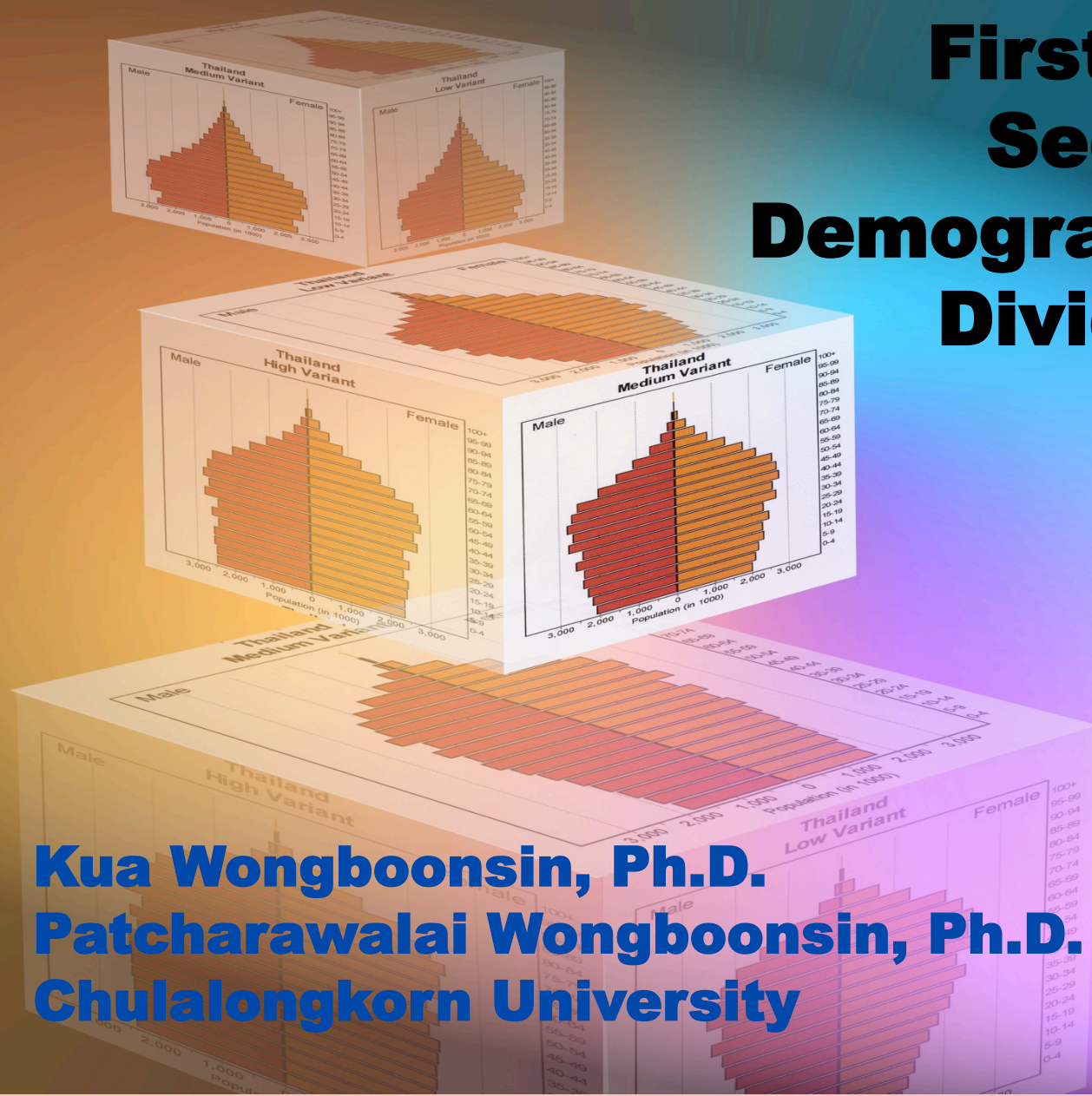


First and Second Demographic Dividend



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Patcharawalai Wongboonsin, Ph.D.
Chulalongkorn University

Demographic Dividend

Demography-Economy Nexus

- This presentation highlights the importance of the nexus between demographic change and economic growth.
- The central message is that demography matters a great deal for economic growth.
- This is particularly in terms of the effect of age structure on the economy via
 - Labor supply - - number and composition of the workforce
 - Savings
 - Human capital
 - Productivity of workforce
 - Behavior of workforce on savings, the accumulation of human capital, and therefore on the productivity of the workforce

Demography-Economy Nexus

- Labor force participation tends to be higher among 15-64 years old than in other age groups.
 - The younger are either at home or in school, while consuming resources they do not produce
 - The older are retirees from workforce, either reduce or cease their production, while using their accumulate wealth for retirement consumption.
- Labor force participation tends to be highest among the ages 35-49 years old
 - They generate income while partially spending on their needs.
 - Working age adults, on the whole, produce more than they consume. The excess goes to children's consumption and wealth accumulation.

(Based on David E. Bloom et al. "Demographic Transition and Economic Miracles." A paper prepared as learning material for World Bank's Adapting to Change Core Course on Population and Reproductive Health, 1999).

Demography-Economy Nexus

- Education is part of human capital formation.
- Education contributes directly to the quality of life and indirectly to economic well being, by increasing productivity, which in turn promotes higher wages and a better standard of living.
- The peak savings years seem to be between the ages of 40 and 65, after children have left the home and as people prepare for retirement.
 - At the stage of the life cycle when savings behavior is especially strong, national savings rises.
 - This lasts as long as it takes for the entire cohort to age beyond those years.

(Based on David E. Bloom et al. “Demographic Transition and Economic Miracles.” A paper prepared as learning material for World Bank’s Adapting to Change Core Course on Population and Reproductive Health, 1999).

Demography-Economy Nexus

- To recapitulate, the demographic bulge creates an especially large generation of individuals who, when they reach the working years, will supply greater amounts of labor and savings, and be healthier and better educated.
 - This translates to more human and physical capital, which push out the frontier of production possibilities of the economies in which they take place.
 - Nations that learn to take advantage of these expanded possibilities can attain considerably more rapid improvements in the standards of living of their people.

(Based on David E. Bloom et al. “Demographic Transition and Economic Miracles.” A paper prepared as learning material for World Bank’s Adapting to Change Core Course on Population and Reproductive Health, 1999)

Demographic Dividend:

Key Aspect of Demography-Economy Nexus

- Demographic Dividend = the economic benefits that derive from demographic change, in terms of a feature of an age structure with the tendency for the working-age population to grow more rapidly than the overall population once fertility has begun to decline. (Based on Bloom et al., 1999)
 - Demographic Dividend may also be called Demographic Bonus
- Demographic Dividend: A Window of Opportunity
 - Normally, a demographic dividend may occur only once during a demographic transition and lasts for just a few decades (Mason, 2002; Bloom et al, 2003)
 - The rising proportion of the population in the working ages relative to that at the dependent ages is considered a window of opportunity to accrue economic benefits to both the society and each individual population

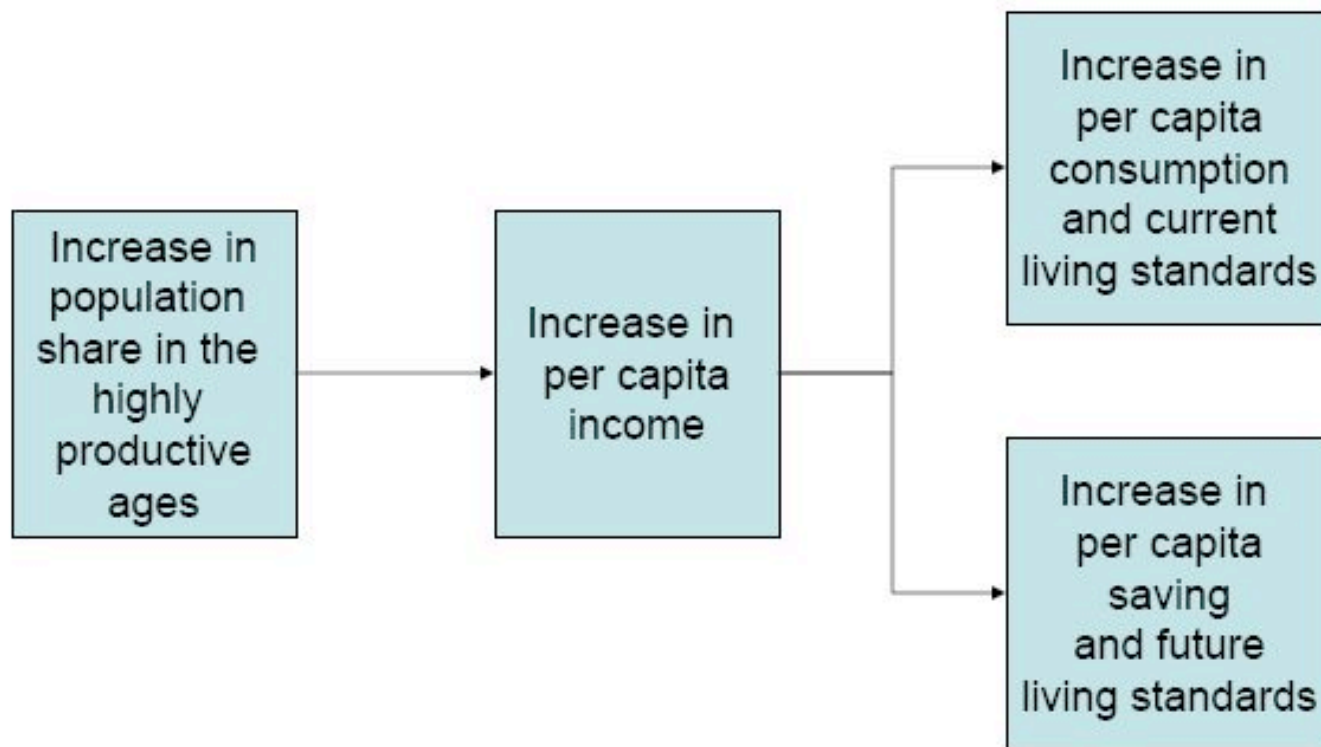
Four conditions for attaining a demographic dividend

- 1. Demographic condition: Combination of a decline in mortality, fertility, and dependency ratio**
- 2. Timing of the demographic transition: Only occurs in the middle phase of demographic transition**
- 3. Existing human-resource conditions: Quality of human resources**
- 4. Policy conditions for a more productive workforce: economic policy, labor policy, HRD policy and financial system**

(Source: Kua Wongboonsin and Guest P, Eds. 2005. **The Demographic Dividend: Policy Options for Asia**. Bangkok: College of Population Studies, Chulalongkorn University; Asian Development Research Forum; and the Thailand Research Fund.)

