

DEMOGRAPHIC AGEING IN EAST AND SOUTHEAST ASIA AND IMPLICATIONS FOR THE FUTURE

by

Graeme Hugo

ARC Australian Professorial Fellow

**Professor of Geography and Director of the National Centre
for Social Applications of GIS,
The University of Adelaide**

**Presentation to 19th General Meeting of the Pacific Economic
Cooperation Council, Tokyo**

18-22 October 2010

Outline of Presentation

- **Introduction**
- **Demographic Change and Development**
- **Population Trends in East and Southeast Asia**
- **Projected Patterns of Population Growth and Change**
- **Ageing in the Economies of East and Southeast Asia**
- **Some Implications for Policy**
- **Conclusion**

Demographic Change

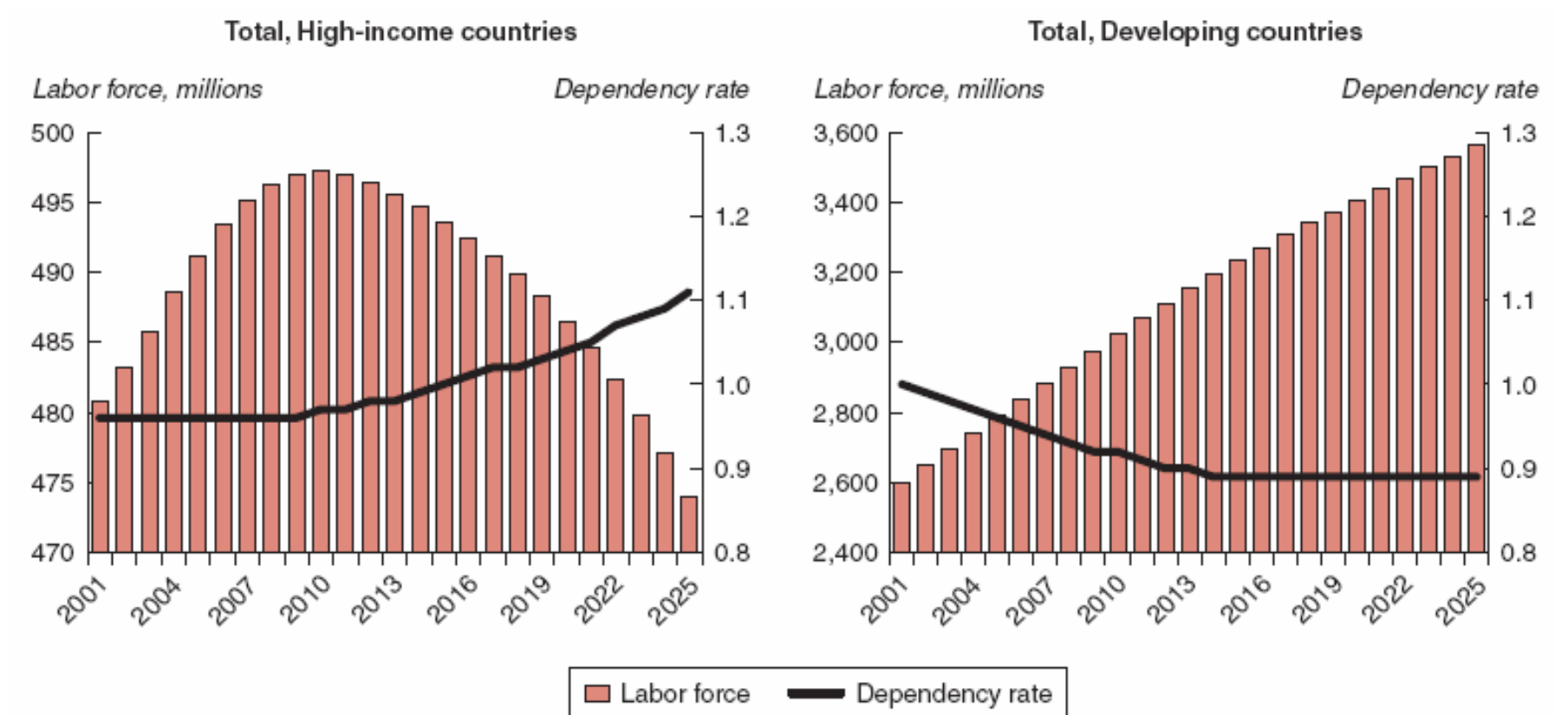
- **Size, Composition and Distribution of Population**
- **Dynamic**
- **Incremental in Impact**
- **Many Elements are Predictable**
- **Complex Two-Way Relationship with Economic Development**

“Over the next couple of decades nothing will impact OECD economies more profoundly than demographic trends and, chief among them, ageing”

Jean-Philippe Cotis
Chief Economist, OECD
March 2005

Labour Force Age Groups and Dependency Rates

Source: World Bank, 2006



Global Ageing: Percent Aged 60+

1950: 8

2010: 11

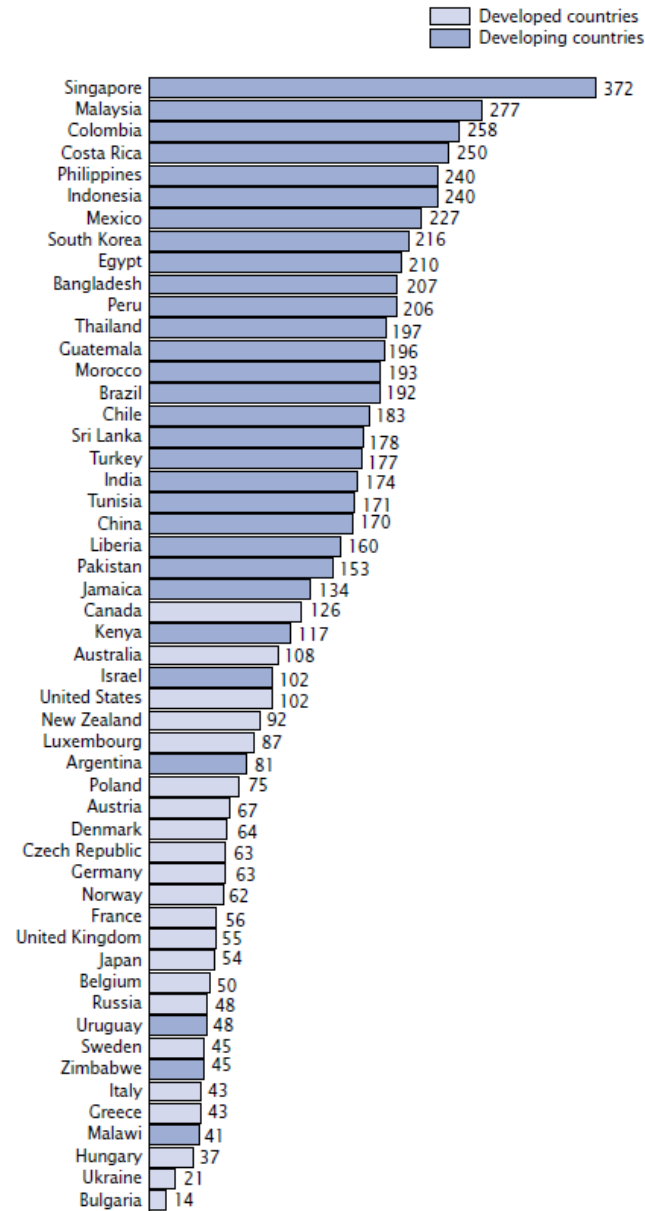
2050: 22

Global Population Change 2010-2050

	Number		Percent	
	2010	2050	2010	2050
0-14	1.86b	1.8b	27	20
60+	759m	2b	11	22

Percent Increase in Elderly Population: 2000 to 2030

Source: Kinsella and Velkoff 2001, p.11



ESCAP Region¹: Major Demographic Changes, 1970-2009

Source: UNESCAP, 1984, 2009

Demographic Variable	1970	2009	Percent Change 1970-2009
Total Population (m)	2,041.2	4,158	+103.7
Percent of World Population	55.2	61.1	+10.7
Annual Growth Rate ³	2.2	1.0	-54.5
Percent Urban ³	24	42	+75.0
Percent Aged 0-14 ³	40	26	-35.0
Percent Aged 65+ ³	4	7	+75.0
Dependency Ratio ³	80	49	-38.8
Total Fertility Rate ^{2, 3}	5.4	2.2	-59.3
Expectancy of Life at Birth – Males ³	52	68	+30.8
Expectancy of Life at Birth – Females ³	54	72	+33.3

¹ The data exclude the countries of Central Asia which were not part of the ESCAP region in 1970.

