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# Ageing Asia

## Impacts on economy and society

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# Introduction

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# The Asian Century

## Real GDP Growth Rate

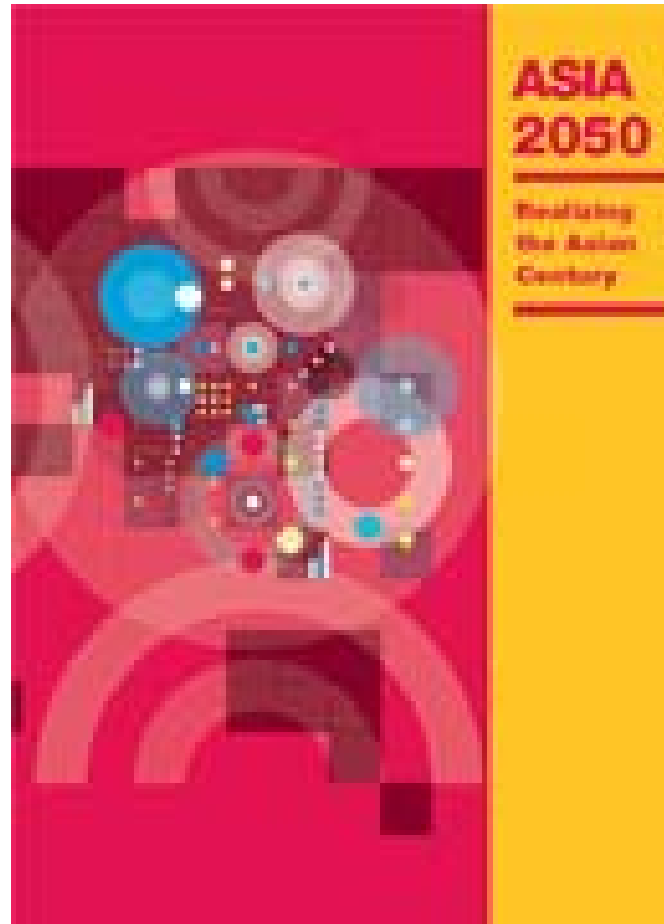
(%)

	1980-90	1990-2000	2000-2010	2010-17
Japan	4.6	1.1	0.8	1.0
NIES				
Korea	9.7	6.5	4.2	3.7
Taiwan	7.6	6.2	3.9	4.0
Hongkong	6.7	3.9	4.0	3.9
Singapore	7.7	7.2	5.6	3.6
China	9.3	10.4	10.5	8.5
ASEAN4				
Thailand	7.9	4.4	4.3	4.3
Malaysia	6.0	7.1	4.5	4.9
Indonesia	5.5	4.0	5.2	6.5
Philippines	1.7	2.9	4.8	4.8
Vietnam	5.9	7.6	7.3	6.4
India	5.6	5.6	7.4	6.4
World	3.3	3.2	3.6	4.1
Advanced economies	3.3	2.8	1.6	2.1

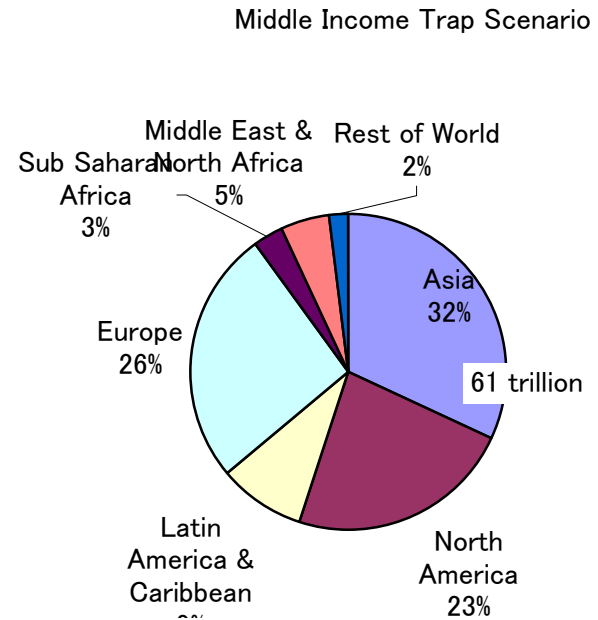
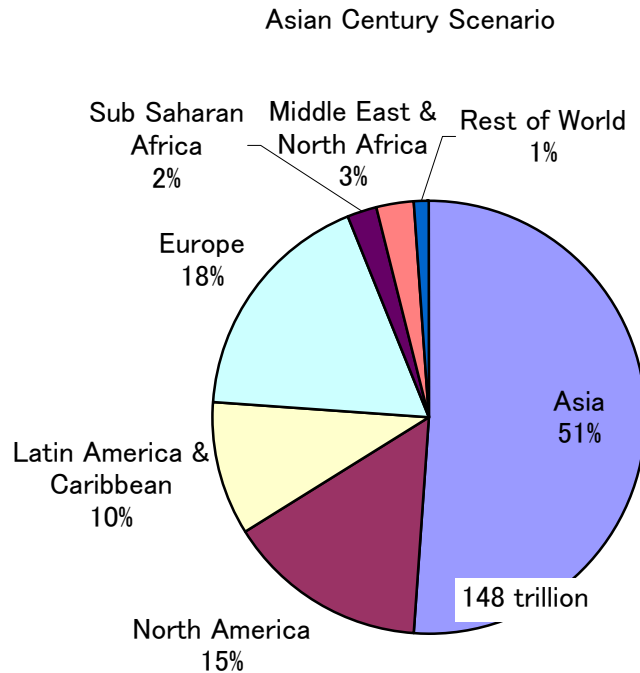
Source: IMF, *World Economic Outlook, October 2012*

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# Asia 2050 — Realizing the Asian Century



# Two Scenarios of Asian Economy in 2050



Source: ADB. *Asia 2050*

# Rapid Changes of Asian Demographic Situation

Total Fertility Rate and Ratio of Ageing in East Asia

(%)

	Total Fertility Rate		Ageing Rate (65+)	
	1985-1990	2005-10	2010	2025
Japan	1.7	1.3	22.7	29.3
NIES				
Korea	1.6	1.3	11.1	19.6
Taiwan	1.7	1.2	-	-
Hongkong	1.4	1.0	12.7	21.8
Singapore	1.7	1.3	9.0	19.5
China	2.6	1.6	8.2	14.0
ASEAN4				
Thailand	2.3	1.6	8.9	15.0
Malaysia	3.6	2.7	4.8	8.6
Indonesia	3.4	2.2	5.6	8.6
Philippines	4.5	3.3	3.6	5.8
Vietnam	4.0	1.9	6.0	10.2
India	4.1	2.7	4.9	7.3
World	3.4	2.5	7.6	10.5

Source: UN, *World Population Prospects, the 2010 Revision*

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What will happen in Asia?

# Today Lecture Contents

- 1. Demographic changes in East Asia**
  - ⇒ Decline birth rate and population ageing
- 2. Demographic impacts on economic growth and social structure in East Asia**
  - ⇒ How long will the prosperity continue?
- 3. Ageing society measures in East Asia**
  - ⇒ Agendas for building social security system and community-based welfare