- An **increase in the dependency ratio**
 - signaling the fading away of the opportunity to capitalize on the demographic conditions for a demographic dividend.
 - During that time, there is an increasing proportion of the population who are elderly, due to low fertility and stable mortality. (Based on Bloom et al., 1999)
 - An increasing in the proportion of the elderly population may lead to a situation, which **constitutes burdens** to the society, the family, and an individual population.
 - The demographic change, which constitutes burden to the society, family, and an individual population, may be called a “**Demographic Onus.**” (Ogawa et al, 2004).

First Dividend

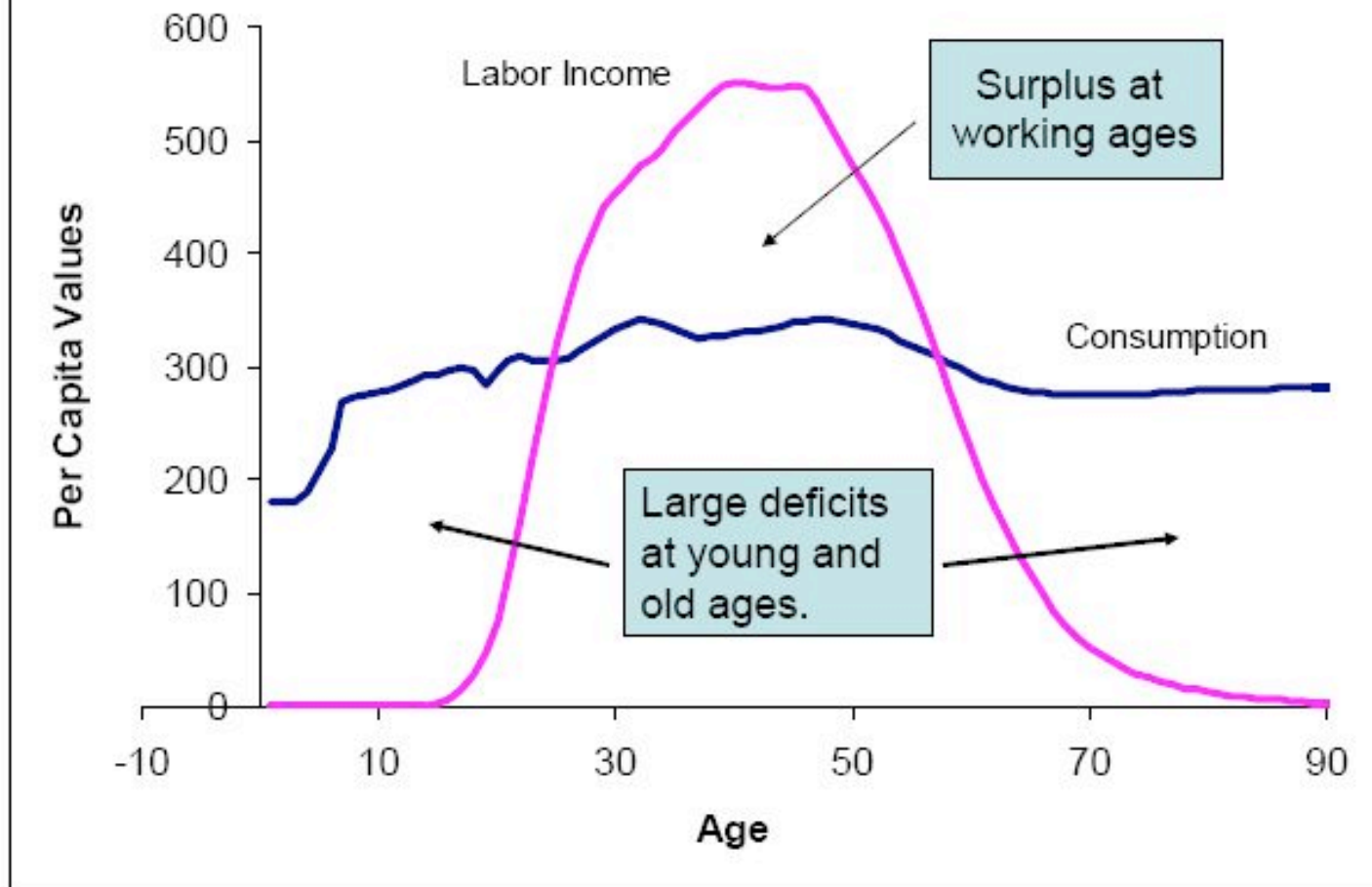


A Second Demographic Dividend: Possibility to Explore

- A second demographic dividend would be possible if changes in the age structure influence the accumulation of wealth and capital.
 - Should that be the case, ageing can lead to a sustained increase in standards of living that persist after the first demographic dividend has long disappeared

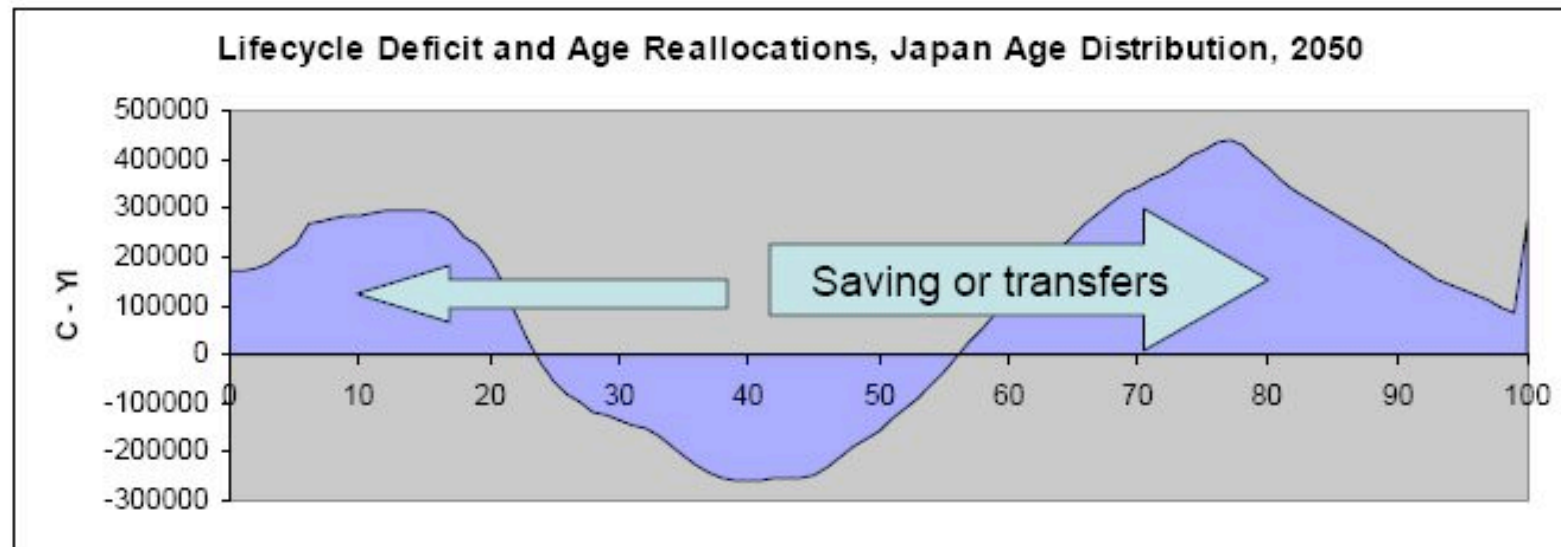
(Based on Patcharawalai Wongboonsin and Kua Wongboonsin, forthcoming. "Towards Competence Development of the Thai Workforce in the 21st Century;" and Mason, Andrew and Ronald. Lee (2006). "Reform and Support Systems for the Elderly in Developing Countries: Capturing the Second Demographic Dividend." *GENUS* LXII (2): 11-35)

An Asian Economy's Economic Lifecycle



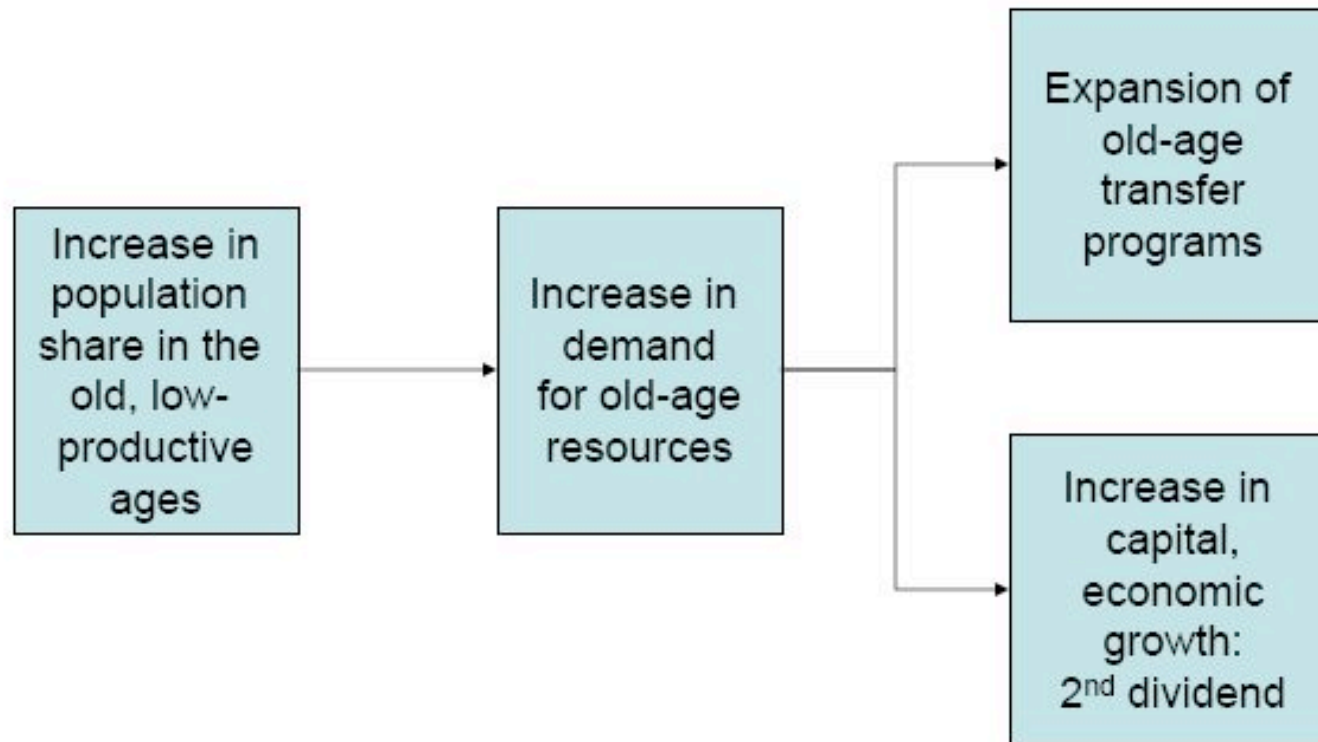
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- If reallocations to old age are accomplished via expansion of transfer programs, no second dividend.
- If reallocations to old-age are accomplished via increased saving and investment, economy grows more rapidly yielding a second dividend.