² TFR and Life Expectancies refer to the average of the five years prior to 1970.

³ Includes Central Asia in 2006.

Key Trends in Population of East and South East Asia

- **Rapid Fertility Decline**
- **Increased Life Expectancy**
- **Rapid Ageing**
- **A New Youth Generation**
- **Increased International Migration**
- **Urbanisation**

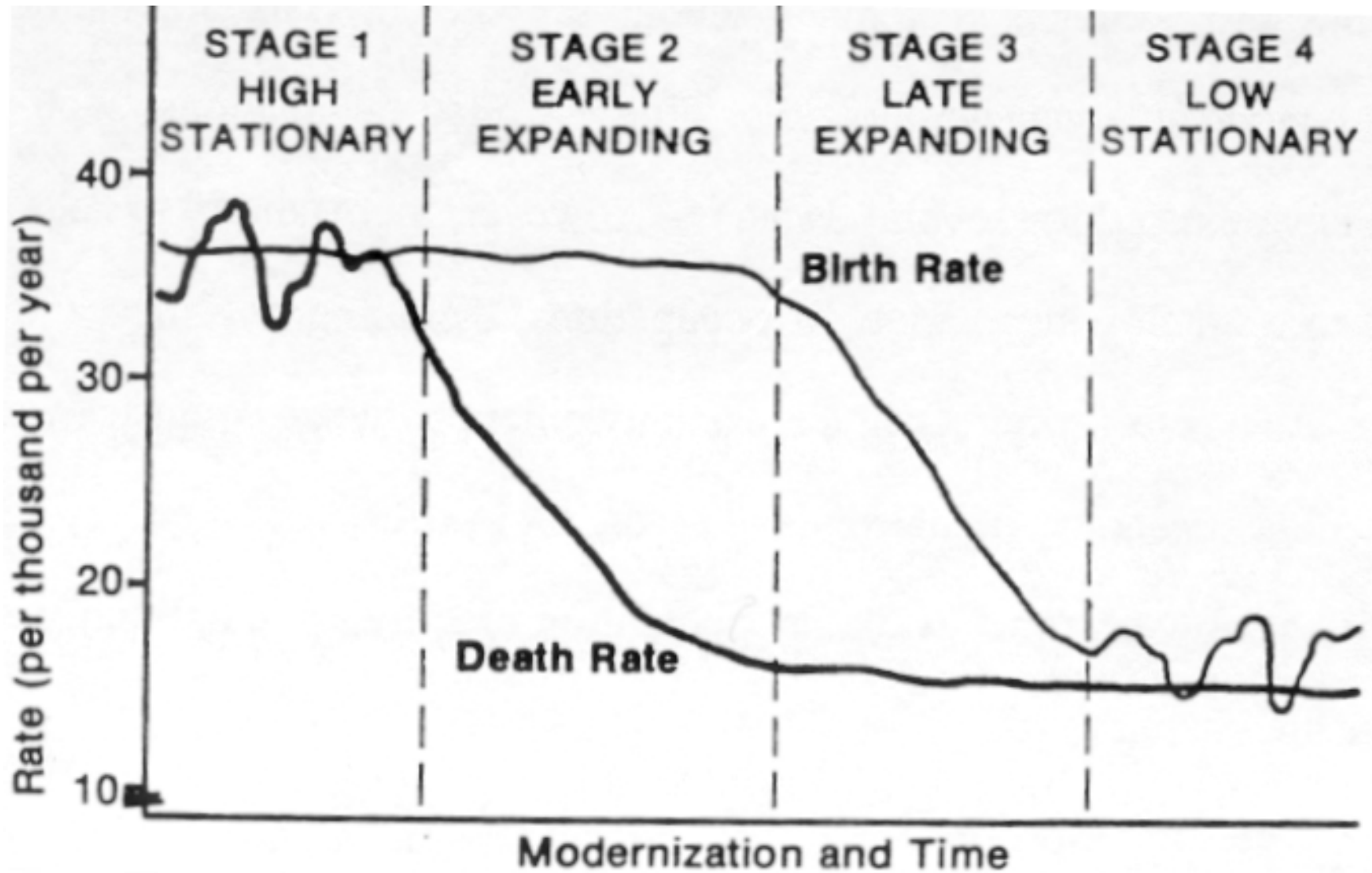
Population Ageing (Increase in Proportion of Population Aged 65+)

- Occurring in all Asia-Pacific countries
- A function of increased life expectancy and decline in fertility
- As a result older population is growing faster than any other age group

Variation Between Countries

- **Contrast in size of nations**
- **Contrast in demographic situations between countries**
- **Very dynamic situation**
- **Complexity of region**