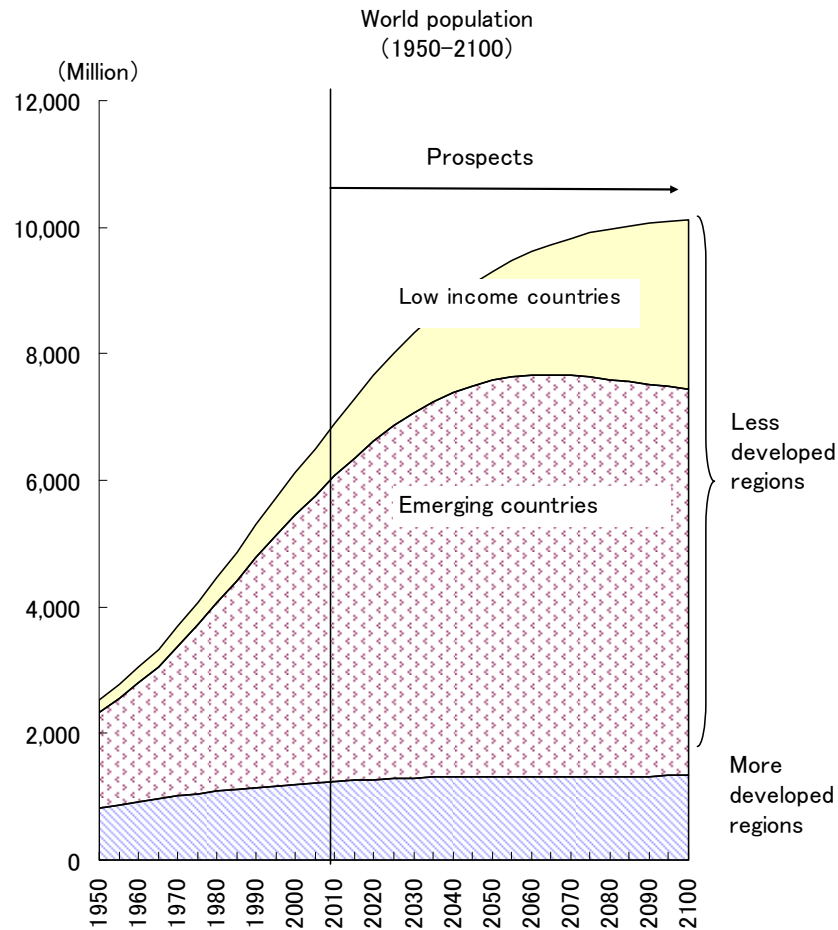


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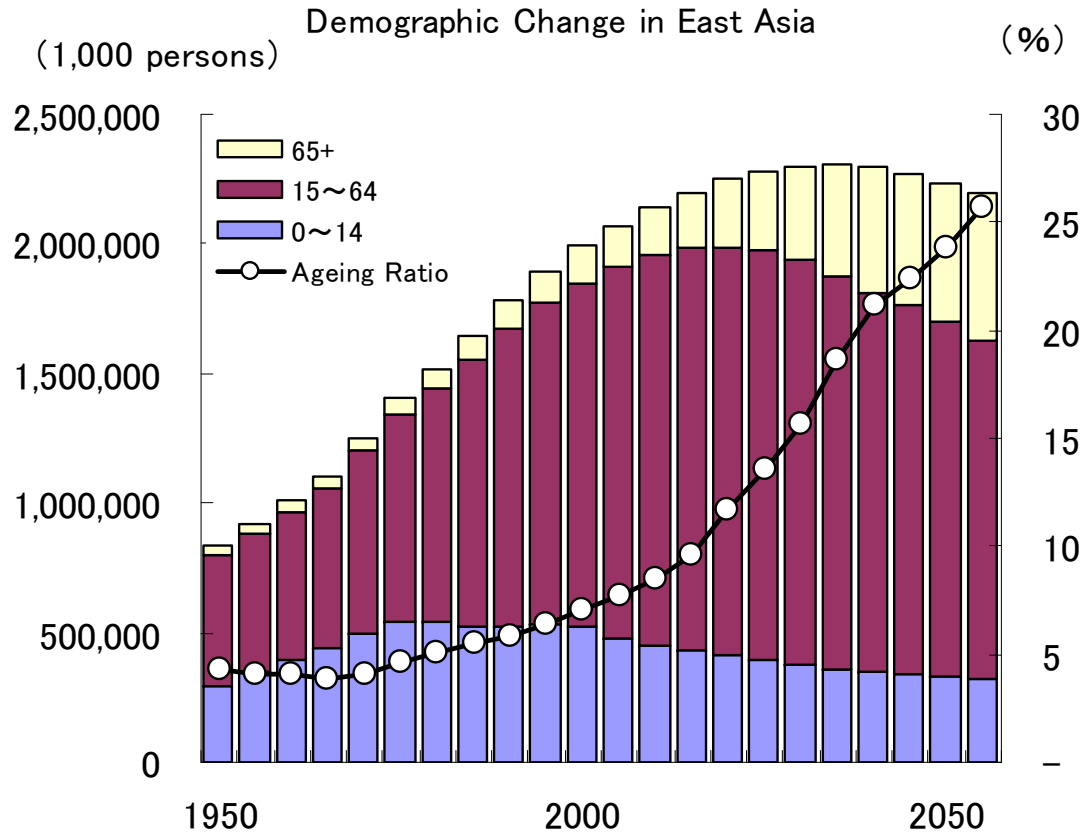
# 1. Demographic Changes in East Asia

- 
- Declining birthrate and population ageing

# Decline of World Population Growth Rate

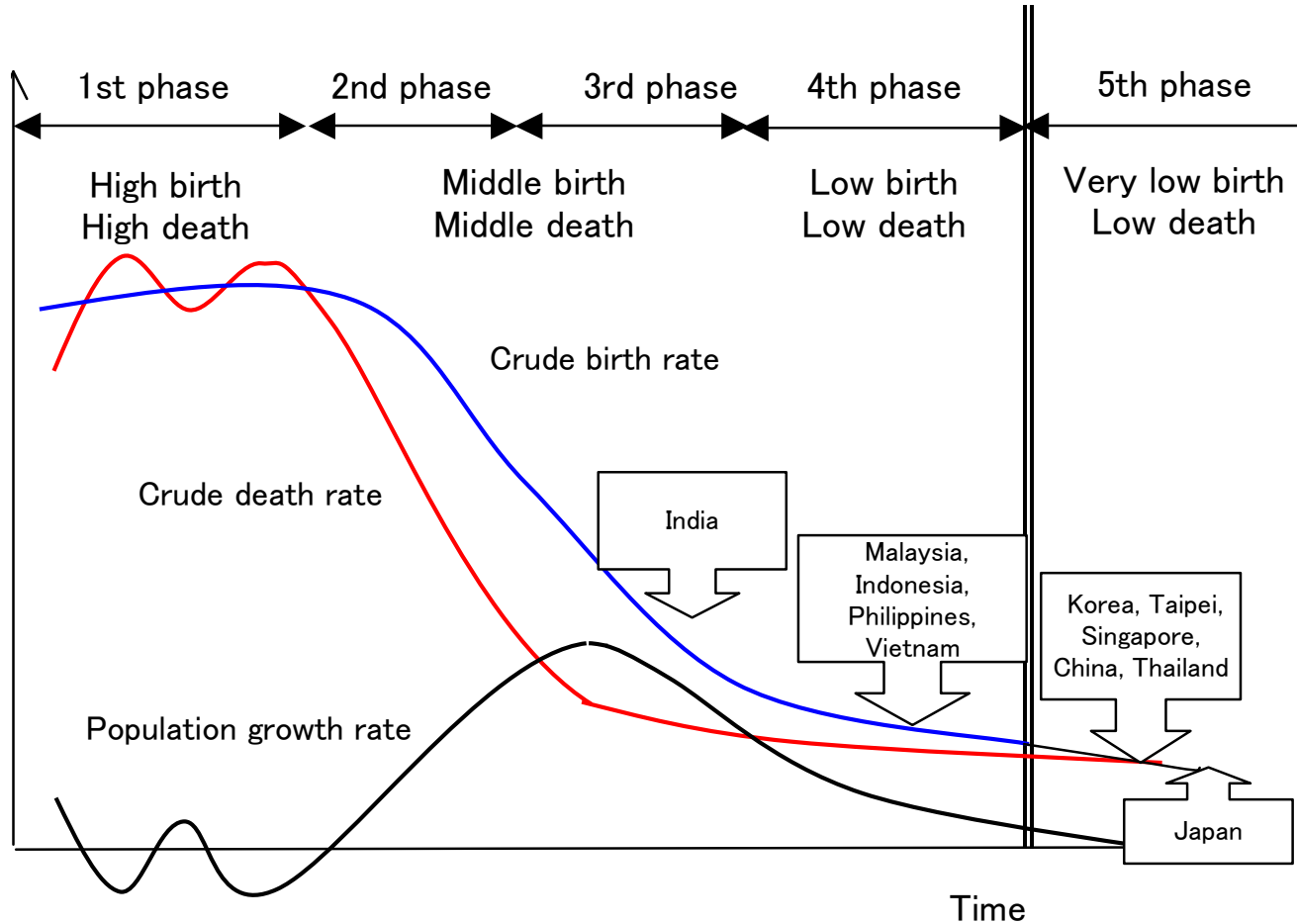


# Demographic Change in East Asia



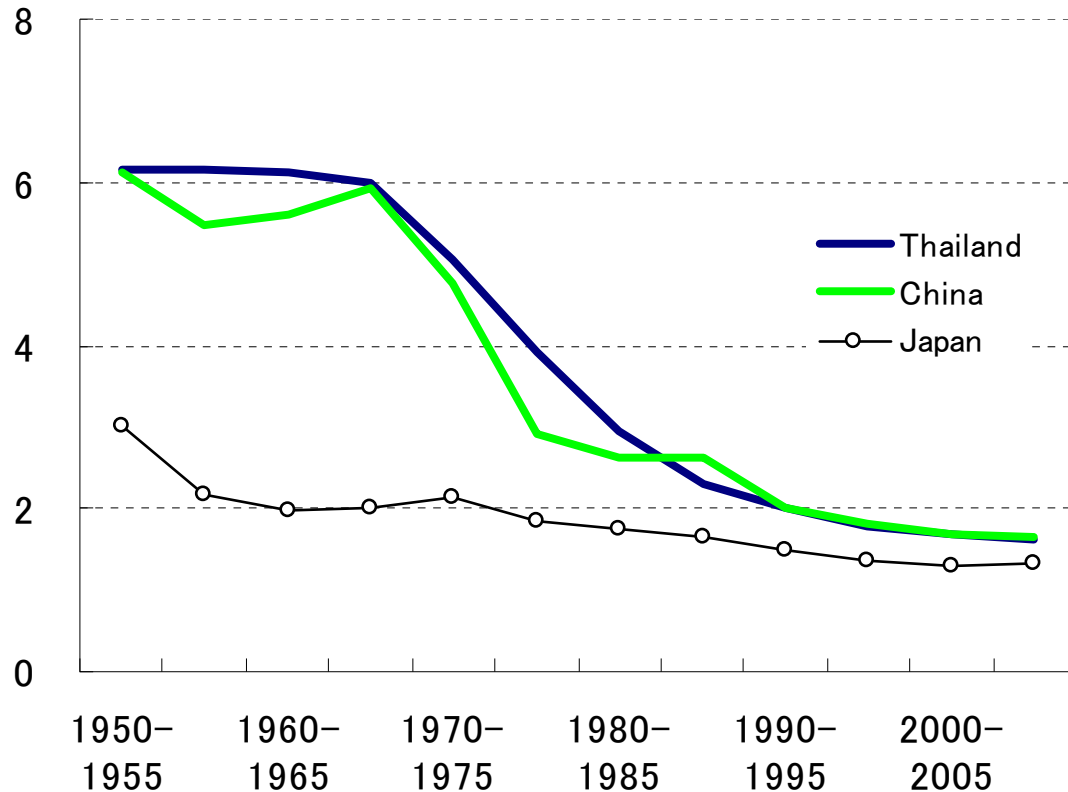
Source: UN, *World Population Prospects: The 2010 Revision*

# The Demographic Transition Model



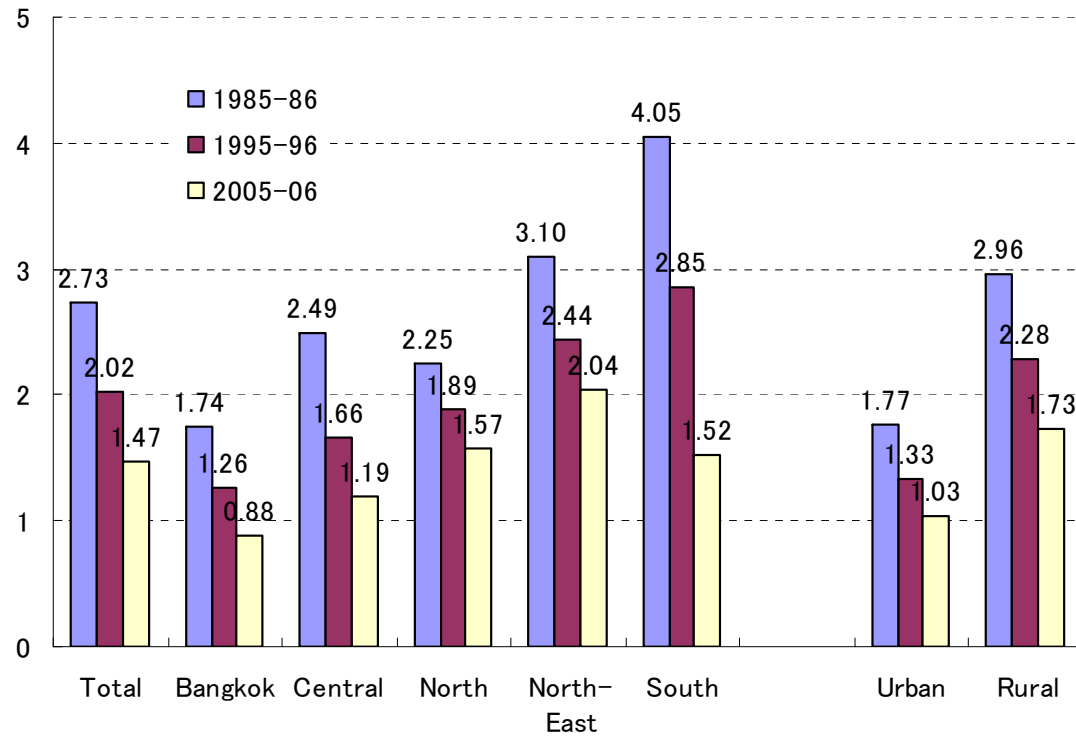
# What made East Asia's fertility ratios be so low?