Second Dividend



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The Future of Asia

Demographic Transition in Thailand

Population size : 34.40 million in 1970

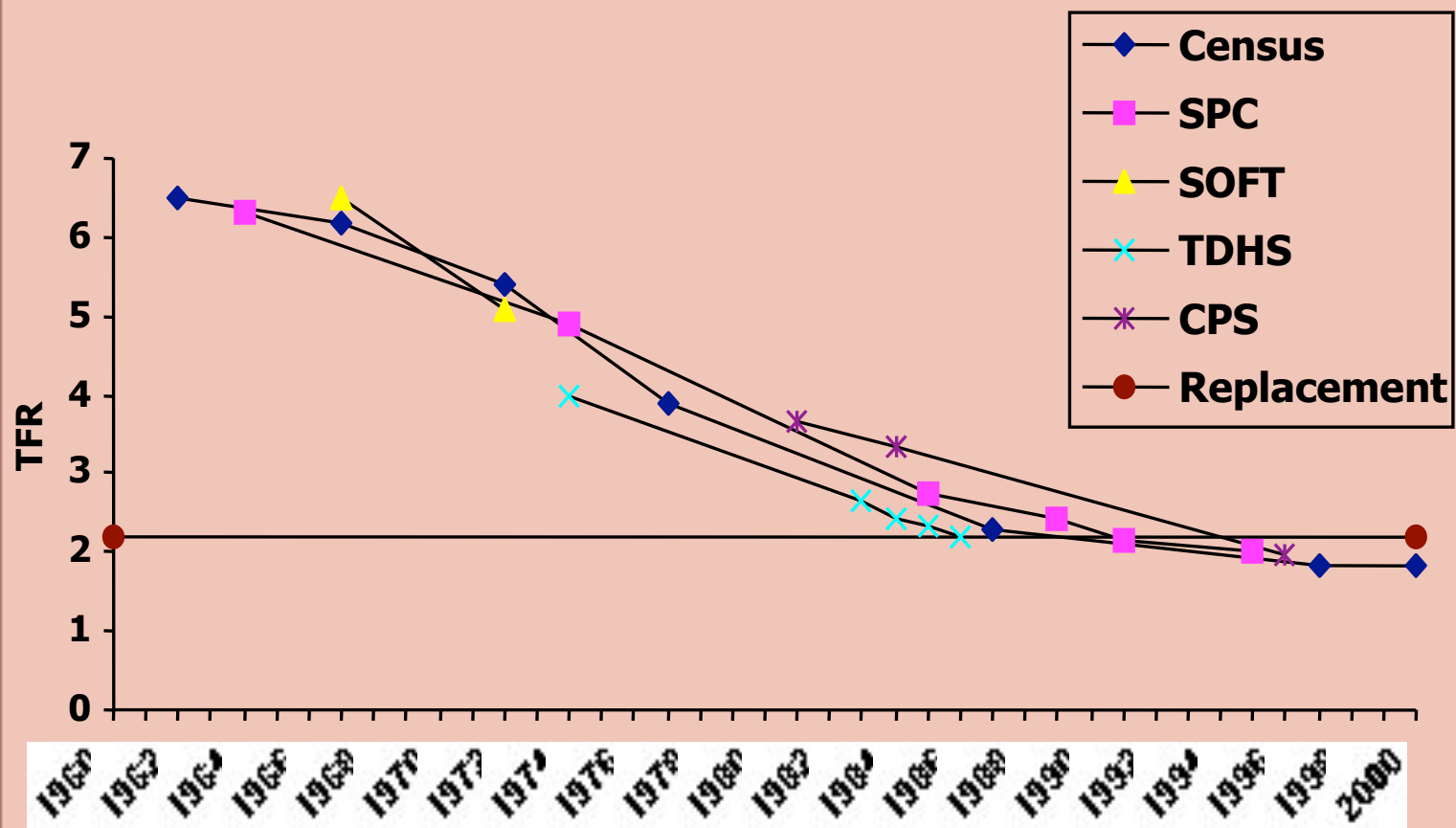
62.24 million in 2000

TFR : 6.4 in 1960-1965

1.82 in 2000-2005

(Source: Kua Wongboonsin et al. 2003. **Population Projections for Thailand 2000-2025: Implications for Population Policy in the Future**. CPS Publication No. 293/03 Bangkok: College of Population Studies, Chulalongkorn University. (in Thai).

Figure 1 : Estimated Total Fertility Rate (TFR) 1960 - 2000



(Source: Kua Wongboonsin et al. 2003. **Population Projections for Thailand 2000-2025: Implications for Population Policy in the Future**. CPS Publication No. 293/03 Bangkok: College of Population Studies, Chulalongkorn University. (in Thai).

Fertility Assumption

Fertility Level	TFR in 2000	TFR in 2025
High	1.82	2.05
Medium	1.82	1.70
Low	1.82	1.30

(Source: Kua Wongboonsin et al. 2003. **Population Projections for Thailand 2000-2025: Implications for Population Policy in the Future**. CPS Publication No. 293/03 Bangkok: College of Population Studies, Chulalongkorn University. (in Thai).

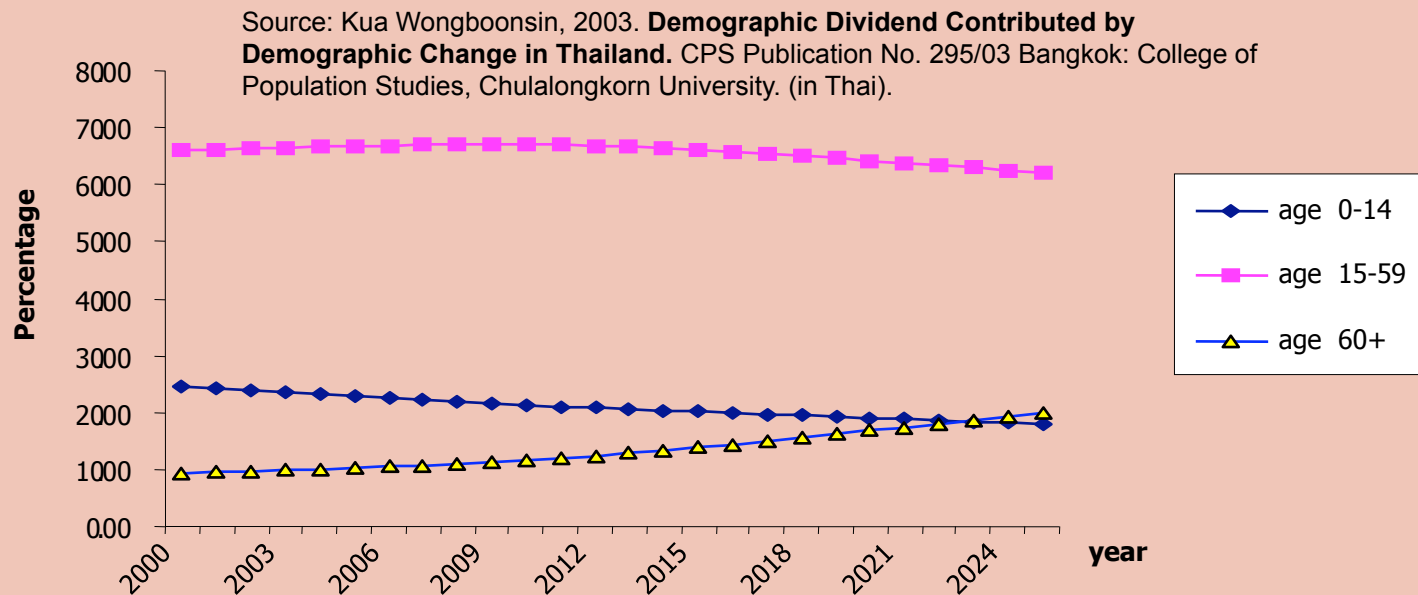
Demographic Transition in Thailand

- In Thailand, changes in population growth, driven by changing fertility over the last four decades, are expected with profound impacts on population compositions.
- The proportion of the population below 15 years of age is projected to decline from 24.65 percent in 2000 to 17.95 percent in 2025.
- After the projected peak in the proportion of the population in the labour force ages (15-59) at 67.08 percent in 2009, the proportion will decline and reach 62.05 percent in 2025.

Source: Kua Wongboonsin, 2003. **Demographic Dividend Contributed by Demographic Change in Thailand**. CPS Publication No. 295/03 Bangkok: College of Population Studies, Chulalongkorn University. (in Thai).

Consequences of Fertility Transition

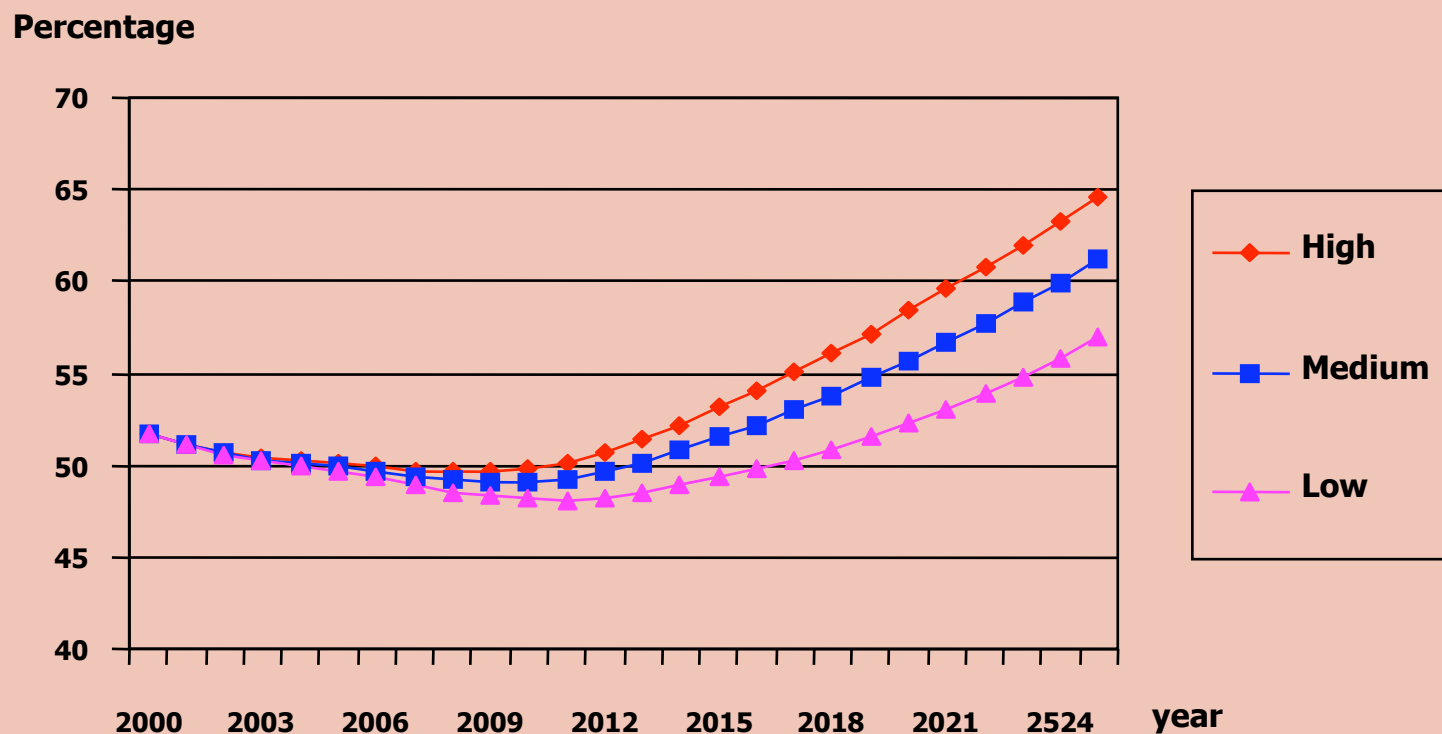
Figure 3 : Percent of Population below 15, 15-59 and 60 and above (Medium Fertility Assumption)



- Against the dwindling curve of the proportion of the population below 15 and between 15-59 years of age, the proportion curve of the ageing population (60+ years of age) is moving very fast in a surge of a double increase from 10 to 20 percentage points.
- It is like a Tsunami wave that carries negative impacts on the society.
 - This study calls such a situation as a “Tsunami ageing population phenomenon.”
 - This phenomenon is expected to bring negative impacts on the Thai society in the near future.
- In other words, Thailand will have a chance to enjoy the optimum conditions for the demographic dividend for no more than two years from now. Thereafter, Thailand will be in transition to a demographic onus, unless an appropriate policy intervention is adopted.