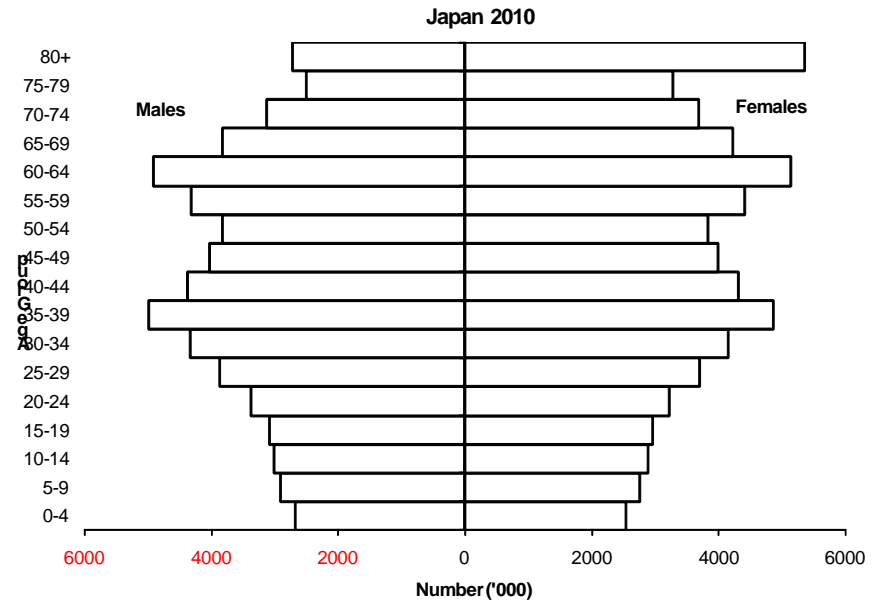
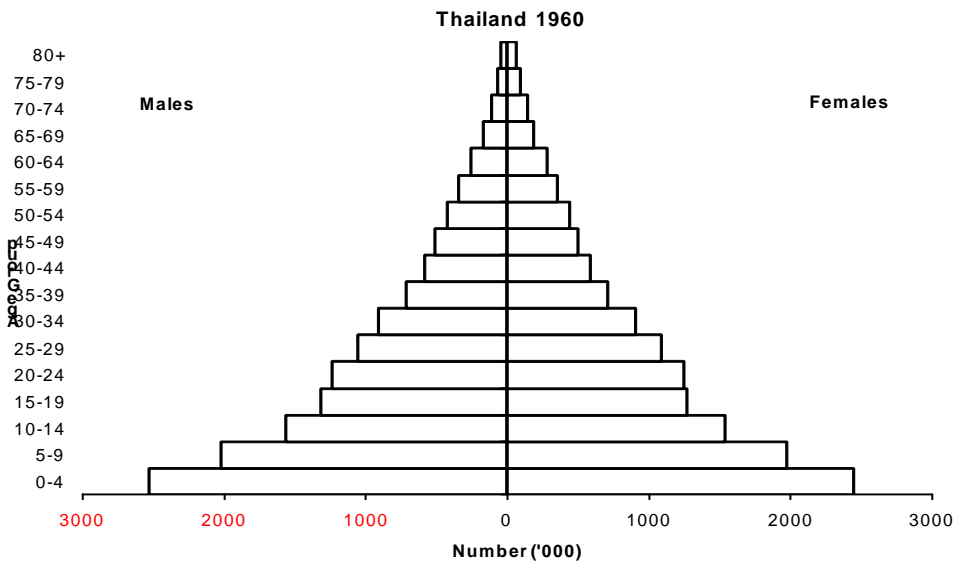
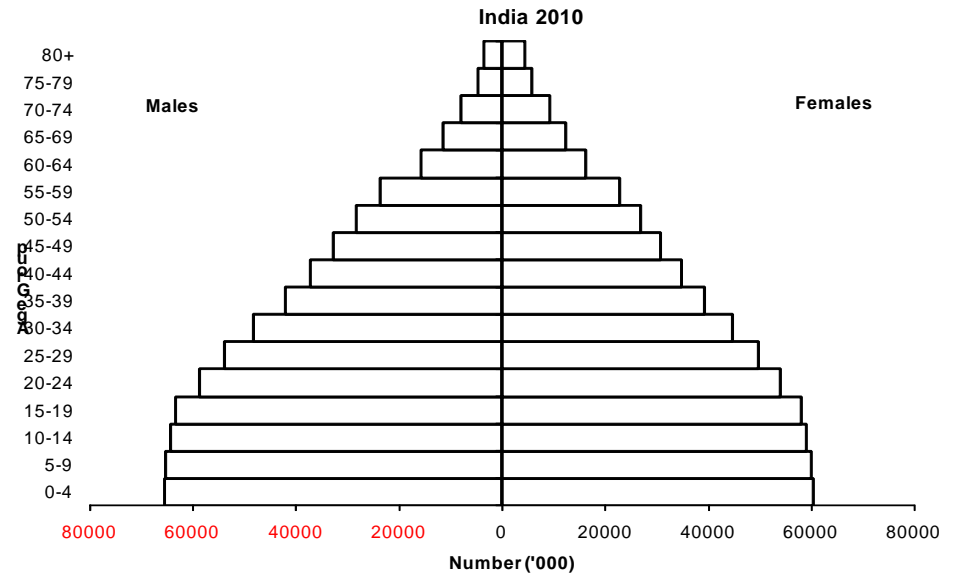
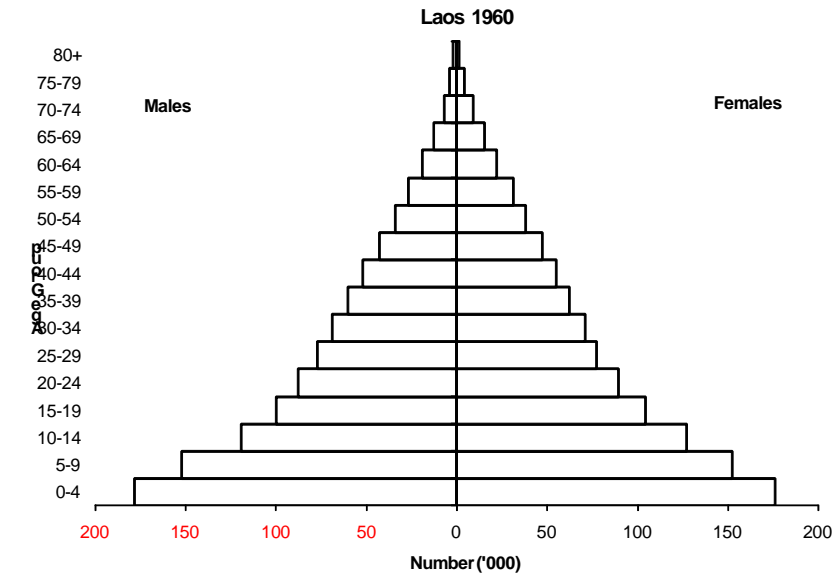
Simplified Model of the Demographic Transition



Asia-Pacific nations can be seen as being located at various points along the Demographic Transition and this shapes their levels of population and workforce growth and age structure

Age Structure Varies with Stage of Transition

Source: United Nations 2009



The Asian Youth Bulge

(Westley and Choe, 2002, 57)

... 'is the result of a transition from high to low fertility about 15 years earlier. The youth bulge consists of large numbers of adolescents and young adults who were born when fertility was high followed by declining numbers of children born after fertility declined'.

Asian Population Aged 15-24, 1960-2000 and Projected 2020 and 2040

Source: United Nations, 2003a

Year	Population Aged 15-24		Annual Percentage Growth
	Number ('000)	Percent	Per Annum
1960	283,539	17.34	
1980	489,013	19.43	2.76
1985	565,195	20.52	2.94
1990	610,458	20.25	1.55
2000	615,201	17.64	0.08
2020	669,315	15.60	0.42
2040	653,518	13.79	-0.12

Note: Excludes Western Asia

The Asian Youth Bulge

Youth bulge – at least 20 percent of national population aged 15-24

1960	-	17.3 percent	
1980	-	19.4	“
1985	-	20.5	“
1990	-	20.3	“
2000	-	17.6	“
2020	-	15.6	“
2040	-	13.8	“

Population Aged 15-24 ('000)

	1950	1970	2000	2010	2030
China	101,339	158,205	198,946	218,699	183,918
India	69,278	100,363	190,217	218,177	214,426
Indonesia	15,941	21,255	42,268	42,703	40,532
Japan	16,396	19,831	16,098	12,636	11,133
Philippines	3,583	7,193	15,377	18,165	18,095
Pakistan	7,467	11,162	27,186	36,114	53,511

The Demographic Dividend

The passage of the youth bulge into the working ages produce a demographic dividend of economic growth because it increases the proportion of the national population in the working ages. Provided there is a favourable policy environment

**“... assuming that policies to take advantage of this are in place. In fact the combined effect of this large working age population and health, family, labour, financial and human capital policies can effect virtuous cycles of wealth creation”
(Bloom, Canning and Sevilla, 2003, xi).**

The Demographic Dividend is Delivered Through:

- **Labour supply – the numbers available to work are larger. Also women are more likely to enter the workforce as family size decreases, hence, since the Asian youth bulge is associated with low fertility, female workforce participation is likely to be high while the young and the old consume more than they produce.**
- **Savings – working age people tend to have a higher level of output and also a higher level of savings.**
- **Human capital investments – with smaller numbers of children and cultural changes there will be greater investment in education, health, etc. Hence, primary and secondary enrolment ratios are increased.**