Total Fertility Rate in Japan, China and Thailand



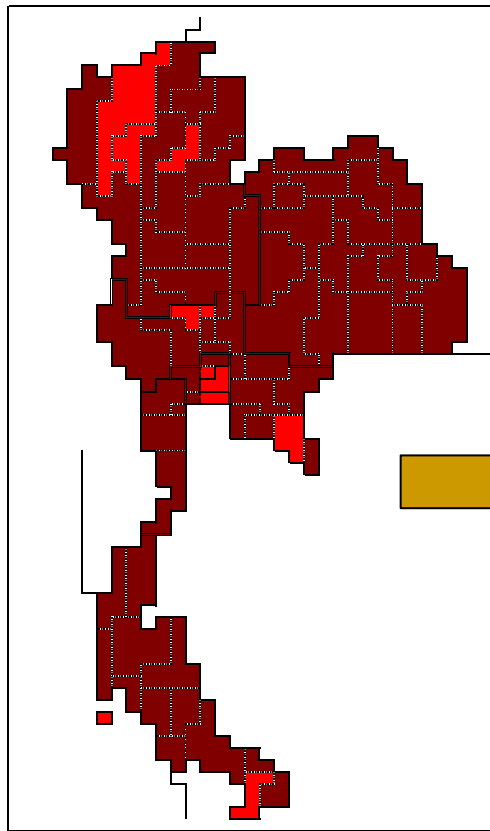
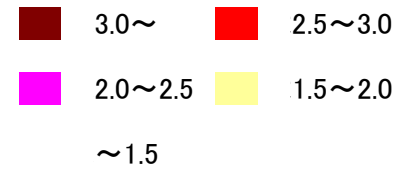
# Rapid Decline of Total Fertility Rate

Total Fertility Ratio in Thailand

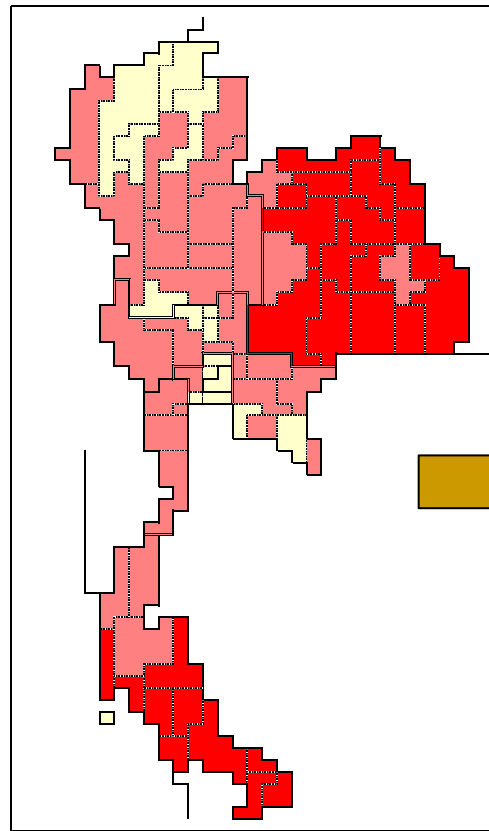


Source: NSO

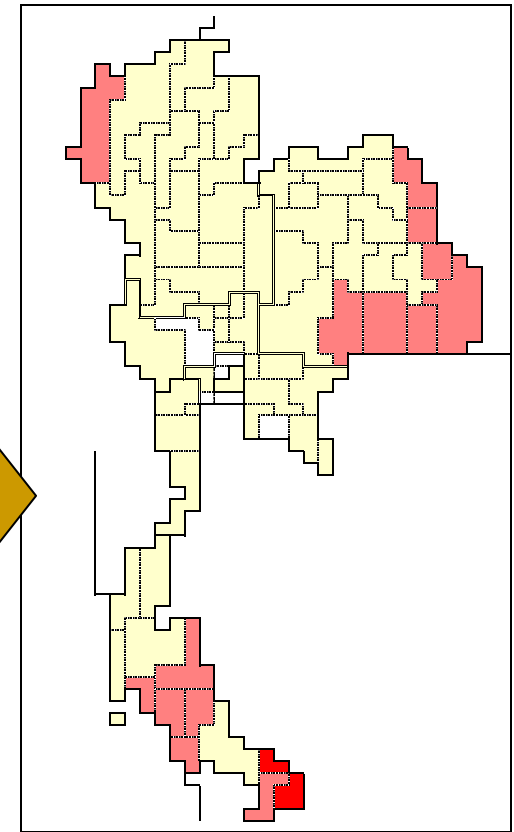
# Low Fertility in Whole Land



1980



1990

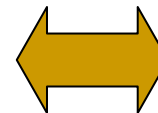


2000

# Accelerating Population Ageing in East Asia

Doubling Period of Population Ageing

	The Ageing Ratio (aged 65+)		Doubling period (year)
	7%	14%	
Japan	1970	1994	24
Korea	1999	2017	18
Taiwan	1994	2018	24
Hong Kong	1984	2014	30
China	2000	2025	25
Singapore	1999	2019	20
Thailand	2001	2024	23
Malaysia	2020	2046	26
Indonesia	2020	2038	18
Philippines	2032	2062	30
Vietnam	2018	2033	15



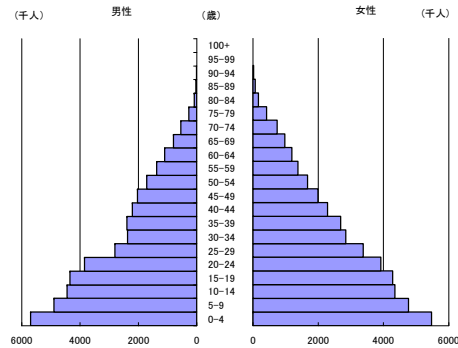
France 115 Years  
 Sweden 85Years  
 United Kingdom 47Years  
 Germany 40 Years

Source: UN, *World Population Prospects: The 2010 Revision*

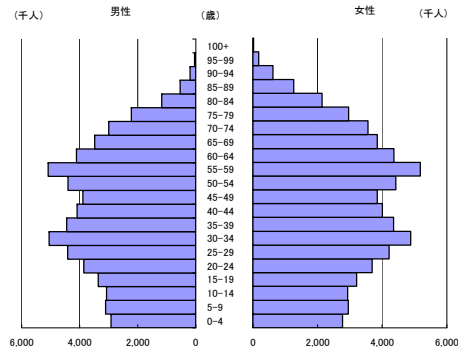


# Population pyramid of Japan

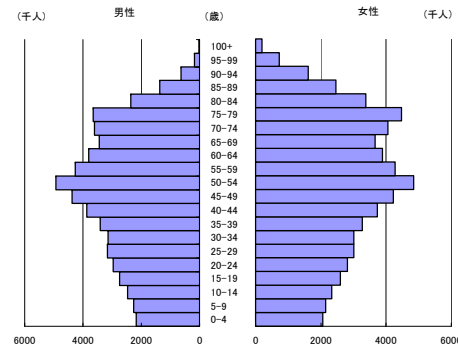
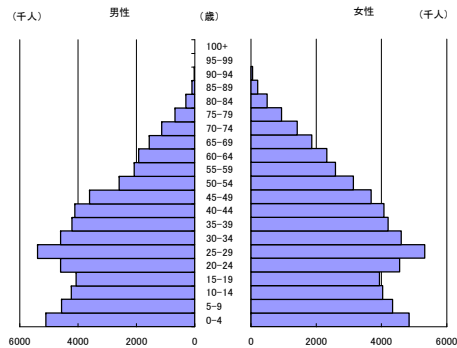
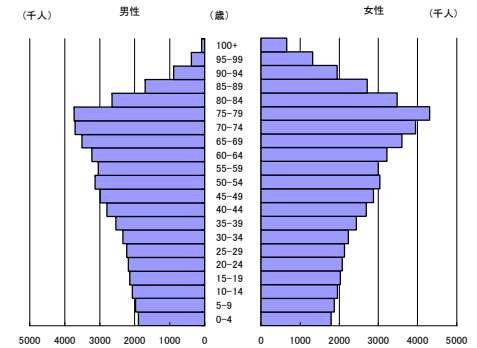
1950



2005



2050

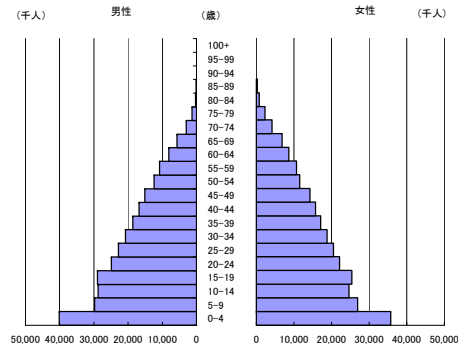


1975

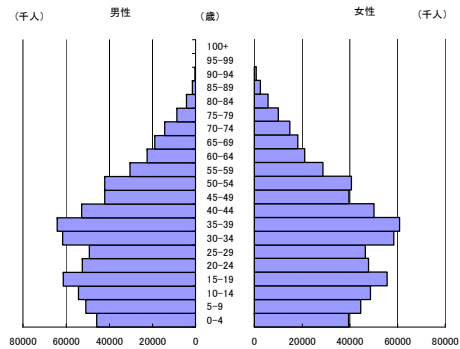
2025

# Population pyramid of China

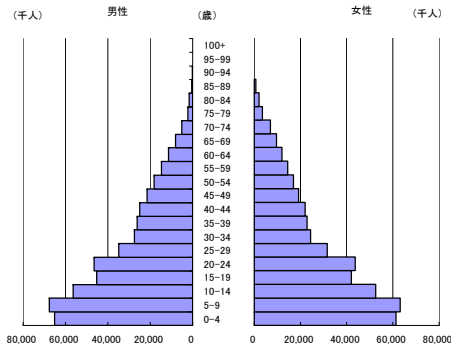
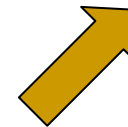
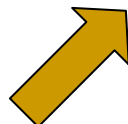
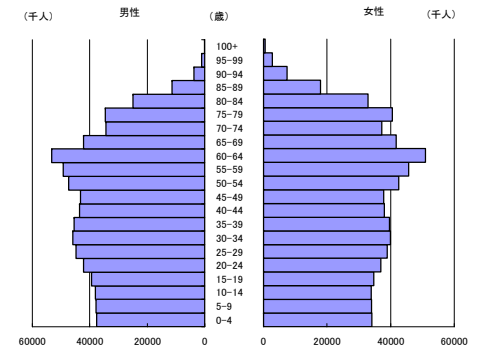
1950