Source: Kua Wongboonsin and Patcharawalai Wongboonsin.2008. “Modern Population Trends, M-Curve Labour Force Participation, and the Family.” In *Asia’s New Mothers: Crafting Gender Roles and Childcare Networks in East and Southeast Asian Societies*, edited by Emiko Ochiai and Barbara Molony.Kent,UK:Global Oriental

Figure 4 : Dependency Ratios (High, Medium and Low Fertility Assumption)



Dependency ratio will fall from 0.52 in 2000 to 0.49 in 2009 then steadily increase to reach 0.62 in 2020.

Source: Kua Wongboonsin, 2003. **Demographic Dividend Contributed by Demographic Change in Thailand.** CPS Publication No. 295/03 Bangkok: College of Population Studies, Chulalongkorn University. (in Thai).

Graph : Live Expectancy at Birth (e_0) and Live Expectancy at age 60 (e_{60}) by Sex.

Year	Female		Male	
	(e_0)	(e_{60})	(e_0)	(e_{60})
2000-2005	74.8	19.41	67.14	16.33
2005-2010	76.2	19.97	69.35	16.86
2010-2015	77.56	20.65	71.20	17.36
2015-2020	78.9	21.23	72.98	17.96
2020-2025	80.25	21.94	74.72	18.62

Source: Kua Wongboonsin, 2003. **Demographic Dividend Contributed by Demographic Change in Thailand**. CPS Publication No. 295/03 Bangkok: College of Population Studies, Chulalongkorn University. (in Thai).

Asian Pioneers in Demographic Dividend

- In Asia, Japan, South Korea, Taiwan, and Singapore are the pioneers in obtaining a demographic dividend.
- One-third of the economic growth in South Korea, Taiwan and Singapore during 1960 and 1990 can be attributed to such demographic shifts, with two children per women, and a 2.7 percent increase in labour force growth per year.

(Source: Mason, 2002; Bloom et al, 2003)

Demographic Transition in ASEAN

- Other Southeast Asian countries are now with an opportunity for a demographic dividend.
 - According to the Asian Development Bank (ADB), the demographic dividend in Southeast Asia is currently approximately 0.7 percentage points of per capita annual income growth. The figure is expected to double in 2015.
- Fertility:
 - All ASEAN member countries to experience a decline in TFR
 - Up to 2025, the TFR will remain varied
 - 2045-2050, the UN medium projection adjusts the TFR of most ASEAN member countries to 1.85

(Based on Patcharawalai Wongboonsin and Joannis Kinnas. 2004. Maximizing The Demographic Dividend via Regional Cooperation in Human Resource Development.)

Demographic Transition in ASEAN

Life Expectancy at Birth

- 2010-2015: an increase in life expectancy, with a range between 58.8 to 79.7
- 2020-2025 and 2045-2050 : Despite an improvement in life expectancy in all countries of the region, Lao PDR (72.2) and Cambodia (69.8) will continue to have lower life expectancy at birth than other ASEAN member countries. At the same time, Singapore will continue to have the highest life expectancy (83.0), followed by Brunei Darussalam (81.2) and Malaysia (79.6).

(Based on Patcharawalai Wongboonsin and Joannis Kinnas. 2004. Maximizing The Demographic Dividend via Regional Cooperation in Human Resource Development.)

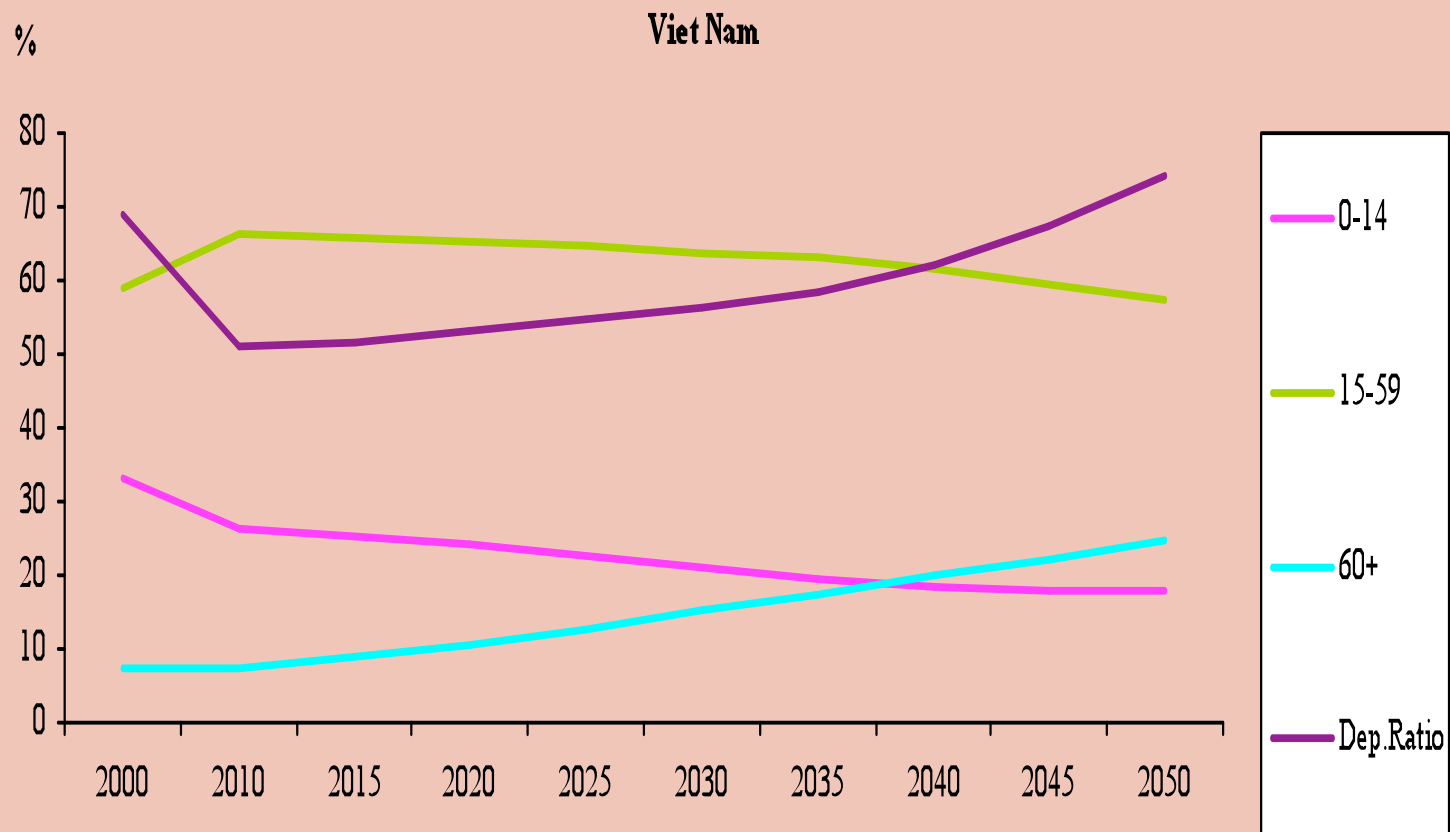
Demographic Dividend in ASEAN :

3 Windows of Opportunities

- A scrutiny investigation on each Southeast Asian countries suggests a varying pace and degree of economic benefits to be attained among them.
- 1st Window: Singapore, Thailand, and Vietnam with the shortest remaining period of demographic dividend, no later than 2015
- 2nd Window: Brunei Darussalam, Indonesia, Malaysia, and Myanmar with a medium range of opportunity for demographic dividend, up to the years 2025-2030
- 3rd Window: The Philippines, Cambodia, and Lao PDR with the longest remaining period of demographic dividend, up to the years 2040-2050.