Benefiting from the Demographic Dividend

- **Several empirical studies have shown economic growth in countries like Japan, South Korea and Thailand has benefited significantly from the demographic dividend**
- **In China 15-20 percent of economic growth has been due to demographic dividend in last 15 years**
- **Not just due to improvement in the dependency ratio – also higher productivity due to education**

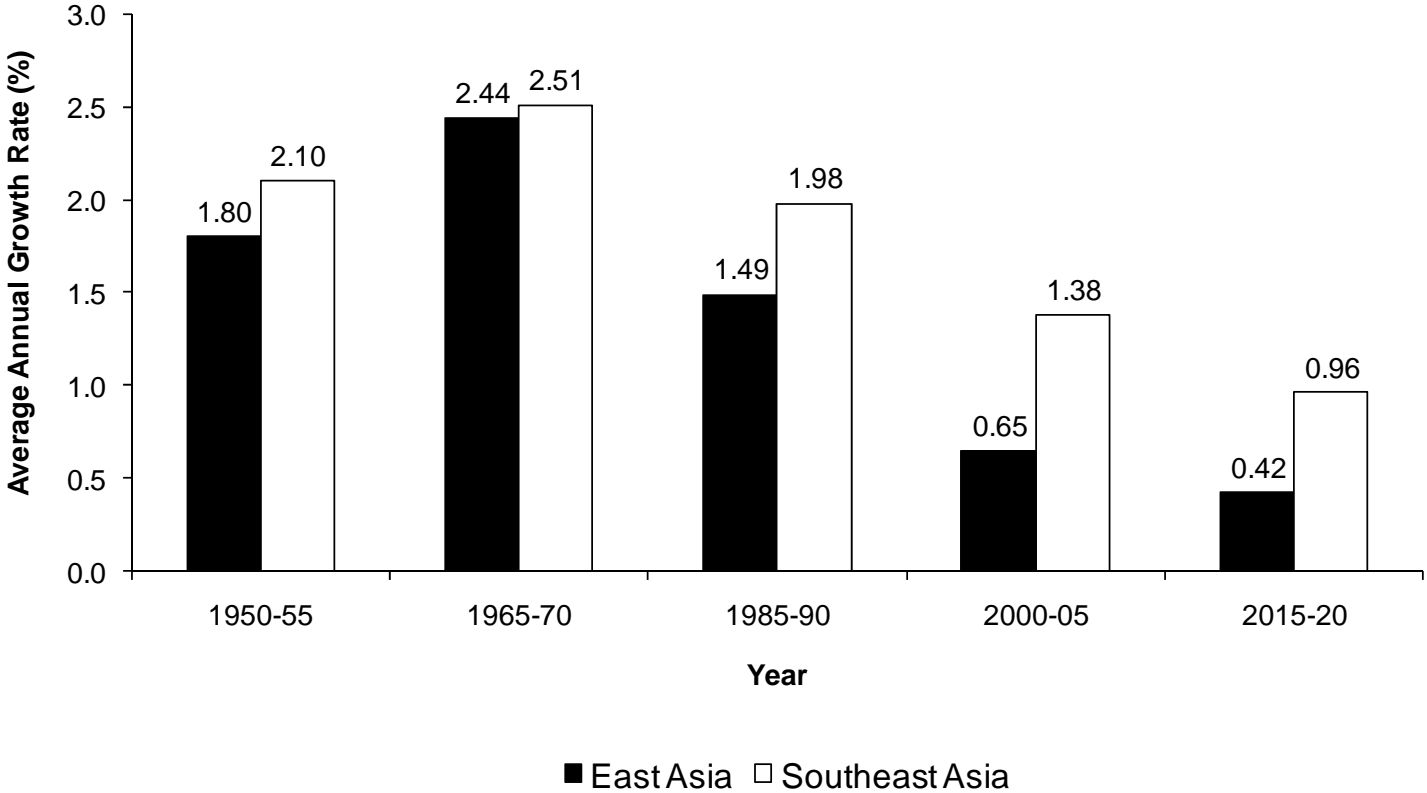
Asia: Population Growth

Source: United Nations, World Population Prospects: The 2008 Revision Population Database

Year	Population ('000)	% Growth p.a.	% of World Population
1950	1,402,887		55.5
1990	3,178,810	2.1	60.1
2000	3,698,296	1.5	60.5
2010	4,166,741	1.2	60.3
2020	4,596,256	1.0	59.9

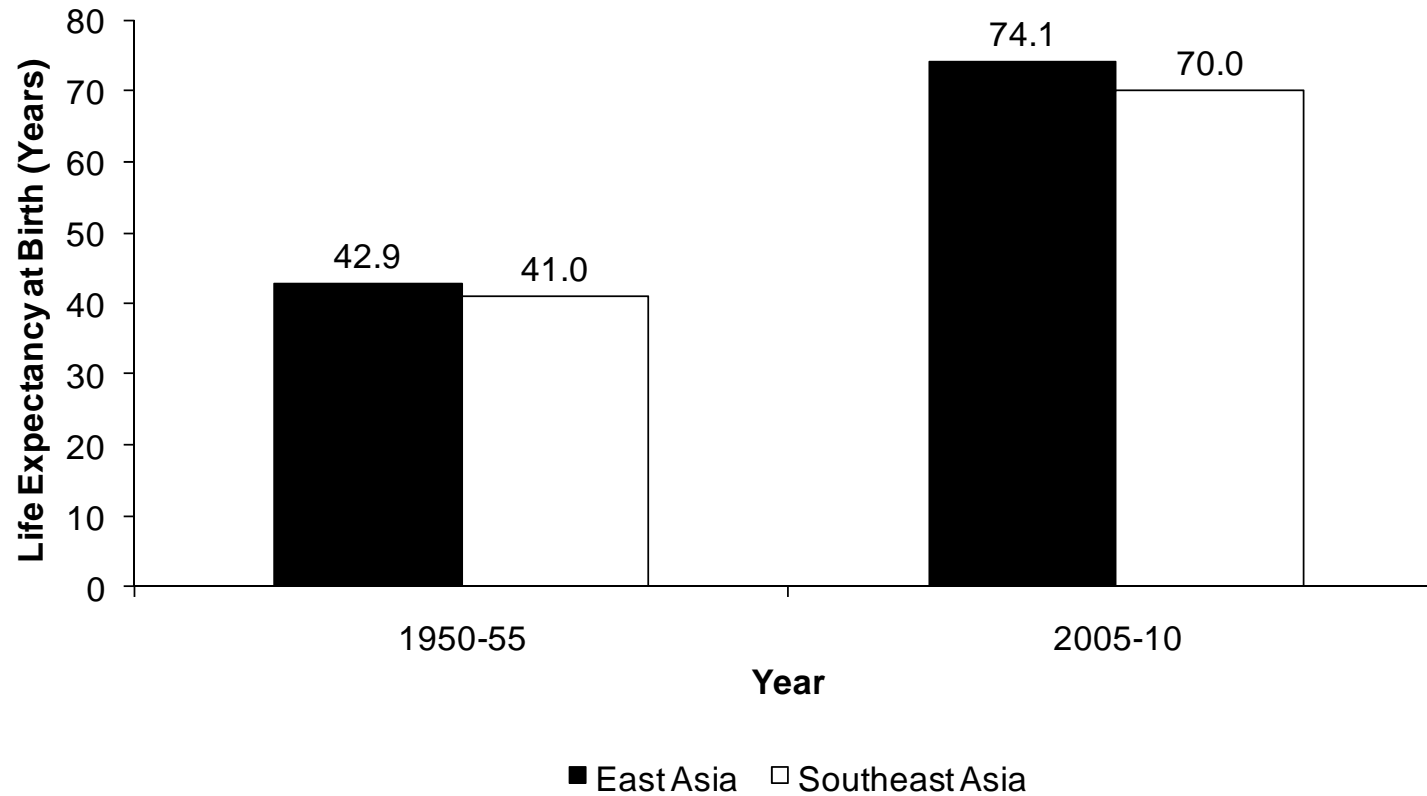
East and Southeast Asia: Average Annual Growth Rate of the Population, 1950-55 to 2015-20