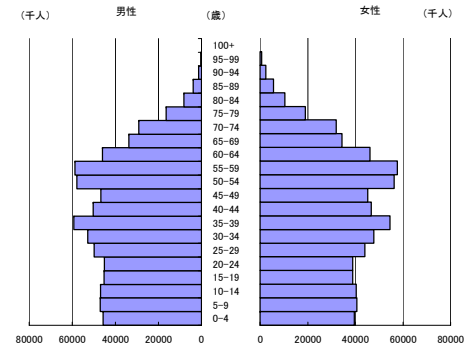
2005



2050



1975



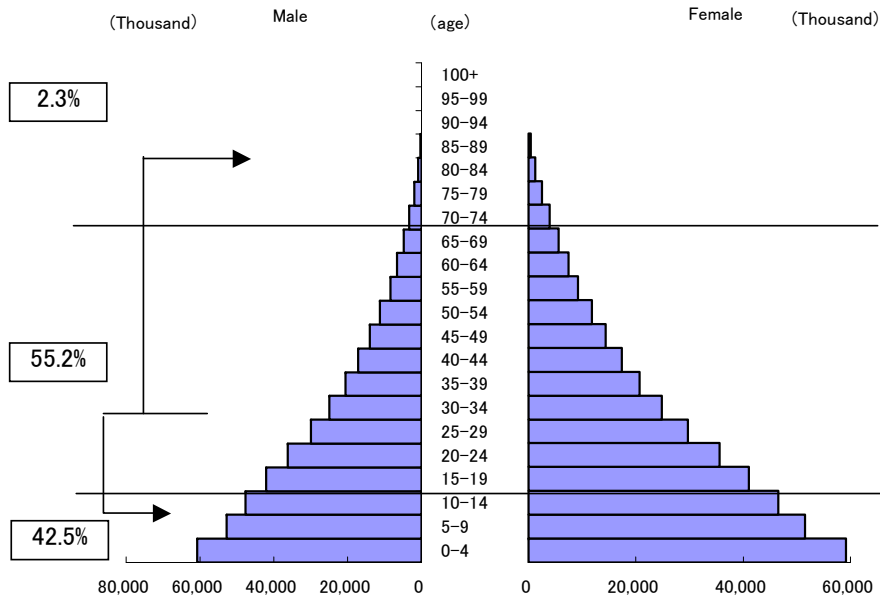
2025

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## 2. Demographic Impacts on Economic Growth and Social Structure

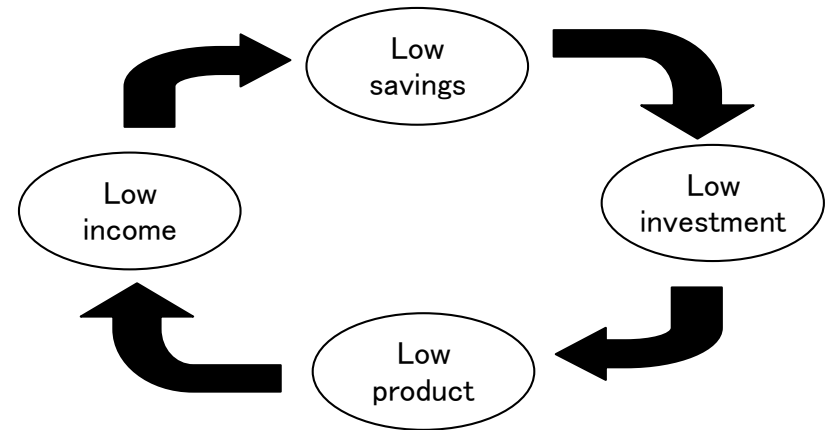
- 
- How long will the prosperity continue?

# Population Pyramid in Low Income Countries and Vicious Circles of Poverty



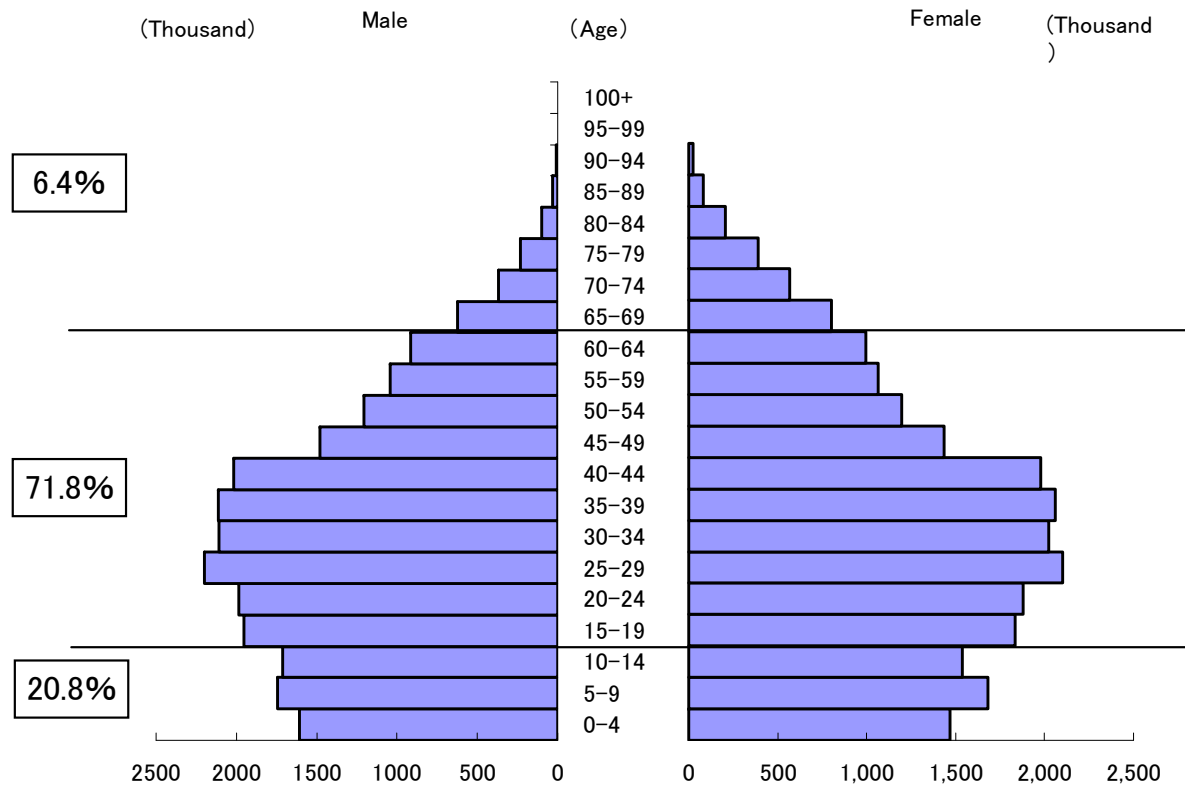
Source: UN, World Population Prospects : The 2006 Revision