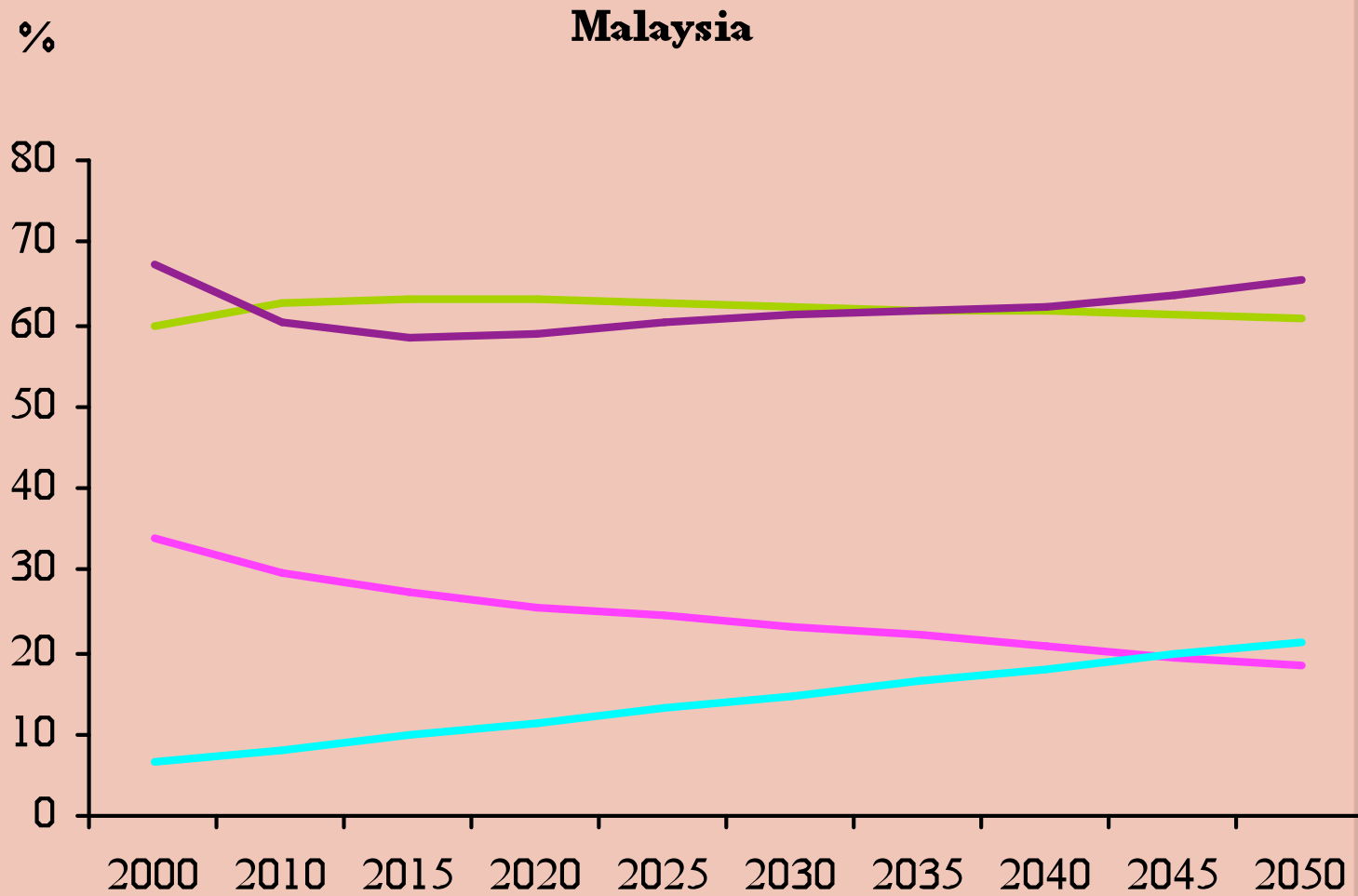
(Based on Patcharawalai Wongboonsin and Joannis Kinnas. 2004. Maximizing The Demographic Dividend via Regional Cooperation in Human Resource Development.)

PROJECTED AGE DISTRIBUTION AND DEPENDENCY RATIO (Medium Variant) 1



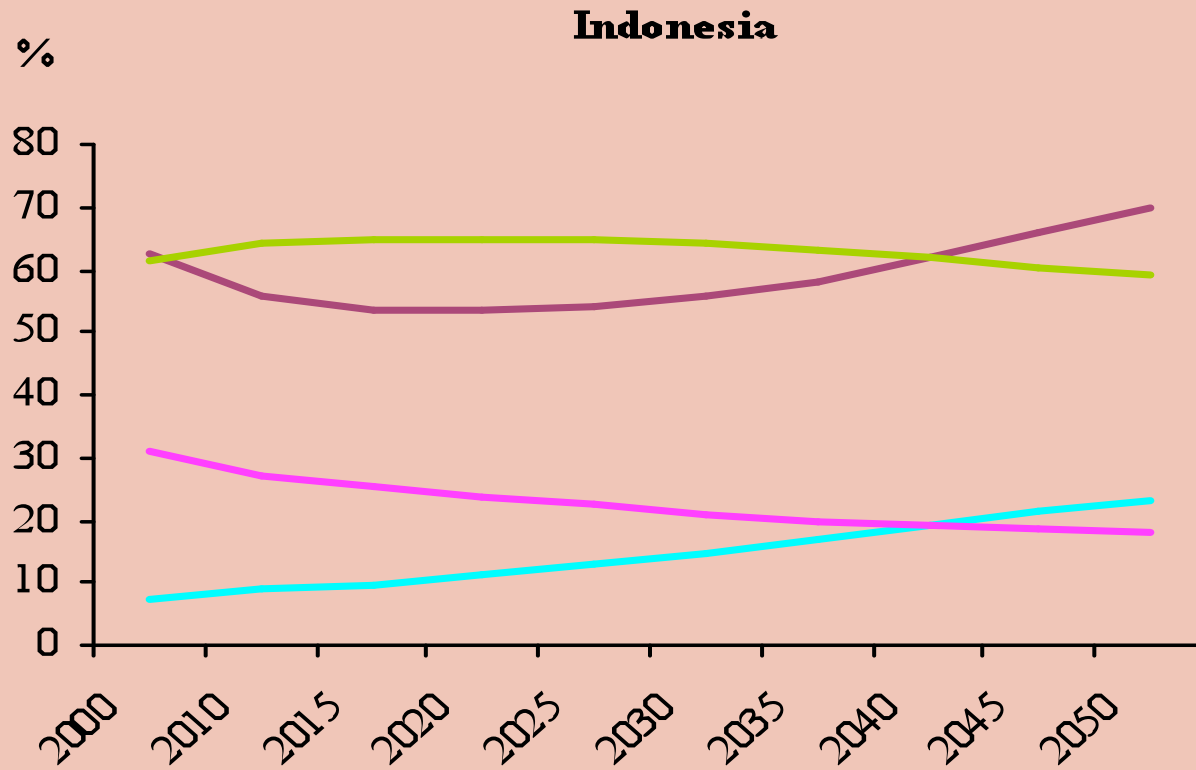
Source: Patcharawalai Wongboonsin, 2004

PROJECTED AGE DISTRIBUTION AND DEPENDENCY RATIO (Medium Variant) 2



Source: Patcharawalai Wongboonsin, 2004

PROJECTED AGE DISTRIBUTION AND DEPENDENCY RATIO (Medium Variant) 2



Source: Patcharawalai Wongboonsin, 2004

Prospects for Demographic-Dividend Capitalization

- Most Asian countries have stimulated their demand for quality human development.
- However, a big gap in human development within the ASEAN region in 1990, with the human development index (HDI)
 - Ranging from 0.186 in the case of Cambodia to 0.849 in the case of Singapore.
- Despite regional improvement in HDI in 2001 to above 0.50 in all ASEAN member countries, the gap in human development remained a puzzle for ASEAN.
 - Lao PDR became the ASEAN member country with the lowest HDI (0.525), followed by Cambodia (0.556) and Myanmar (0.549) in 2001.
 - At the same time, Singapore continued to experience the highest HDI (0.884), followed by Brunei Darussalam (0.872), Malaysia (0.790), and Thailand (0.768)

Source: Patcharawalai Wongboonsin, 2004

Prospects for Demographic-Dividend Capitalization

- In particular, the education and training environments in a number of Asian countries has not met the demand.
- A large number of the working population, particularly in Southeast Asia, is unable to adapt themselves to meet the demands of a flexible labour market.
- Most of them lack of appropriate policies and supporting institutions to make their bulging workforce productive enough to achieve sufficient growth before an increase in the old-age dependency ratio hampering the economic growth.

Source: Patcharawalai Wongboonsin, 2004

Prospects for Demographic-Dividend Capitalization

- Moreover, the alternative strategies in labor migration have not been able to allow them to fully optimize or to maximize the demographic dividend.
 - They are, rather, self-defeating.
- A side-effect of policies has been that migrants, the employers, and the national economies now have to face traps of insecure and unstained socioeconomic development.
- The problem turns itself into an increasing socioeconomic pressures on a society and can be expected to aggravate in a few decades to come when the demographic dividend in the region is fading away, turning instead into an onus.

Source: Patcharawalai Wongboonsin, 2004

IMPACT ON THE FAMILY

- In the 21st century, rapid ageing will progressively become a global phenomenon in a globalizing world.
- Realization of the potential of elderly workers is a recent phenomenon to reduce societal and household dependency at older ages while contributing to the improved well-being of the elderly.
- Nevertheless, employment and employability of the elderly remain a political debate in many societies.

IMPACT ON THE FAMILY

- The issue of dignity can be the case for those elderly with low educational level, poor health and lack of technological skills to carry out jobs in a knowledge-based society.
- The problem may be worse if employers maintain ageism.

IMPACT ON THE FAMILY

- Regarding the support for the elderly, the trends are in two directions:
 - A declining traditional family support: China and Japan
 - The support ratio in China decreased from 13.8 in 1950 to 10.0 and 2.7 in 2000 and 2050, respectively.
 - A decrease from 12.1 to 4.0 and 1.4 in the corresponding years in Japan.
 - A policy push for on-going intergenerational support for the elderly in addition to state-based support: most Southeast Asian countries
 - Yet, during 2000 and 2050, the support ratio for the elderly is expected to decline from 15.3 to 4.2 in Malaysia, from 11.5 to 3.6 in Vietnam and from 16.7 to 4.8 in Indonesia

Source: Wongboonsin and Wongboonsin.2008.

Support ratios in Europe and the United States (Persons aged 15-64 per person 65 and older)

Selected pre-World War II years			1950	2000	2050
Netherlands	1930	10.2	8.1	5.0	2.4
United Kingdom	1931	9.3	6.2	4.1	2.6
United States	1940	8.8	7.8	5.4	3.1
Italy	1936	8.1	7.9	3.7	1.5
Norway	1930	7.6	6.8	4.2	2.3
France	1936	6.6	5.8	4.1	2.2

Source: **Paul Demeny. Developing economic support systems for the old-age population in Asia: Learning from the mistakes of Western welfare states.** International Conference on the Demographic Window and Healthy Aging: Socioeconomic Challenges and Opportunities Beijing, May 10-11, 2004.

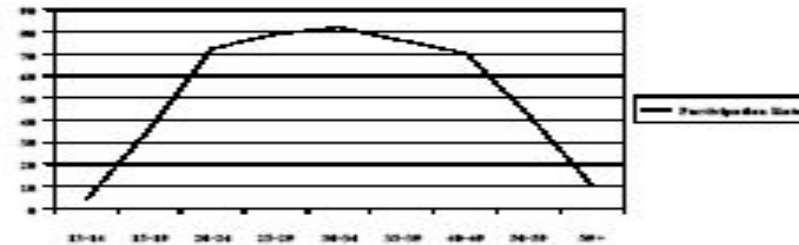
Support ratios in East and Southeast Asia (Persons aged 15-64 per person 65 and older)

	1950	2000	2050
Philippines	14.7	16.7	4.8
Malaysia	10.7	15.3	4.2
Indonesia	14.4	13.3	3.9
Thailand	18.0	11.8	2.7
Vietnam	15.2	11.5	3.6
China	13.8	10.0	2.7
Japan	12.1	4.0	1.4

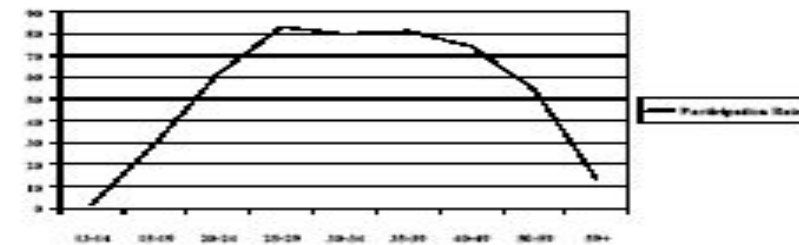
Source: **Paul Demeny. Developing economic support systems for the old-age population in Asia: Learning from the mistakes of Western welfare states.** International Conference on the Demographic Window and Healthy Aging: Socioeconomic Challenges and Opportunities Beijing, May 10-11, 2004.