Source: : United Nations, World Population Prospects: The 2008 Revision Population Database



East and Southeast Asia: Life Expectancy at Birth, 1950-55 and 2005-10

Source: United Nations, World Population Prospects: The 2008 Revision Population Database



Fertility Change in ESCAP

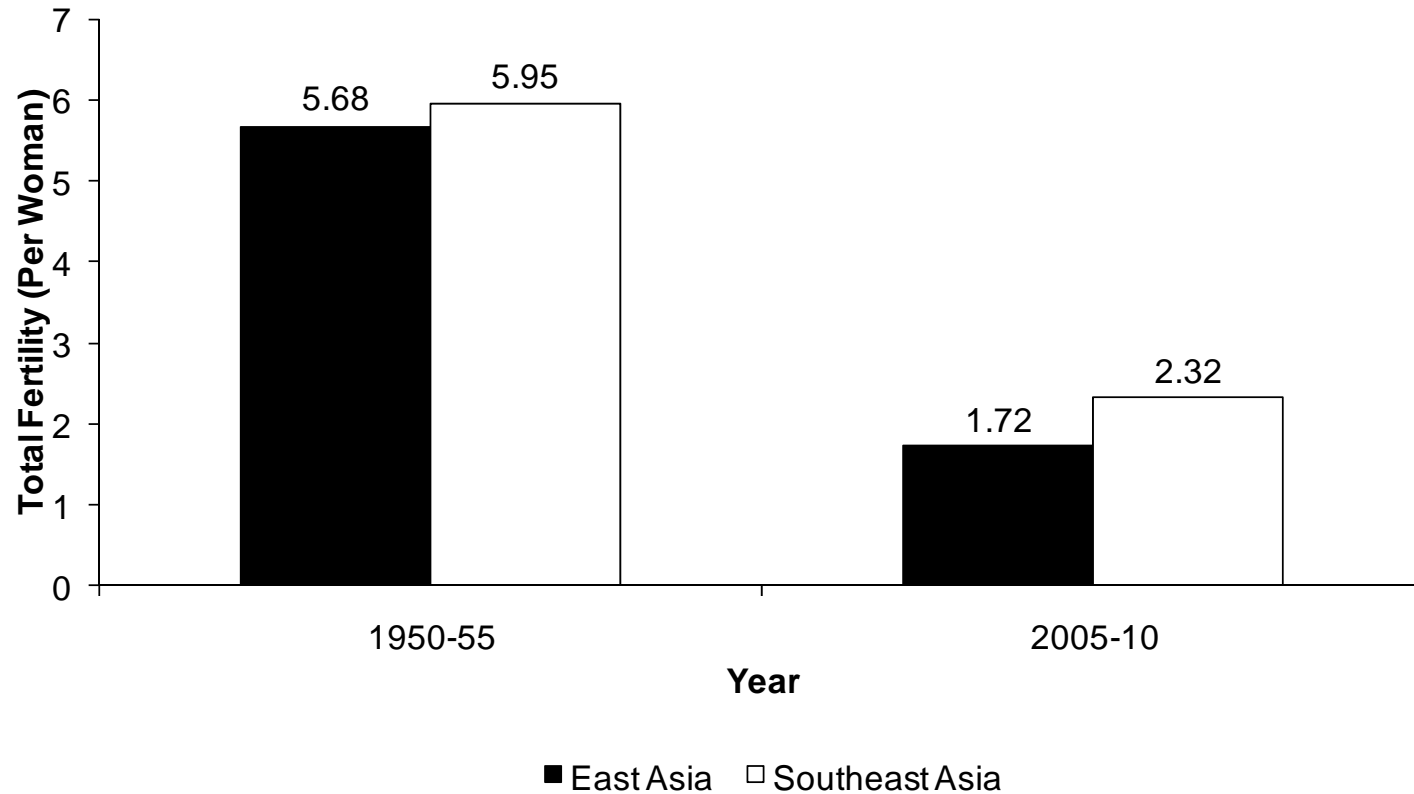
	TFR
1950-55	5.9
1960-65	5.6
1970-75	5.1
1980-85	3.7
1990-95	2.8
2000	2.4
2006	2.3
2009	2.2

The Fertility Revolution

East and Southeast Asia:

Total Fertility Rate, 1950-55 and 2005-10

Source: United Nations, 2009



Asian Countries: Total Fertility Rate, 1960-2010 and Percent of Married Women of Reproductive Age (or Whose Husbands) Are Using a Contraceptive Method, 2006

Source: ESCAP (1984:4); United Nations (2009); UNFPA (2006)

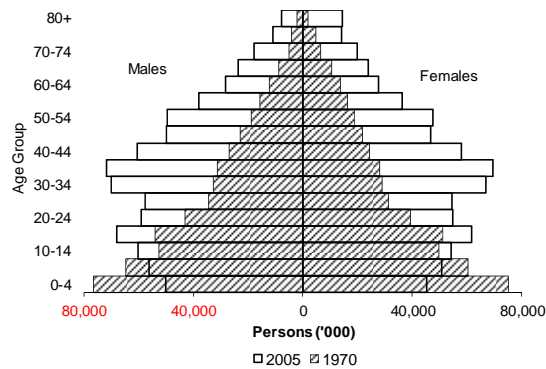
Country	Total Fertility Rate				Percent Change 1960-2010	Contraceptive Use 2006
	1960-65	1970-75	1985-90	2005-10		
Indonesia	5.4	5.5	3.5	2.19	-59	57
Malaysia	6.7	4.7	4	2.58	-61	55
Philippines	-	-	4.3	3.11	-	47
Singapore	4.9	2.7	1.7	1.27	-74	62
Thailand	6.4	5	2.6	1.81	-72	72
Vietnam	6.9	6.4	4.2	2.08	-70	79
China	5.7	4.8	2.4	1.77	-69	84
Japan	2	2.1	1.7	1.27	-37	Not available
South Korea	3.4	3.7	2.5	1.22	-64	Not available