## Vicious Circles of Poverty



# Growth-friendly population pyramid

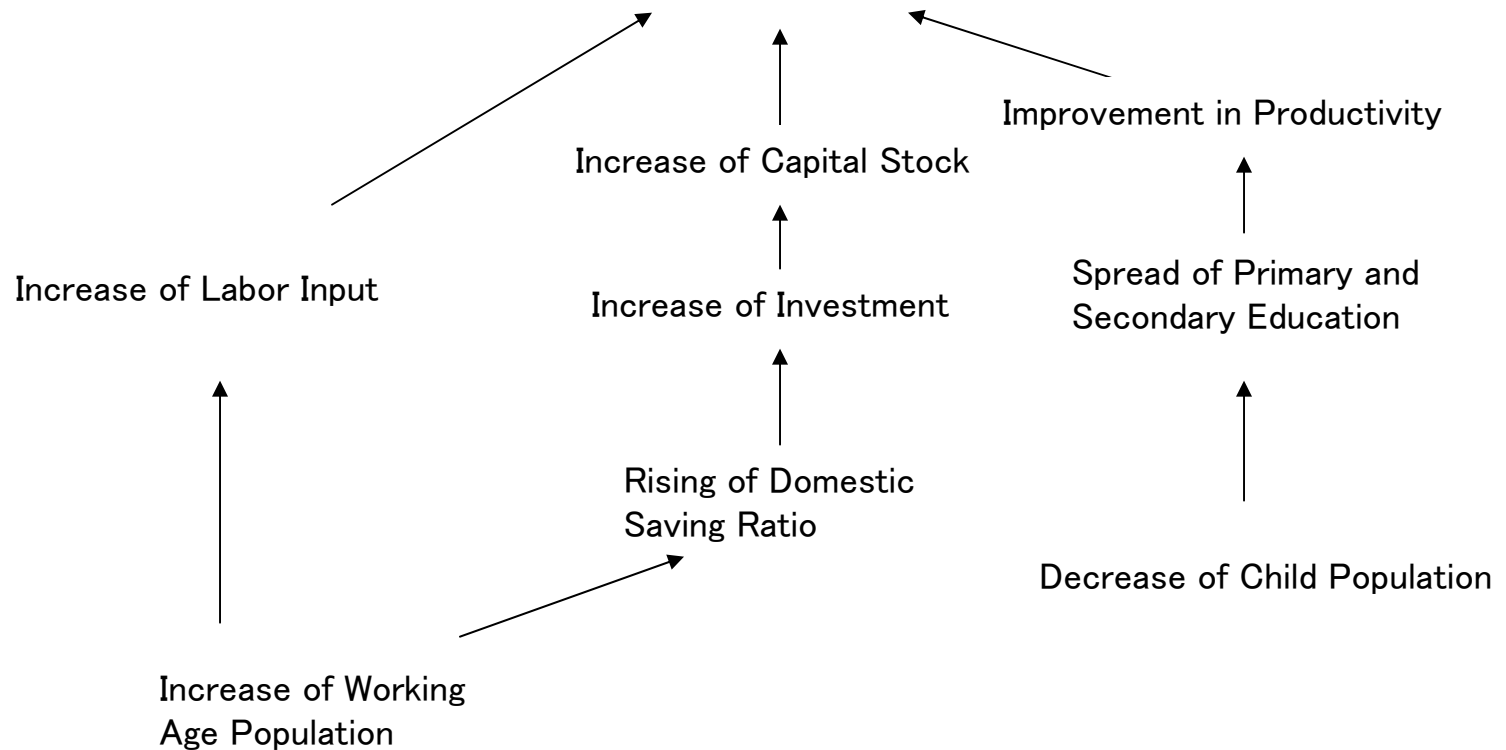
## Population pyramid in Korea 2000



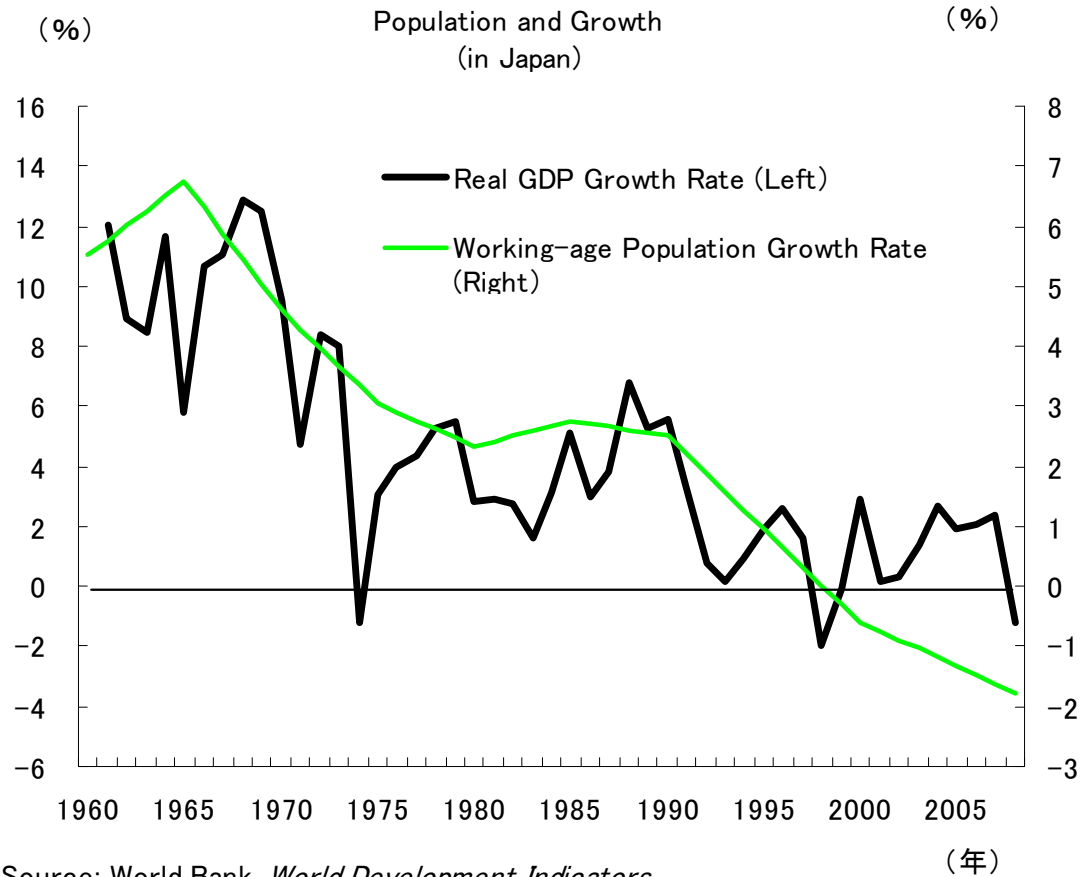
Source: UN, World Population Prospects : The 2006 Revision

# Process of demographic dividend

$$\text{Economic Growth} = f(L, K, T)$$

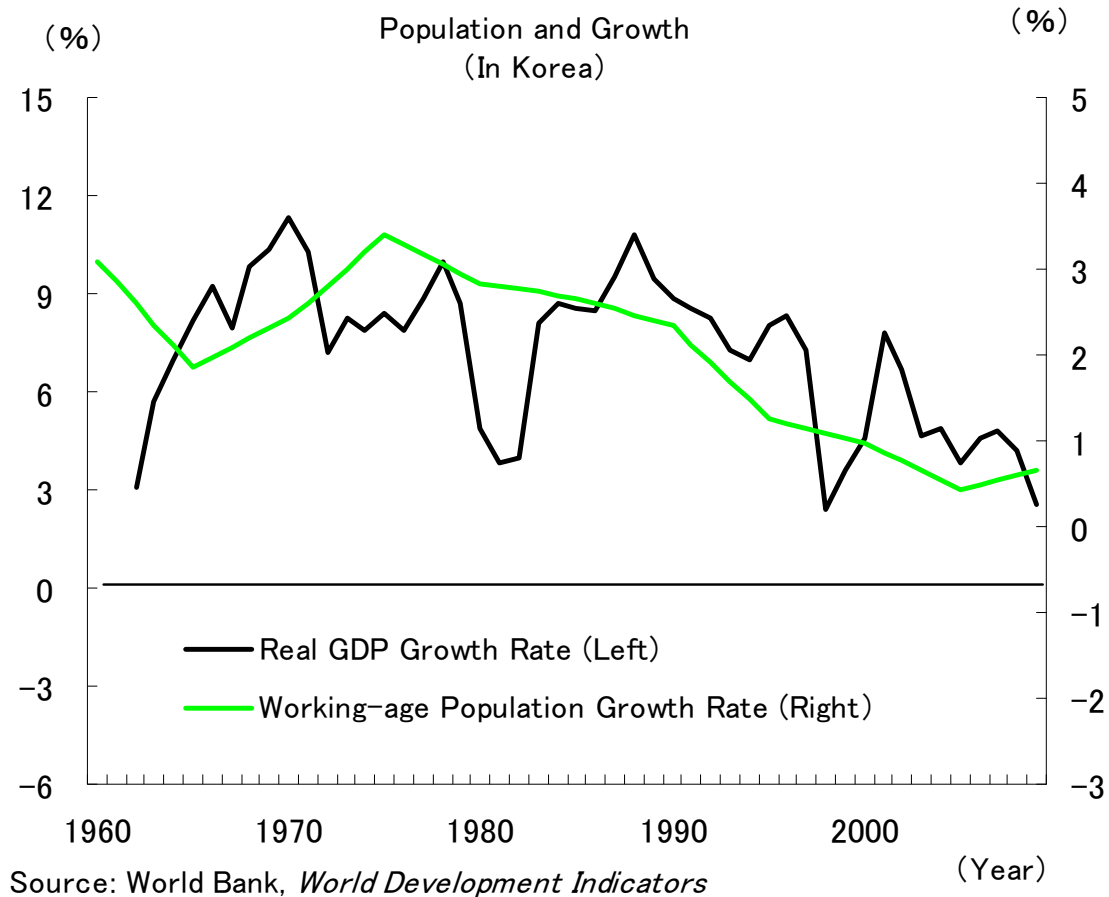


# Demographic Dividend in Japan



Source: World Bank. *World Development Indicators*

# Demographic Dividend in Korea





# Period of Demographic Dividend

	Demographic Dividend		Per Capita GDP (2009)	Urbanization (2010)
	Start	End		
Japan	1930-35	1990-95	39,727	66.8
NIES				
Korea	1965-70	2010-15	17,078	83.0
Taiwan	1960-65	2010-15	16,380	59.1
Hong Kong	1960-65	2010-15	30,064	100.0
Singapore	1960-65	2010-15	36,537	100.0
China	1965-70	2010-15	3,734	47.0
Thailand	1965-70	2010-15	3,946	34.0
Malaysia	1965-70	2030-35	6,812	72.2
Indonesia	1970-75	2020-25	2,335	44.3
Philippines	1960-65	2040-45	1,746	48.9
Vietnam	1970-75	2015-20	1,130	30.4
India	1965-70	2035-40	1,040	30.0

Note: Medium Variant

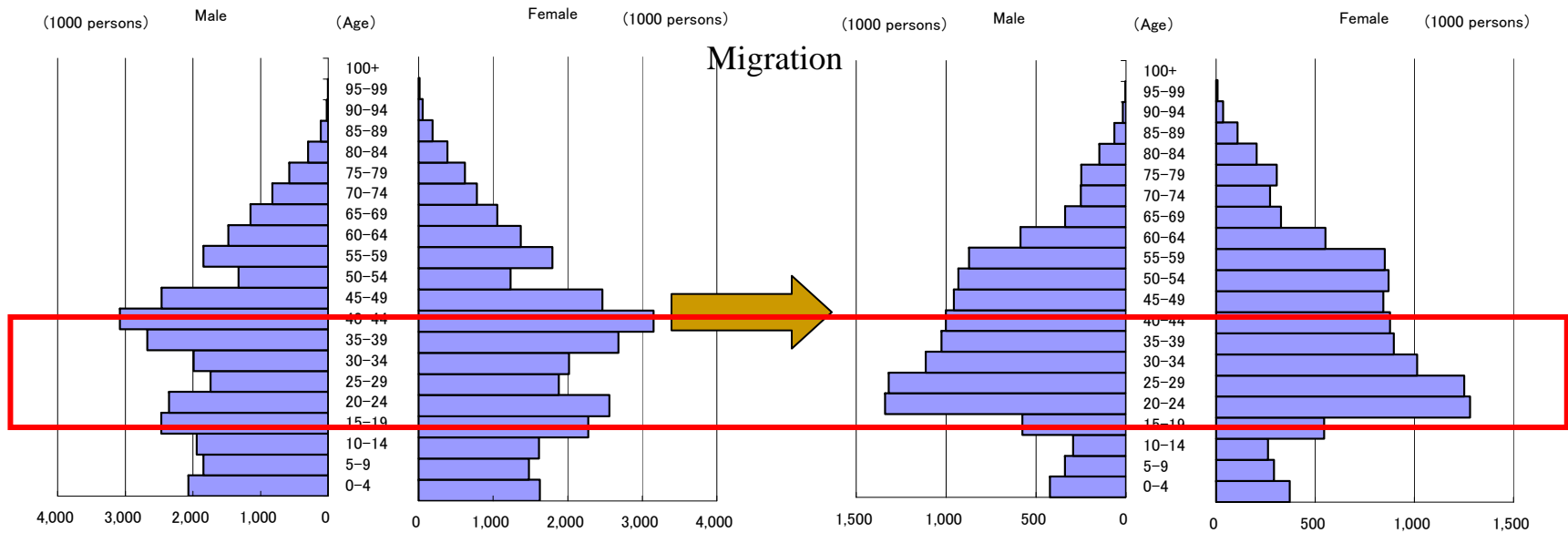
Source: UN, *World Population Prospects: the 2008 Revision*, UN, *World Urbanization Prospects: The 2009 Revision*, IMF, Taiwan Statistic Office