Female Labor Force Participation Rate in Bangkok Metropolitan Areas: 1997-1999

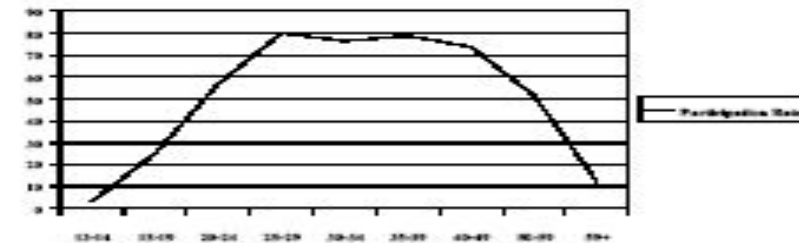
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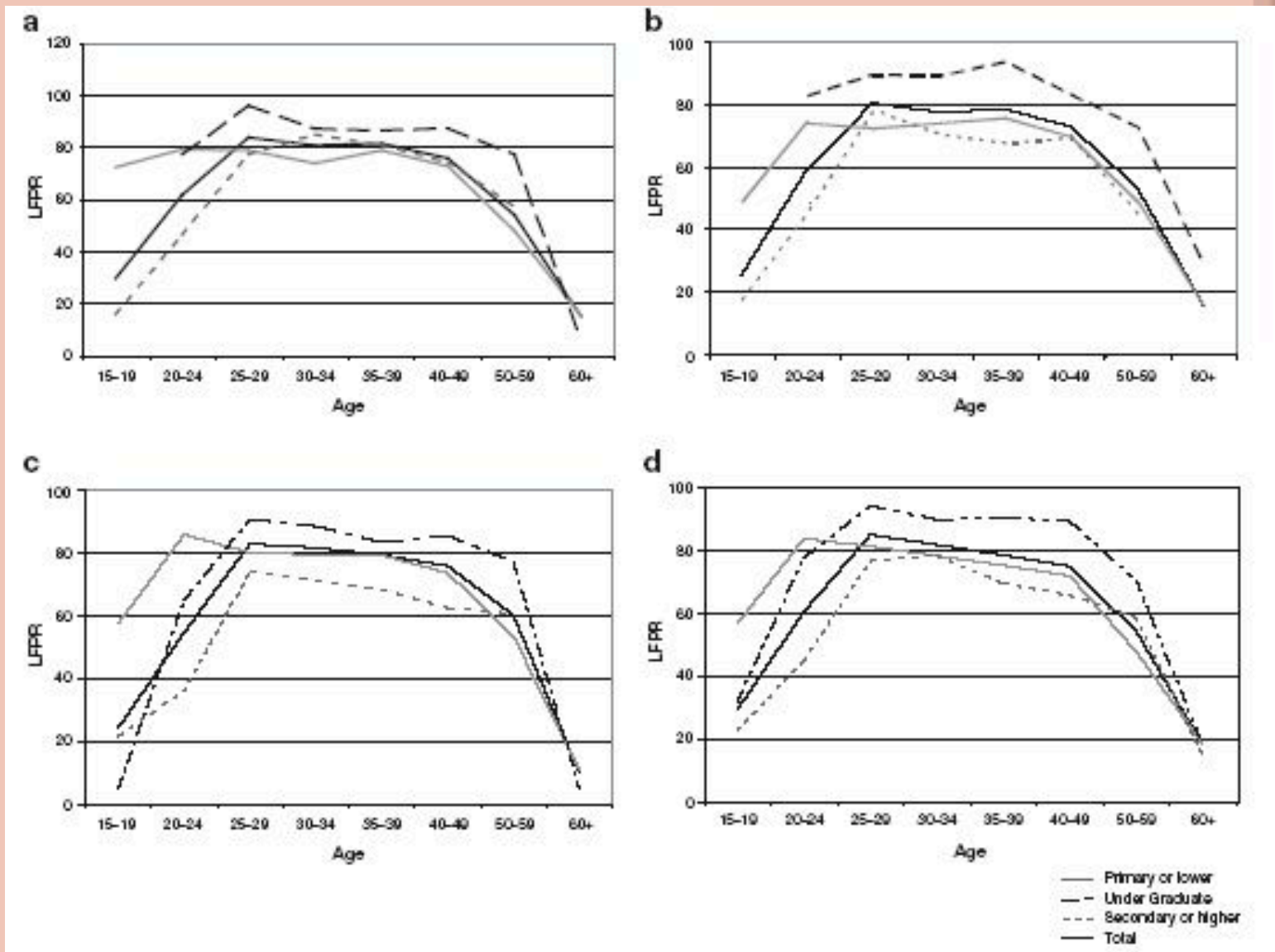


1999



Source: Wongboonsin, Kua (2004), based on National Statistical Office: *Report of the Labour Force Survey Whole Kingdom Round 3 (various years: 1997-1999)*.

Female Labor Force Participation Rate (by level of Education) in Bangkok Metropolitan Areas: 1998-2001



Source: Wongboonsin, Kua (2004), based on National Statistical Office: Report of the Labour Force Survey Whole Kingdom Round 3 (various years: 1998-2001).

Recommended Strategies at an Individual Country Level POLICY ENVIRONMENTS

- Re-evaluation of long-term fertility goals and policies is needed.
 - An important tool is to rely on a socio-cultural approach to investigate fertility and family-formulation behavior, linking the trends of age at first marriage, and the age at first birth, both of which relate to the M-curve pattern of female labor-force participation.
- Policies of risk management required both before and after the demographic dividend fading away:
 - Childcare and healthy-dignity old-age population arrangements.
- Priorities for countries with relative poor human development:
 - Education, childcare, healthy-dignity ageing, and female-labor force participation
 - Policy-making also needs to take into account human development and activity pattern of migration.

Recommended Strategies at an Individual Country Level POLICY ENVIRONMENTS

- Those policies to be supported by other public, economic and financial policies so as to encourage more productivity of all population.
- Strengthening intergenerational solidarity
 - To be expressed through adequate social protection of the elderly
- Role social developers for the formation of social capital
 - As a basis for sustained dignity at the individual, family and society levels.

Recommendations for Regional Cooperation: for example, in ASEAN

- **Key strategy I:** Enhancing Productivity of Regional Workforce via life-long education and training for all, irrespective of age, both stock and supply
 - To galvanize un/semi-skilled labor force and bring them up the value chain, as regional human capital
- **Key strategy II:** Minimizing such burden as health problems and other costs before the future turns grim
- **Key Strategy III:** Regional human resource pooling – towards an extended Demographic Dividend for all countries in the region.

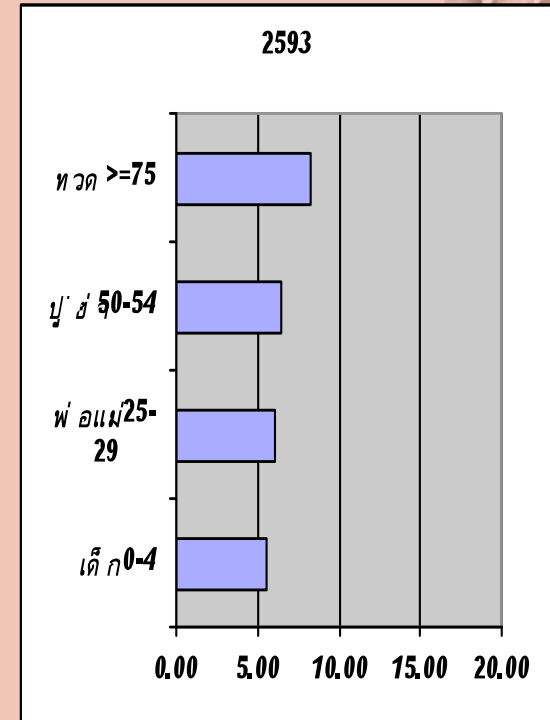
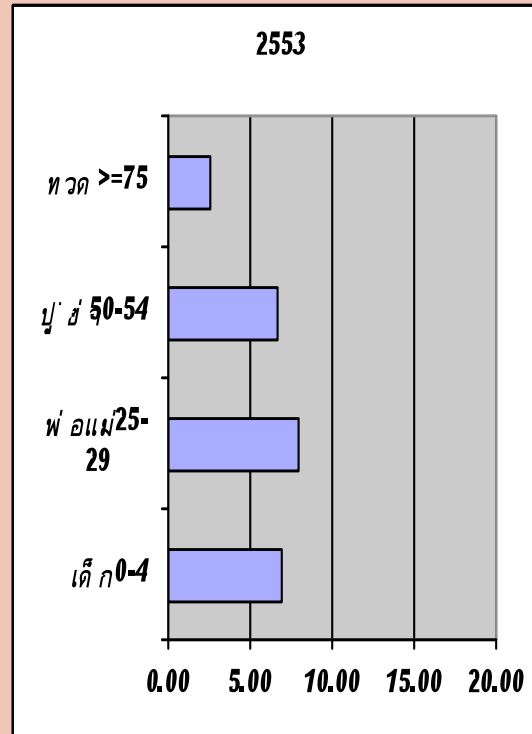
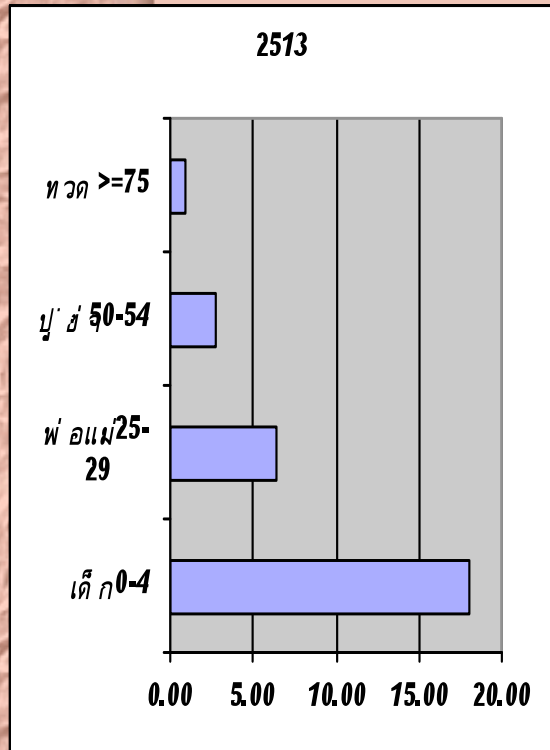
Source: Patcharawalai Wongboonsin, 2004

Points of Concerns for Think Tanks

The followings should be taken into account while initiating and formulating policy recommendations:

- (a)** The pace of fertility transition
- (b)** The pace and the length of time when the demographic dividend is taking place.
- (c)** The shorter **(a)** & **(b)**, the more concerns to be given to enhancing the skills and competency of the workforce,
 - ‘Cause they have to take care more of the dependency groups at time of an increasing proportion of ageing people
- (d)** An integrative approach towards child care and elderly care at the family/ the government/ the community levels.