Changing Age Structure

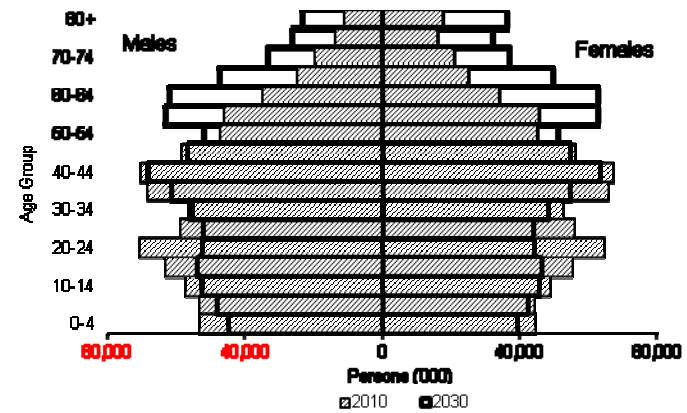
Source: United Nations 2009

Eastern Asia

1970 and 2005

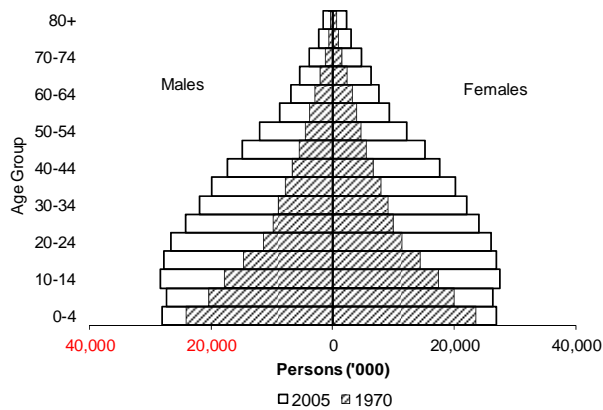


2010 and projected 2030

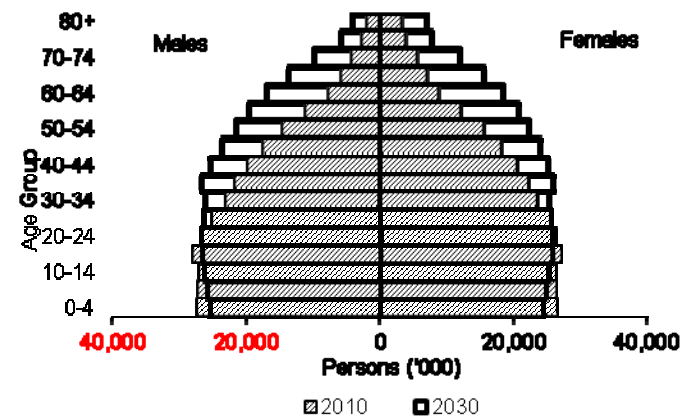


Southeast Asia

1970 and 2005



2010 and projected 2030



NUMBER AGED LESS THAN 15, AND 65 AND OVER: ESCAP REGION

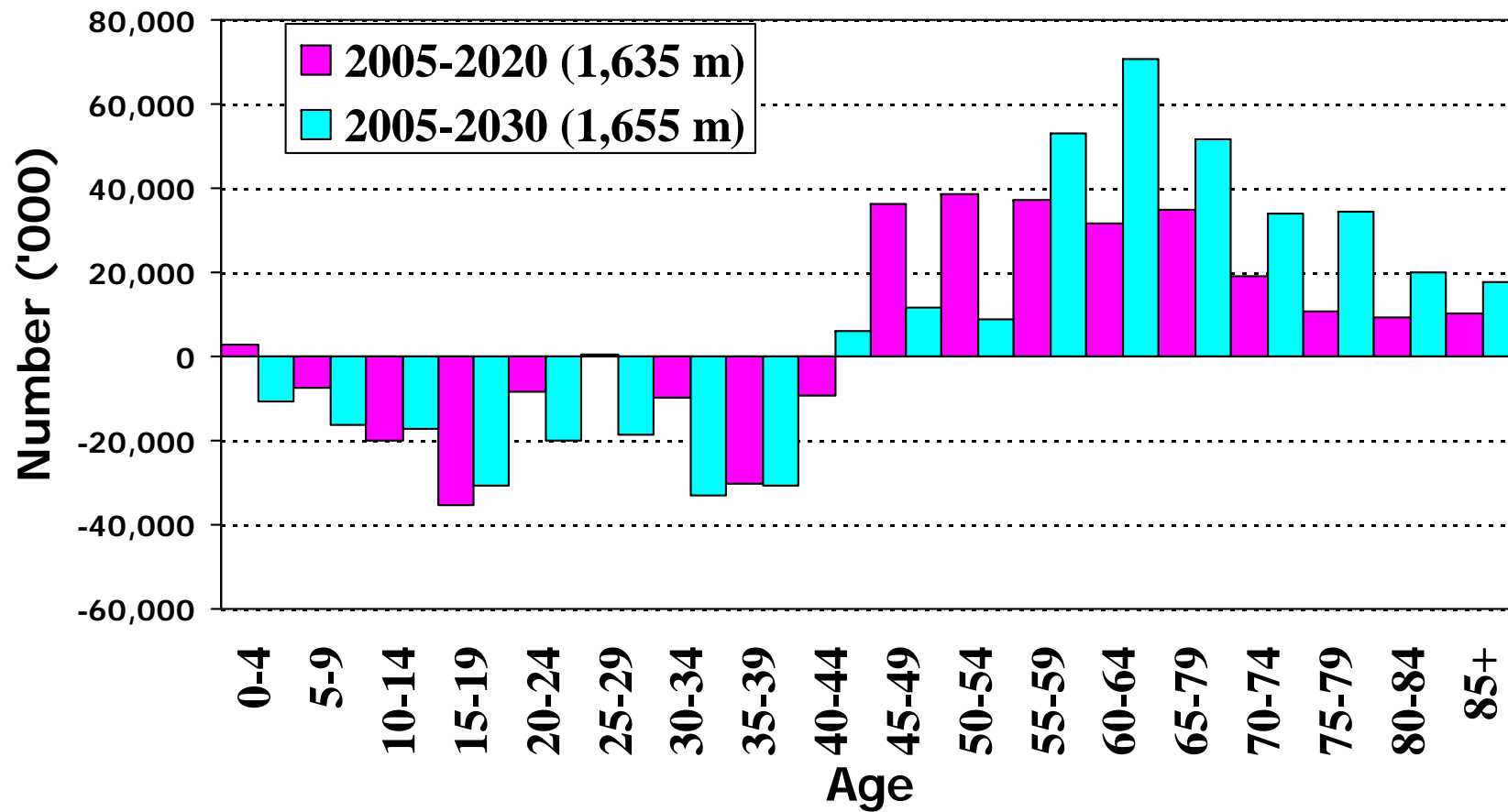
Source: United Nations 2009

Year	Aged 0-14		Aged 65+	
	No. ('000)	% Increase	No. ('000)	% Increase
1950	490,827		56,040	
1960	647,013	31.8	68,072	21.5
1970	823,824	27.3	82,704	21.5
1980	949,480	15.3	110,962	34.2
1990	1,024,116	7.9	148,283	33.6
2000	1,078,449	5.3	205,189	38.4
2010 (Projected)	1,026,999	-4.8	271,225	32.2
2020(Projected)	1,022,198	-0.5	388,895	43.4
2030(Projected)	967,250	-5.4	545,559	40.3
2040(Projected)	901,942	-6.8	734,312	34.6

Structural Ageing:

Eastern Asia: Change by Age: 2005 – 2020; 2030

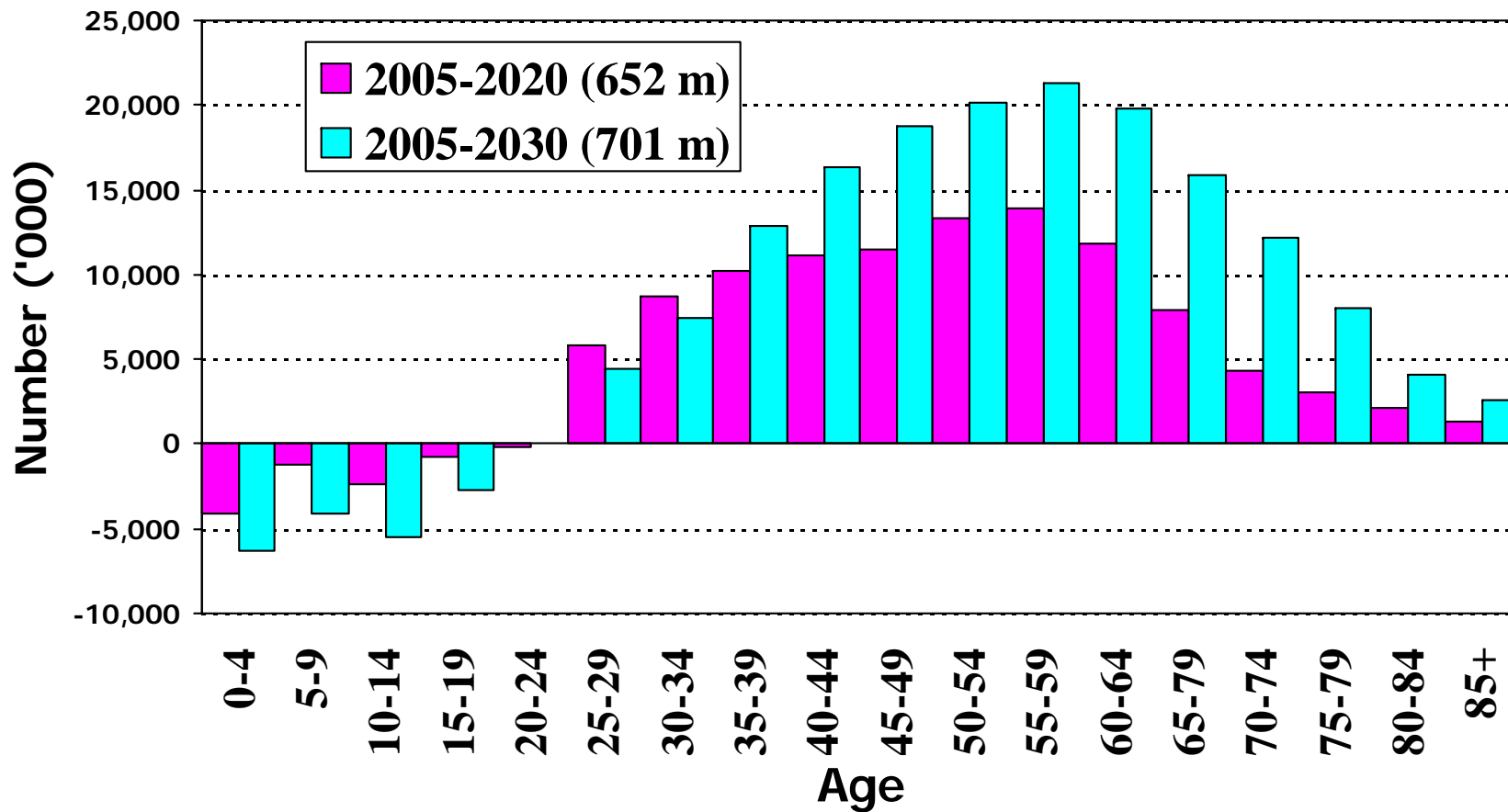
Source: United Nations 2005



Structural Ageing:

Southeast Asia: Change by Age: 2005 – 2020; 2030

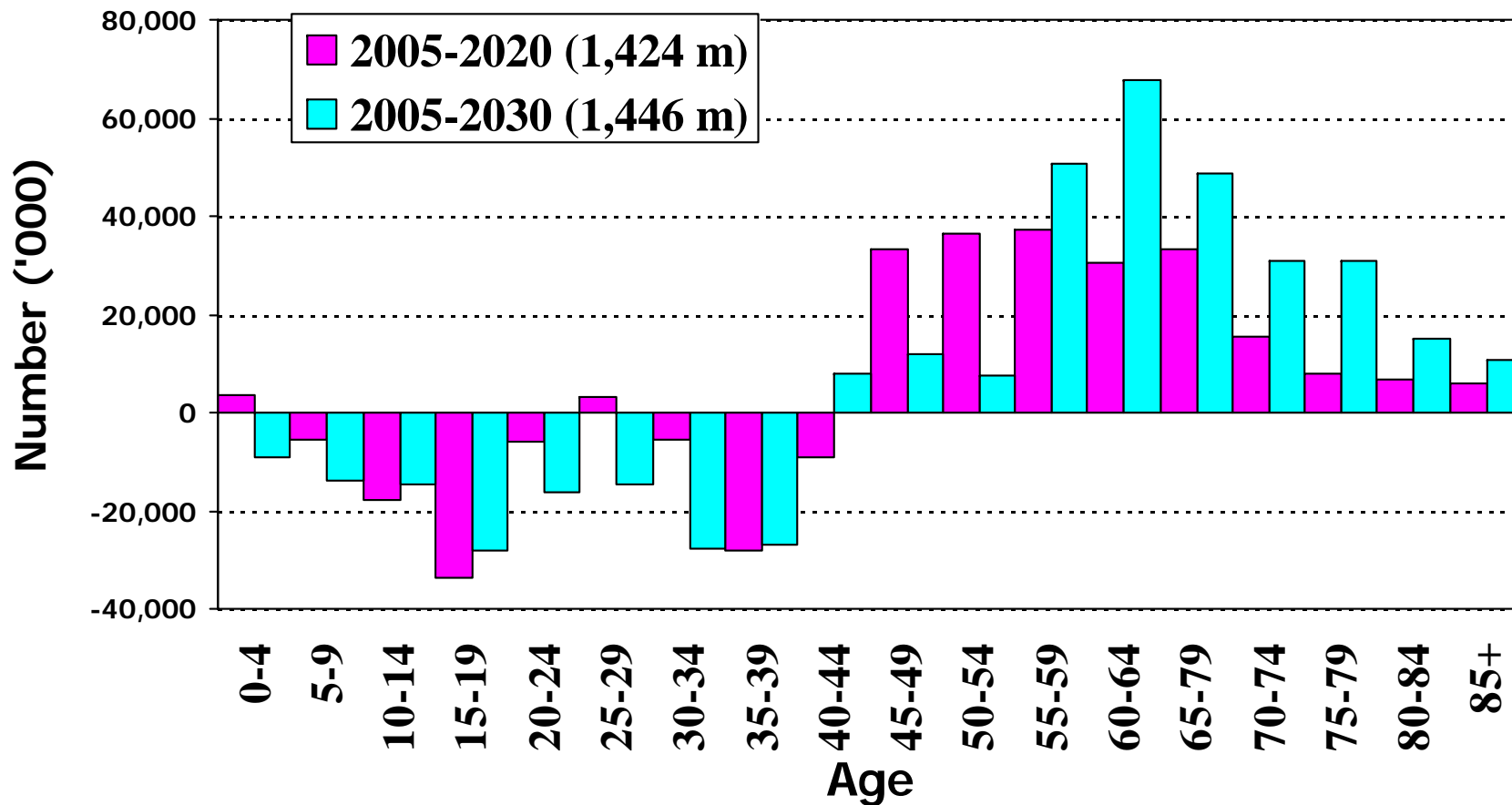
Source: United Nations 2005



Structural Ageing:

China: Change by Age: 2005 – 2020; 2030

Source: United Nations 2005



Southeast and East Asia: Recent and Impending Change in Workforce* and Total Population

Source: United Nations, 2006

Country	Average Annual Change 1970-2005		Projected Change 2005-2050	
	Population	Workforce	Population	Workforce
Indonesia	1.8	2.4	0.6	0.5
Malaysia	2.5	3.1	1.0	1.0
Philippines	2.4	2.9	1.1	1.4
Singapore	2.1	2.8	0.3	-0.2
Thailand	1.5	2.4	0.1	-0.2
Vietnam	2.0	2.7	0.8	0.7
China	0.6	0.5	-0.5	-1.1
Japan	1.3	2.0	0.2	-0.2
Korea	1.5	1.8	0.1	0.0
South East Asia	1.9	2.5	0.7	0.7
East Asia	1.2	1.8	0.1	-0.2