# Transfer of Demographic Dividend from Rural to Urban

Anhui Province



Shanghai City



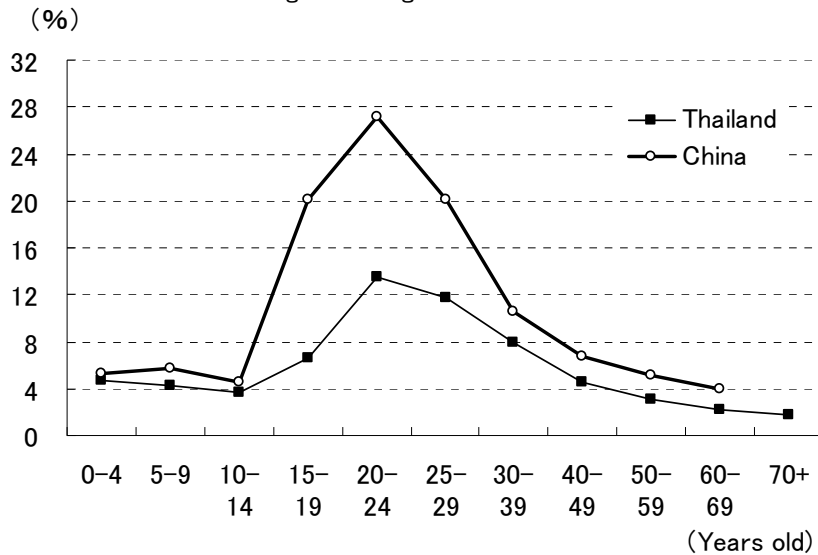
Shorter

Longer

Period of Demographic Dividend

# Where will baby-boom generations live ?

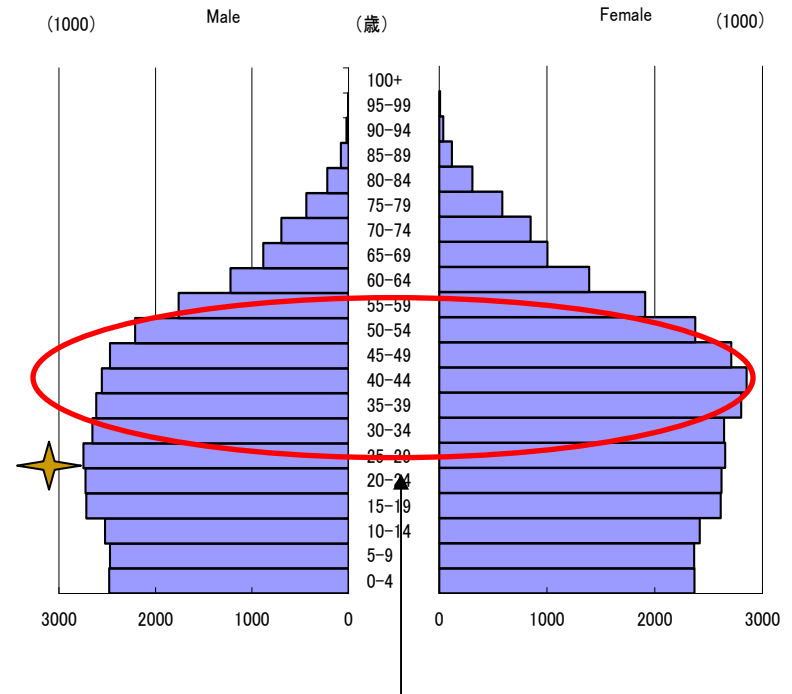
Figure 5 Migration Schedule



Note: Migration Rate = Migration Population / Total Population

Source: National Bureau Statistics of China, 2002. *Tabulation on the 2000 Population Census of the People's Republic of China*, National Statistics Office Thailand, 2002. *The 2000 Population and Housing Census*

Population Pyramid of Thailand (2010)



They will remain in rural areas, with low incomes

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# 3. Aged Society Measures in East Asia

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Agendas for building social security  
system and community-based welfare

# Where will Population Ageing Happen in ?

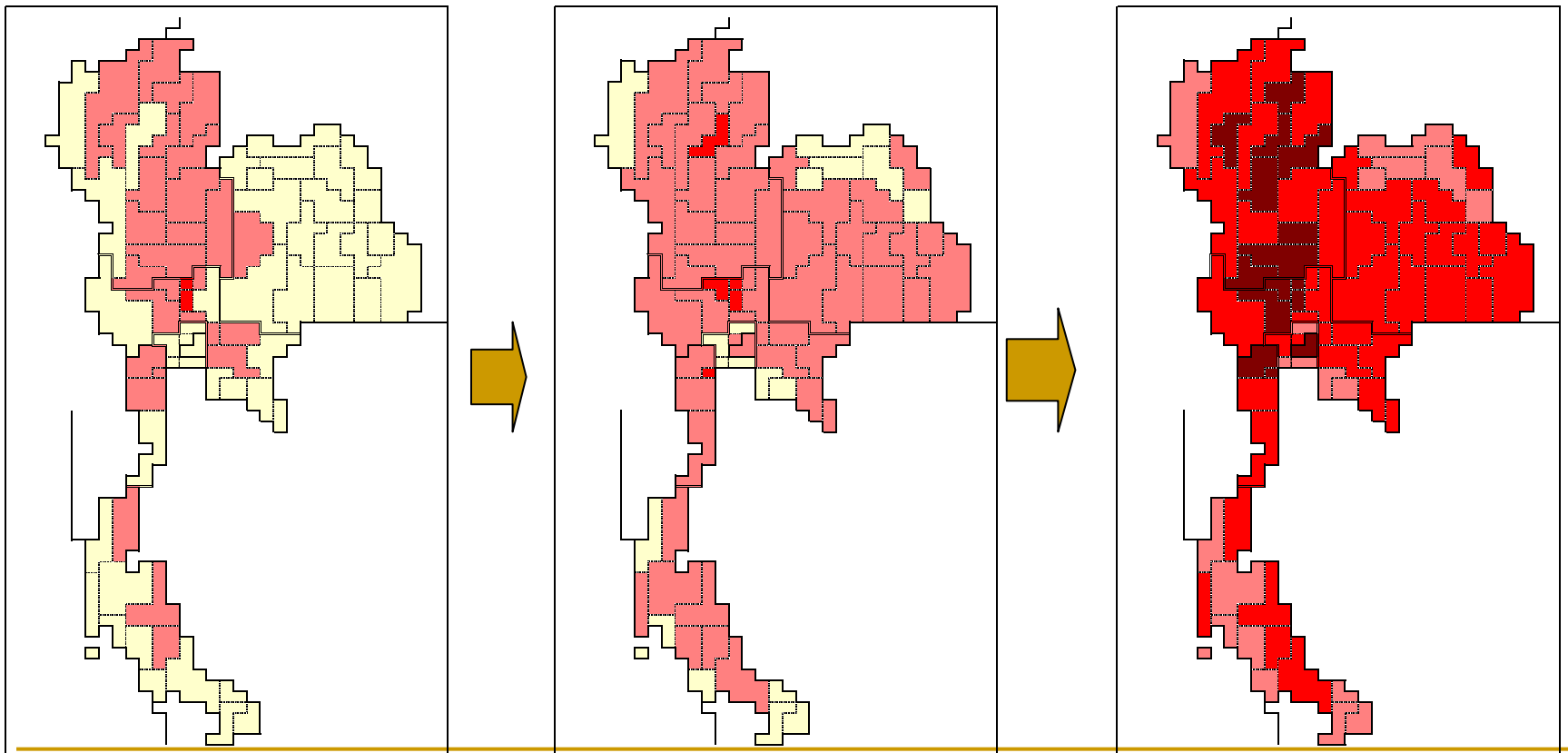
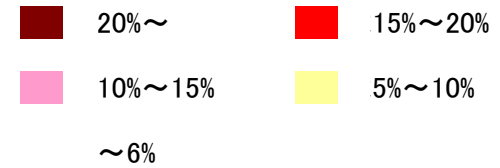
## Elderly People Ratio

	2005	2010	2015	2020	2025	Par Capita GDP
United Nation	7.1	8.0	9.3	11.2	13.3	
NESDB	7.0	7.8	9.0	11.0	13.7	
Mahidol	7.0	8.1	9.2	11.3	13.5	114,233
Bangkok	5.7	6.4	7.1	9.2	12.0	316,040
Central	7.3	8.0	8.7	9.9	11.8	207,192
North	8.3	9.5	10.8	14.5	15.9	54,447
Northeast	6.4	7.6	9.4	12.0	14.8	34,983
South	7.1	9.1	9.0	10.0	12.2	84,136

Source: United Nation、NESDB (2003) 、Mahidol University (2006)

# Population Ageing will be occurred in Whole Land

Ageing Rate (+60 years old)