Aging Society



Aging Society



เกื้อ วงศ์บุญสิน. โครงการสร้างประชากรของประเทศไทยยุคโพสต์โมเดิร์น: การเปลี่ยนแปลงที่รวดเร็วเกินกว่าจะถูกมองข้าม.
กรุงเทพมหานคร: โรงพิมพ์จุฬาลงกรณ์มหาวิทยาลัย, 2550

Aging Society: Policy & Research Topics

HEALTH AND CARE

Medicare

- Out-of-Pocket Costs and Affordability of Medicare
- Medicare Prescription Drug Coverage

[All Medicare Topics »](#)

Health and Wellness

- Medicaid
- Medigap

[All Health and Wellness Topics »](#)

Long-Term Care

- Long-Term Care Costs
- Long-Term Care Quality

[All Long Term Care Topics »](#)

Housing, Mobility and Care Options

- Transportation
- Home and Community-Based Care

[All Housing, Mobility and Care Options Topics »](#)

End-of-Life

- Death and Dying
- Hospice

[All End-of-Life Topics »](#)

MONEY

Social Security

- Social Security Reform
- Financing and Solvency of Social Security

[All Social Security Topics »](#)

Financial Planning

- Pensions
- Retirement Saving

[All Financial Planning Topics »](#)

Public Assistance

- Medicaid
- Supplemental Security Income (SSI)

[All Public Assistance Topics »](#)

Loans, Credit and Debt

- Mortgages
- Loans

[All Loans, Credit and Debt Topics »](#)

LIFE

Family and Leisure

- Grandparenting
- Lifestyles

[All Family and Leisure Topics »](#)

Work and Retirement

- Employment
- Retirement

[All Work and Retirement Topics »](#)

Personal Legal Issues

- Advance Directives
- Personal and Legal Rights

[All Personal Legal Issues Topics »](#)

Technology

- Online Privacy
- Internet Access

[All Technology Topics »](#)

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- Electric Utilities

[All Utilities Topics »](#)

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- Predatory Lending
- Telemarketing

[All Frauds and Scams Topics »](#)

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The US Economy

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- The Federal Budget

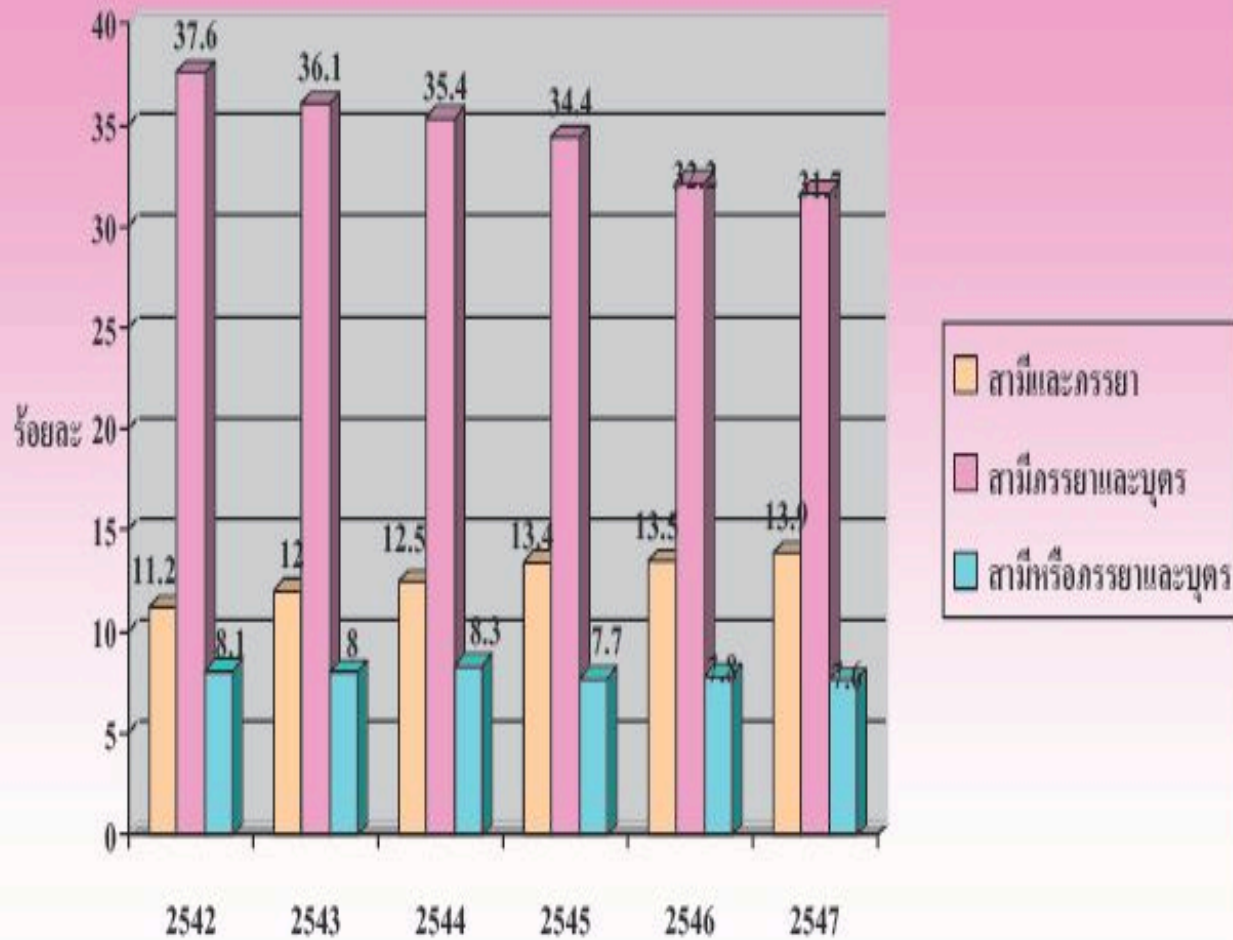
[All US Economy Topics »](#)

INTERNATIONAL

- International Comparisons
- Global Aging Issues

[All International Topics »](#)

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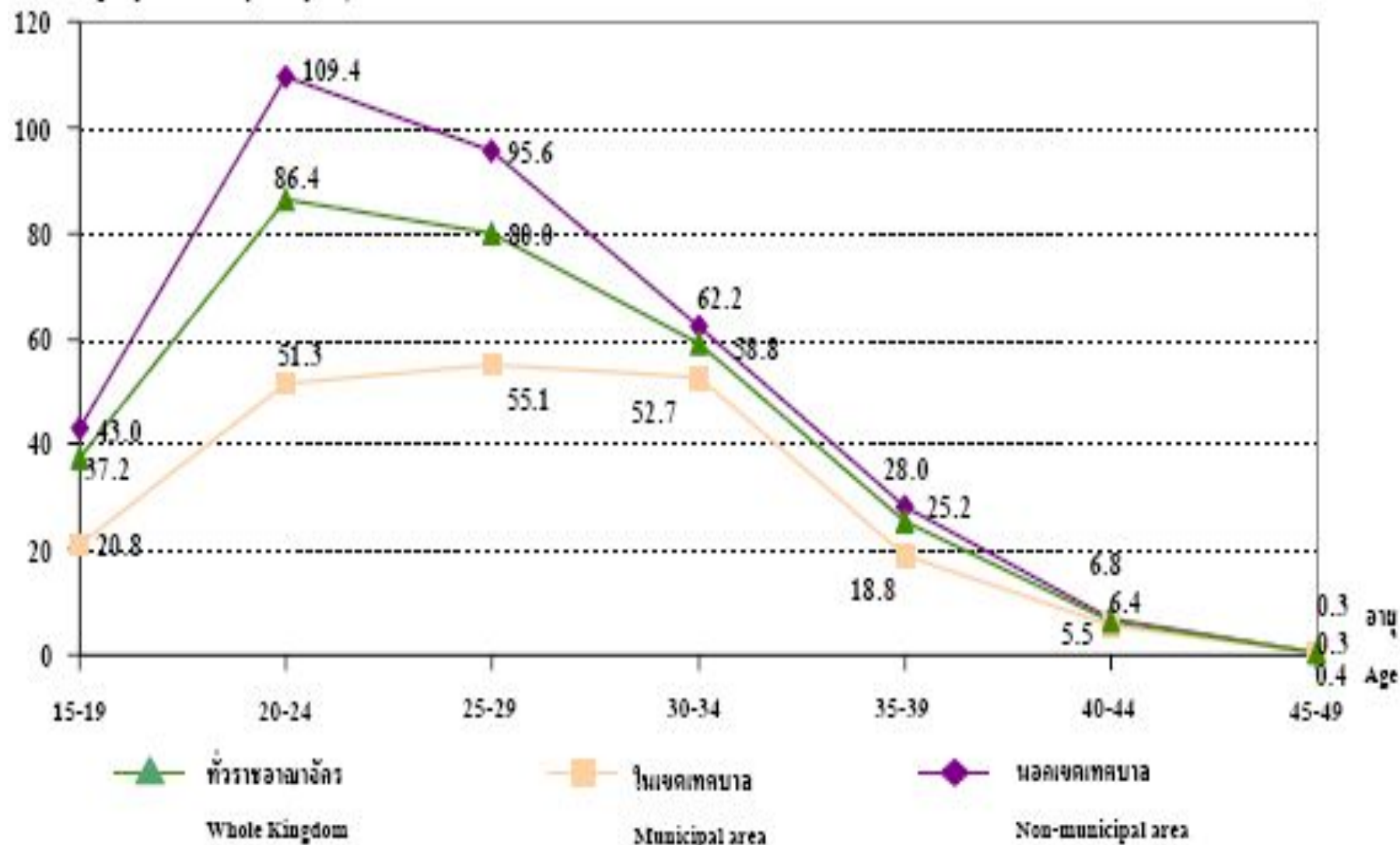