2000

2010

2020

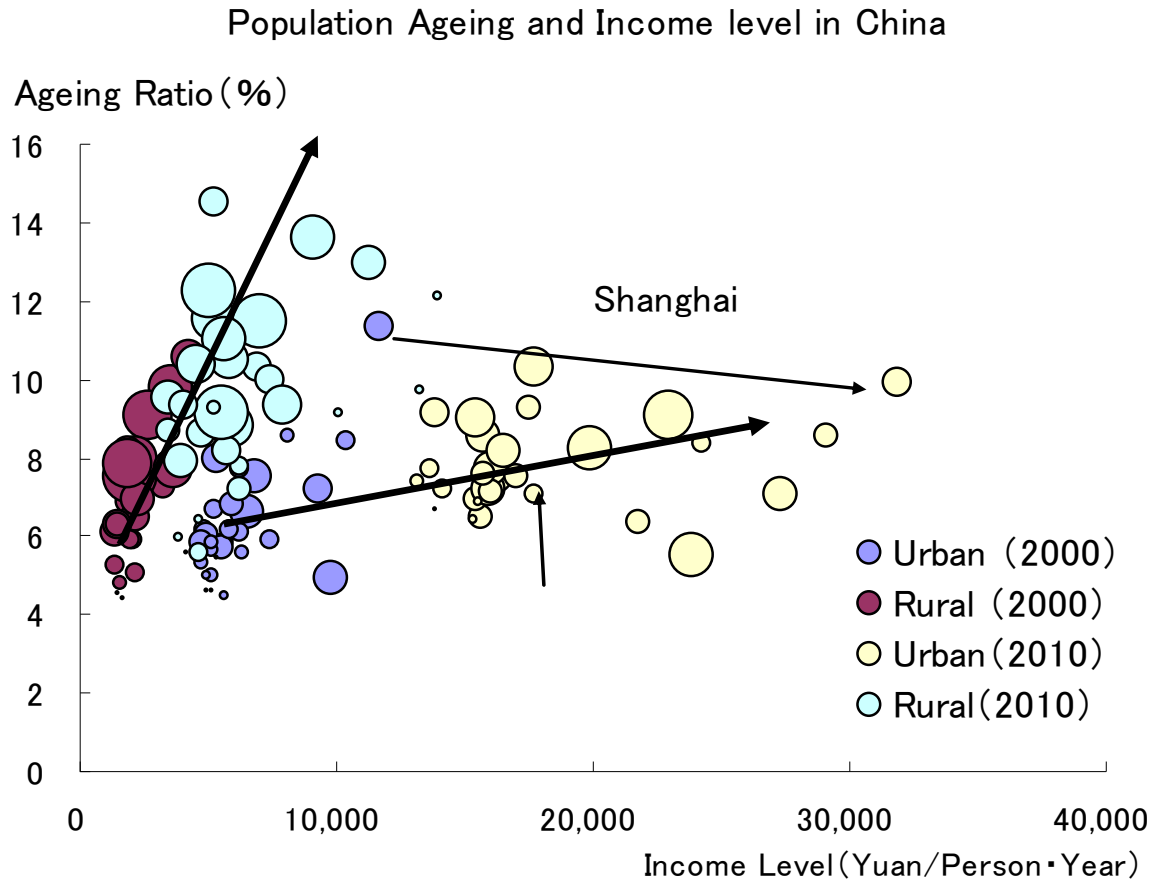
# The Ageing Ratio of Shanghai has declined

<Population Aging Ratio in China>

		2000			2010				
		Total	Urban	Rural			Total	Urban	Rural
1	Shanghai	11.5	11.3	12.6	1	Chongqing	11.7	9.3	14.5
2	Zhejiang	8.9	7.2	10.6	2	Sichuan	11.0	9.0	12.3
3	Jiangsu	8.8	7.5	9.8	3	Jiansu	10.9	9.1	13.6
4	Beijing	8.4	8.4	8.4	4	Liaoning	10.3	10.3	10.3
5	Tianjin	8.4	8.6	8.0	5	Anhui	10.2	8.5	11.5
6	Shangdong	8.1	6.6	9.1	6	Shanghai	10.1	9.9	12.1
7	Chongqing	8.0	7.7	8.2	7	Shangdong	9.8	8.2	11.5
8	Liaoning	7.9	8.0	7.8	8	Hunan	9.8	8.1	11.0
9	Anhui	7.6	6.7	7.9	9	Zhejiang	9.3	7.1	13.0
10	Sichuan	7.6	6.8	7.8	10	Guangxi	9.2	7.5	10.4
Total		7.1	6.4	7.5	Total		8.9	7.8	10.1

Source: Tabulation on the Population Census of the People's Republic of China (2000, 2010)

# Fast Population Ageing in Rural Area

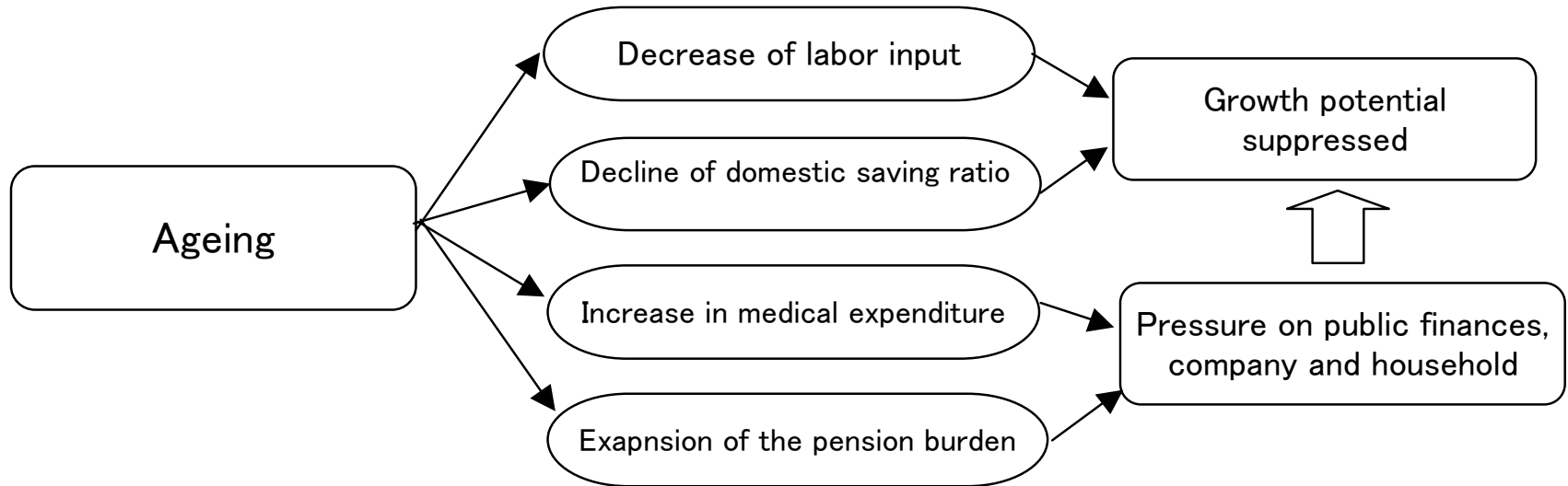


Source: Tabulation on the Population Census of the People's Republic of China (2000, 2010), China Statistical Yearbook



# Negative Impacts from Population Ageing on Growth of Economy

## Impacts of a population ageing upon economic development



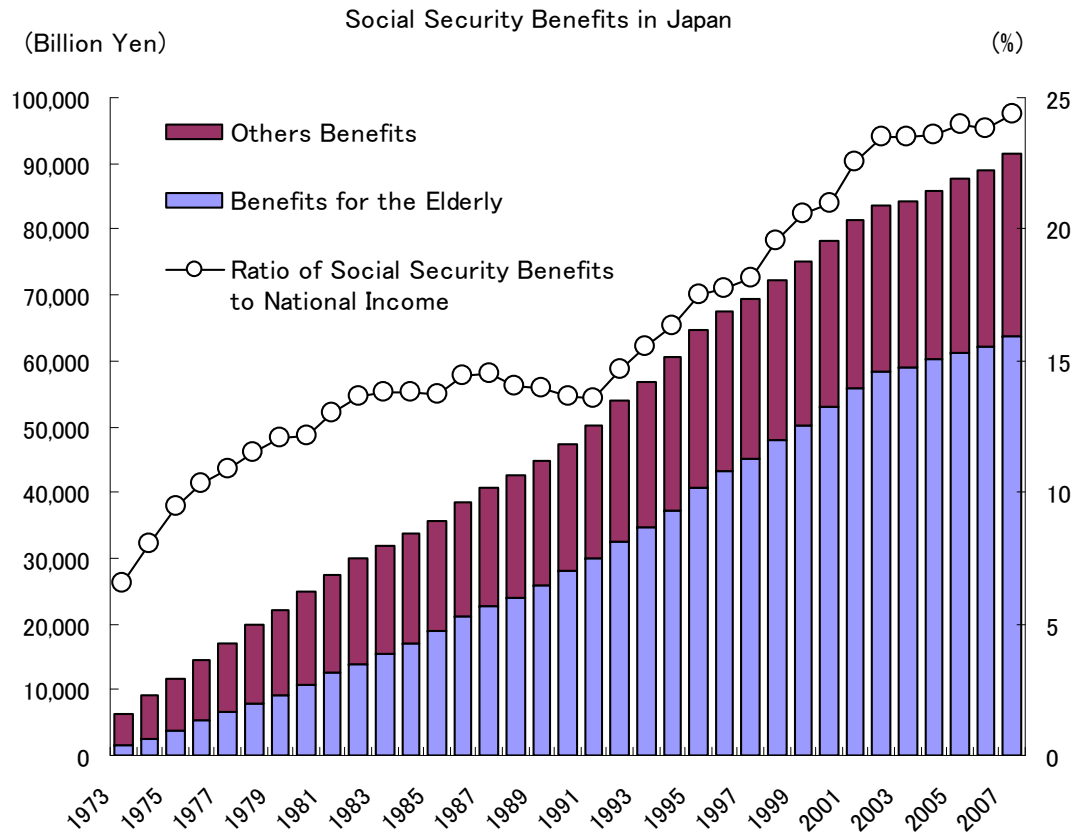
# Classification by Development Phase

## Social Security System in East Asia

	Social Security System		Economic Development Stage	Industrial Structure	Demographic Transition	
	Current System	Challenges			Population Structure	Urbanization
Third Phase (Japan, Korea, Taiwan, Hong Kong, Singapore)	Universal system	To reform with population ageing	High income	Service-led structure	Accelerating population ageing	Urban society
Second Phase (Malaysia, Thailand, Philippines, Indonesia, China)	System covering public sectors and employee of private company.	To establish universal system covering informal sector and rural people	Middle income	Manufacture-led structure	Rapid Declining of Fertility Rate	Transition from rural society to urban society
First Phase (Vietnam, Laos, Cambodia, Myanmar)	System covering only public sector	To expand system covering employee of private company	Low income	Agriculture-led structure	Starting falling of fertility rate	Rural society

Source: Based on Hiroi and Komamura ed. 2003. *Ajia no Shakai Hoshō (Social Security in Asia)*, University of Tokyo Publications p.11-12

# A Huge Burden of Population Ageing in Japan



Source: National Institute of Population and Social Security Research, *Social Security Benefits 2007*, <http://www.ipss.go.jp/>

# National Medical Expenditure by Age Group

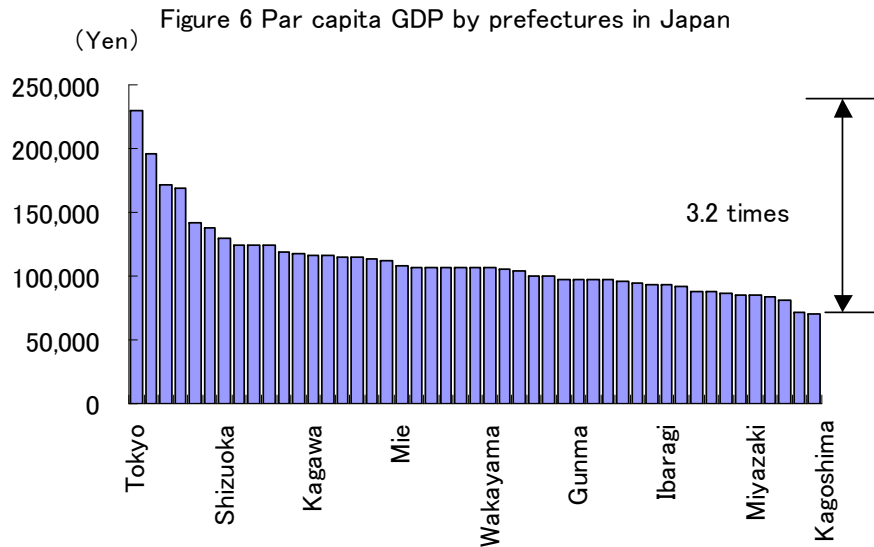
National Medical Expenditure by Age Group (2007)

Age Group	Total		Ratio (%)	Expenditure per Capita	
	(Billion Yen)	(Billion USD)		(1000 Yen)	(USD)
Total	34,136	302	100.0	267.2	2,362
~64 and below	16,392	145	48.0	163.4	1,444
0~14	2,327	21	6.8	134.6	1,190
15~44	4,992	44	14.6	103.3	913
45~64	9,073	80	26.6	261.6	2,313
65 and over	17,744	157	52.0	646.1	5,712
70 and over	14,174	125	41.5	722.2	6,384
75 and over	10,089	89	29.6	794.2	7,021

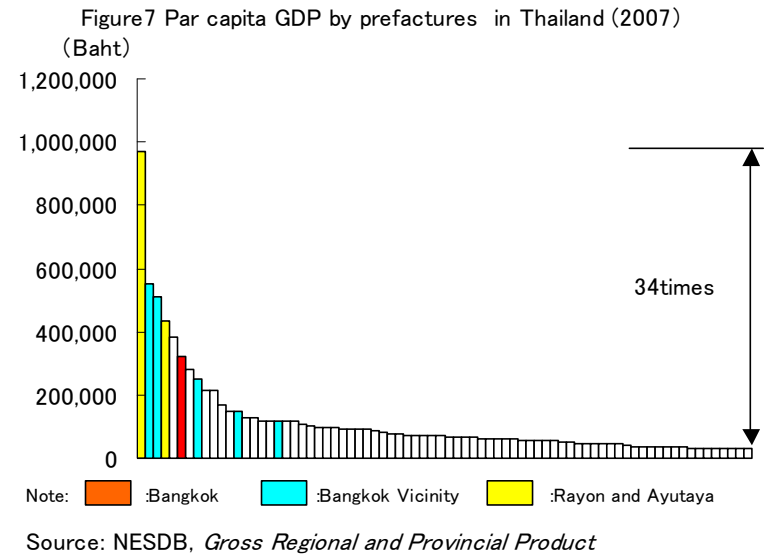
Note: 1USD=113.12Yen

Source: Ministry of Health, Labor and Welfare


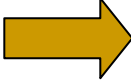

# Regional Income Disparity in Japan (1960) and Thailand (2007)



Source: Cabinet office, Government of Japan  
<http://www.esri.cao.go.jp/jp/sna/kenmin/h18/main.html>



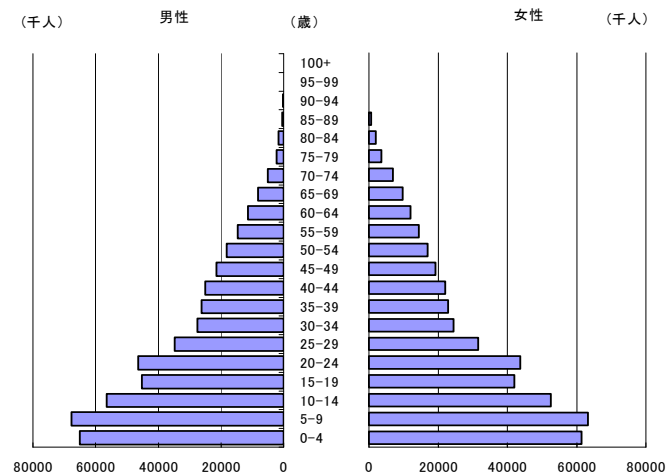
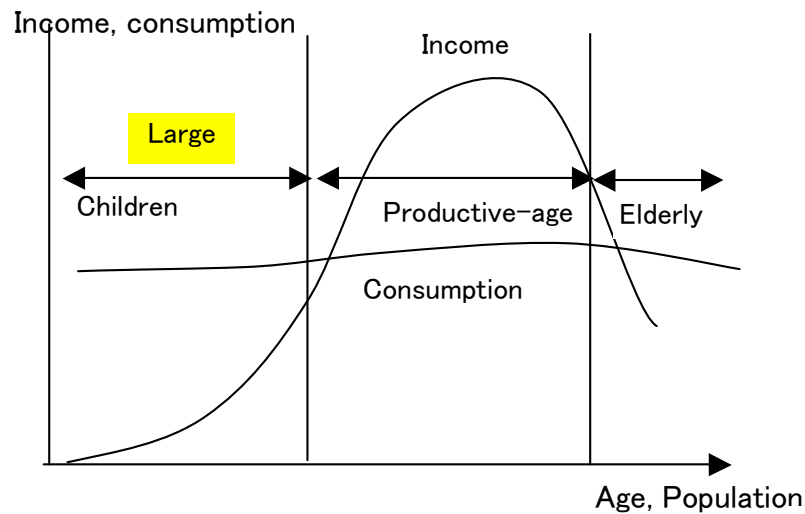
# Tax Reform and Urban Development Strategies

- Cooperation tax  For attracting foreign companies
- Individual income tax  For promoting human capital activities
- Consumer tax  For expanding domestic market

Reduction of taxes and low tax rate are desirable

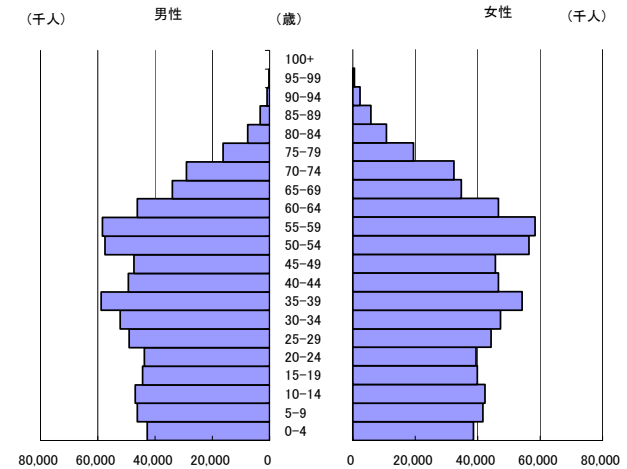
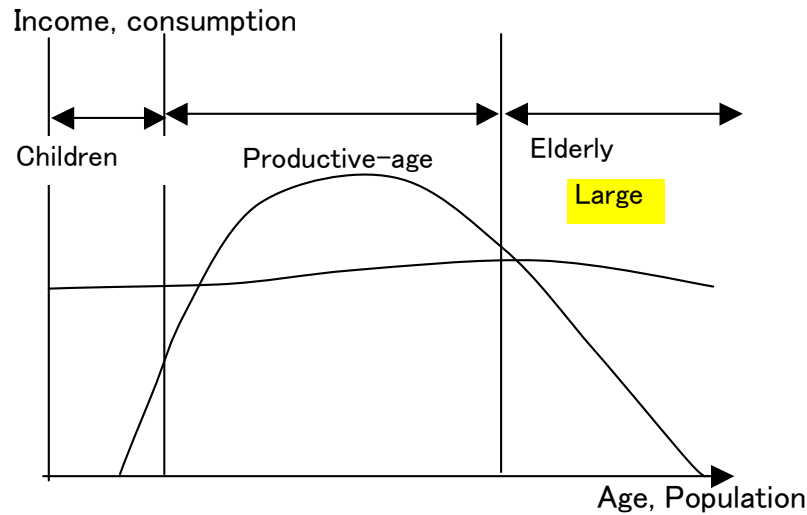
# Human Security in Population Explosion

Life cycle model and population pyramid in the period of population explosion



# Human Security in Population Ageing

Life cycle model and population pyramid in the period of population ageing





# Lessons of World Bank's pension program

## Multipillar Pension Taxonomy

Pillar	Target group			Main criteria		
	Lifetime poor	Informal sector	Formal sector	Characteristics	Participation	Funding or collateral
0	X	X	x	"Basic" or "Social pension" at least social assistance	Universal or residual	Budget or general revenues
1			X	Public pension plan, publicly managed (defined benefit or notional defined contribution)	Mandated	Contributions, perhaps with some
2			X	Occupational or personal pension plans (fully funded defined benefit or fully funded)	Mandated	Financial assets
3	x	X	X	Occupational or personal pension plans (partially or fully funded defined benefit or funded defined contribution)	Voluntary	Financial assets
4	X	X	X	Access to informal support (family), other formal social programs (health care), and other individual financial and nonfinancial assets (homeownership)	Voluntary	Financial and nonfinancial assets

Note: The size and appearance of x reflect the importance of each pillar for each target group in the following increasing order of importance: x, X, **X**

(Source) The World Bank "Old Age Income Support in the 21st Century", 2005 p.82

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Thank you for  
your attention !!

More detail, please contact [oizumi.keiichiro@jri.co.jp](mailto:oizumi.keiichiro@jri.co.jp)