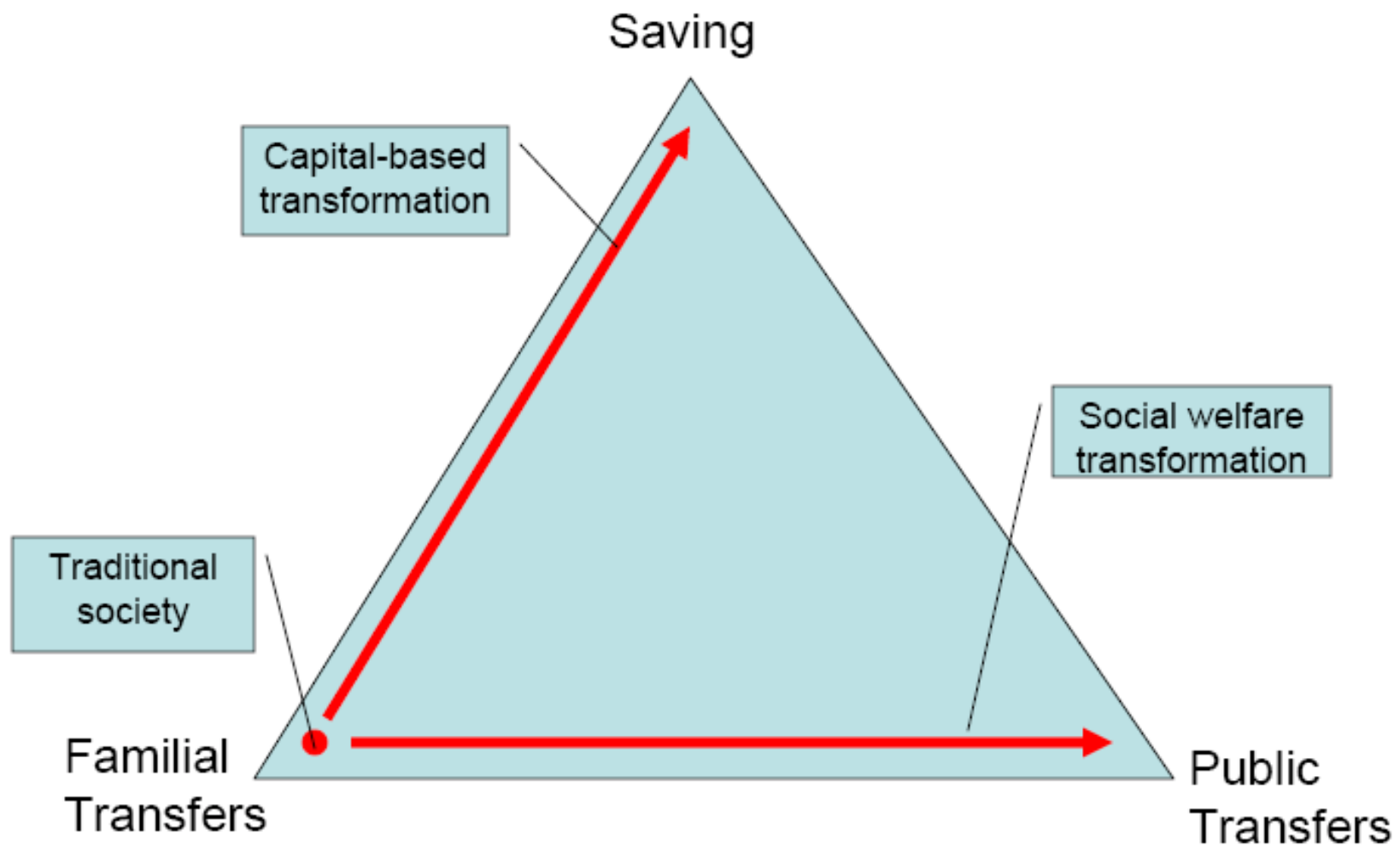
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Age-specific fertility rates per 1,000 women



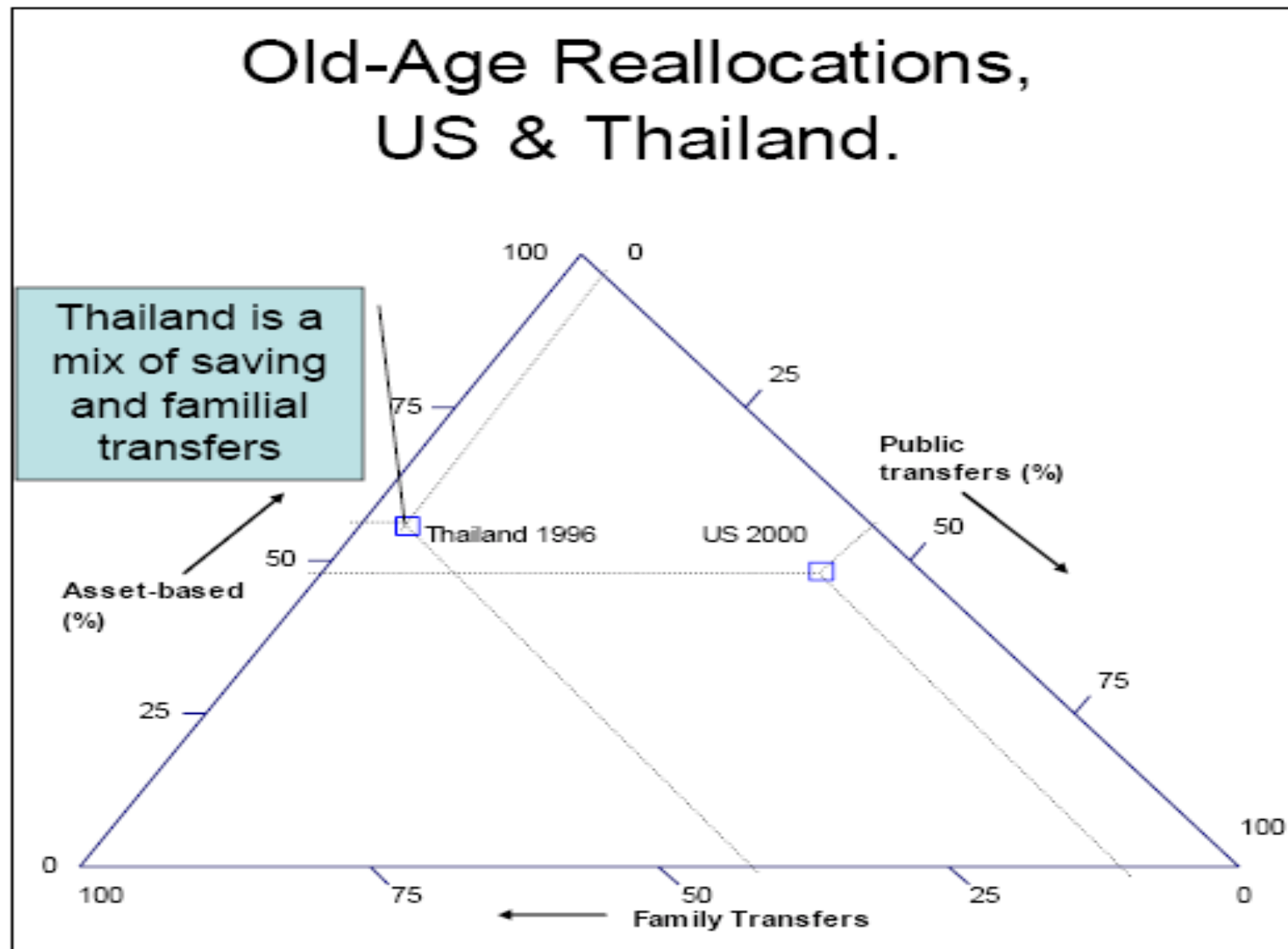


Old-Age Reallocation Systems

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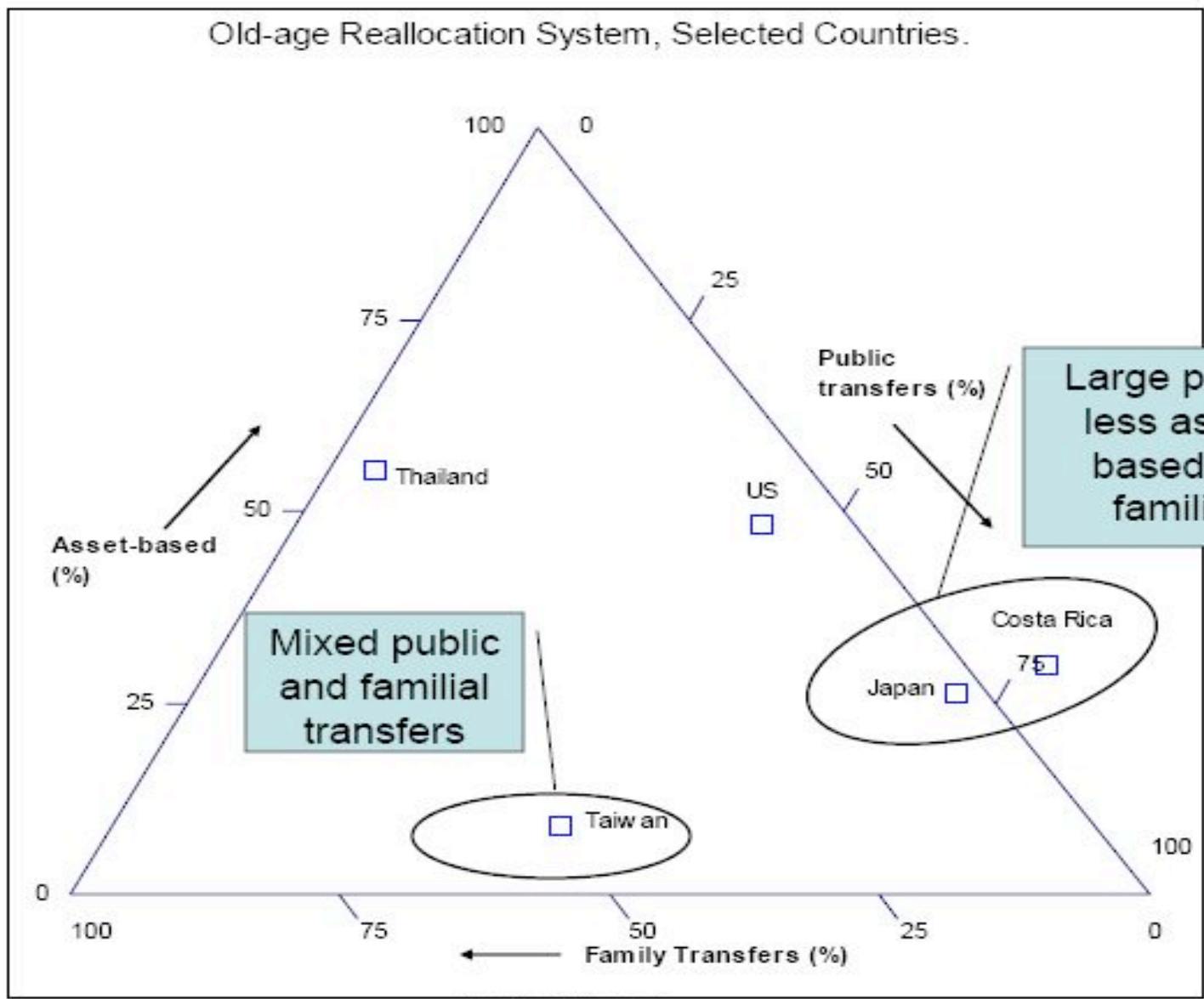
Old-Age Reallocations, US & Thailand.



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Old-age Reallocation System, Selected Countries.



9/29/2006

Andrew Mason



Thank you

Chulalongkorn University