* Population aged 15-64

Asian Countries: Projected Growth of Population Aged 65 Years and Over, 2010-2050

Source: United Nations 2009

	Total Population			Percent 65+		Median Age	
	2010 (‘000)	2050 (‘000)	Percent Change	2010	2050	2010	2050
Indonesia	232,517	288,110	23.9	6.1	18.6	28.2	41.1
Malaysia	27,914	39,664	42.1	4.8	16.3	26.3	39.3
Philippines	93,617	146,156	56.1	4.3	12.7	23.2	35.0
Singapore	4,837	5,221	7.9	10.2	32.6	40.6	53.5
Thailand	68,139	73,361	7.7	7.7	20.2	33.2	41.4
Vietnam	89,029	111,666	25.4	6.3	20.0	28.5	42.4
Japan	126,995	101,659	-20.0	22.6	37.8	44.7	55.1
China	1,354,146	1,417,045	4.6	8.2	23.3	34.2	45.2
South Korea	48,501	44,077	-9.1	11.0	34.2	37.9	53.7
South East Asia	589,615	765,966	29.9	5.9	17.3	27.8	39.7
East Asia	1,563,951	1,600,005	2.3	9.5	24.5	35.2	46.0

MEDIAN AGE IN YEARS FOR THE WORLD AND MAJOR AREAS, 1950, 2009 AND 2050 ACCORDING TO DIFFERENT VARIANTS

Source: United Nations 2009, p.8

<i>Major area</i>	<i>Median age (years)</i>		<i>Median age in 2050</i>			
	<i>1950</i>	<i>2009</i>	<i>Low</i>	<i>Medium</i>	<i>High</i>	<i>Constant</i>
World.....	24.0	28.9	42.9	38.4	33.9	32.2
More developed regions.....	29.0	39.4	50.4	45.6	40.5	46.1
Less developed regions.....	21.6	26.5	41.7	37.2	32.8	30.4
Least developed countries.....	19.5	19.7	32.3	29.0	26.2	20.4
Other less developed countries	21.9	27.7	44.2	39.4	34.6	33.7
Africa.....	19.2	19.6	31.7	28.5	25.8	19.9
Asia	22.3	28.7	45.2	40.2	35.3	35.2
Europe.....	29.7	39.9	51.7	46.6	41.2	48.7
Latin America and the Caribbean.....	20.0	27.4	46.8	41.7	36.2	36.4
Northern America.....	29.8	36.8	46.6	42.1	37.4	40.4
Oceania.....	28.0	32.9	43.5	39.1	34.8	35.1

AVERAGE ANNUAL RATES OF CHANGE OF THE TOTAL POPULATION AND THE POPULATION IN BROAD AGE GROUPS, BY MAJOR AREA, 2009-2050 (MEDIUM VARIANT)

Source: United Nations 2009, p.8

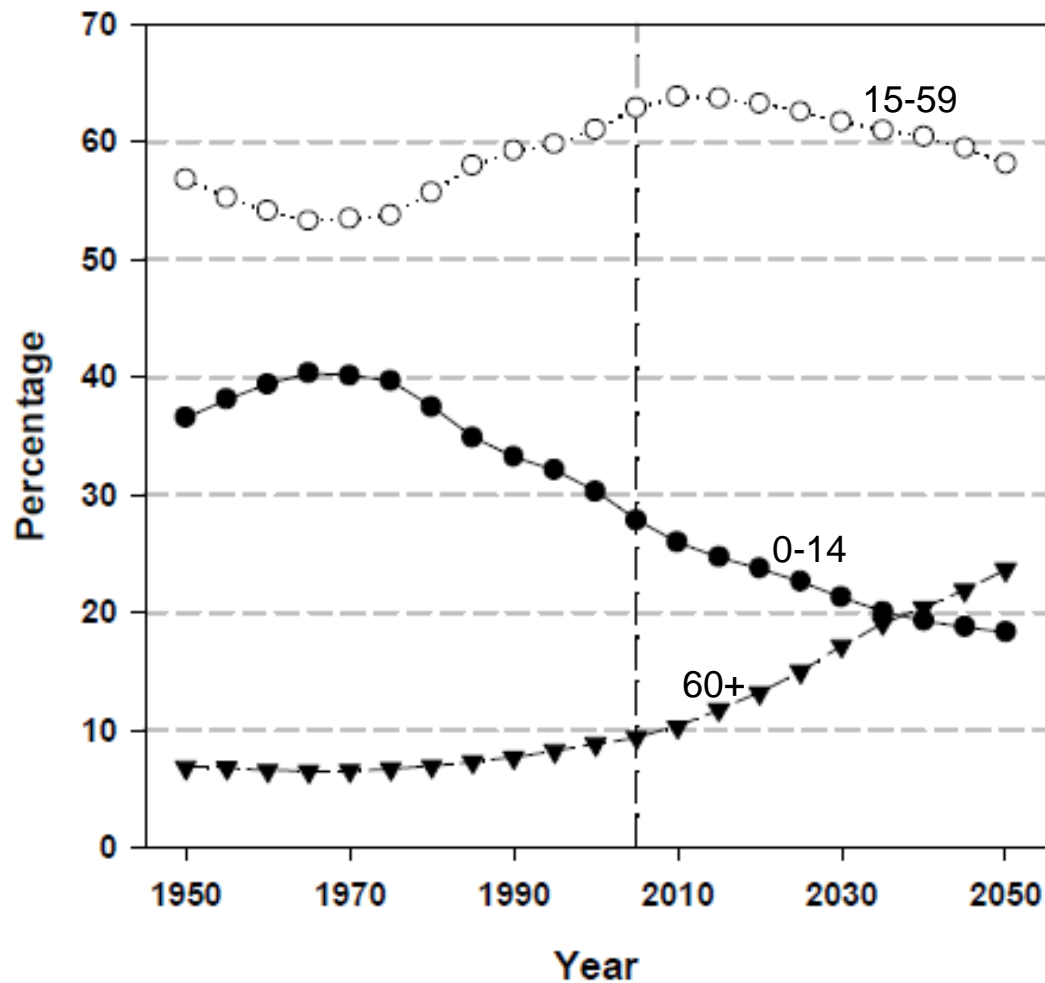
<i>Major area</i>	<i>0-14</i>	<i>15-59</i>	<i>60+</i>	<i>80+</i>	<i>Total population</i>
World	-0.08	0.57	2.44	3.30	0.71
More developed regions	-0.09	-0.35	1.11	2.07	0.08
Less developed regions	-0.08	0.73	2.96	4.14	0.83
Least developed countries	0.73	1.99	3.57	4.18	1.69
Other less developed countries	-0.33	0.47	2.89	4.14	0.65
Africa	0.71	1.99	3.35	4.00	1.66
Asia	-0.38	0.37	2.75	3.94	0.58
Europe	-0.21	-0.66	0.98	1.93	-0.14
Latin America and the Caribbean	-0.67	0.36	2.88	3.83	0.55
Northern America	0.21	0.34	1.67	2.44	0.62
Oceania	0.31	0.76	2.03	2.96	0.91

Demographic Impacts of Ageing

- Increased Aged Dependency
- Decreased Youth Dependency
- Sex imbalance in older ages
- Issues associated with older widowed women
- Urban/rural balance
- Increase in the “oldest old”

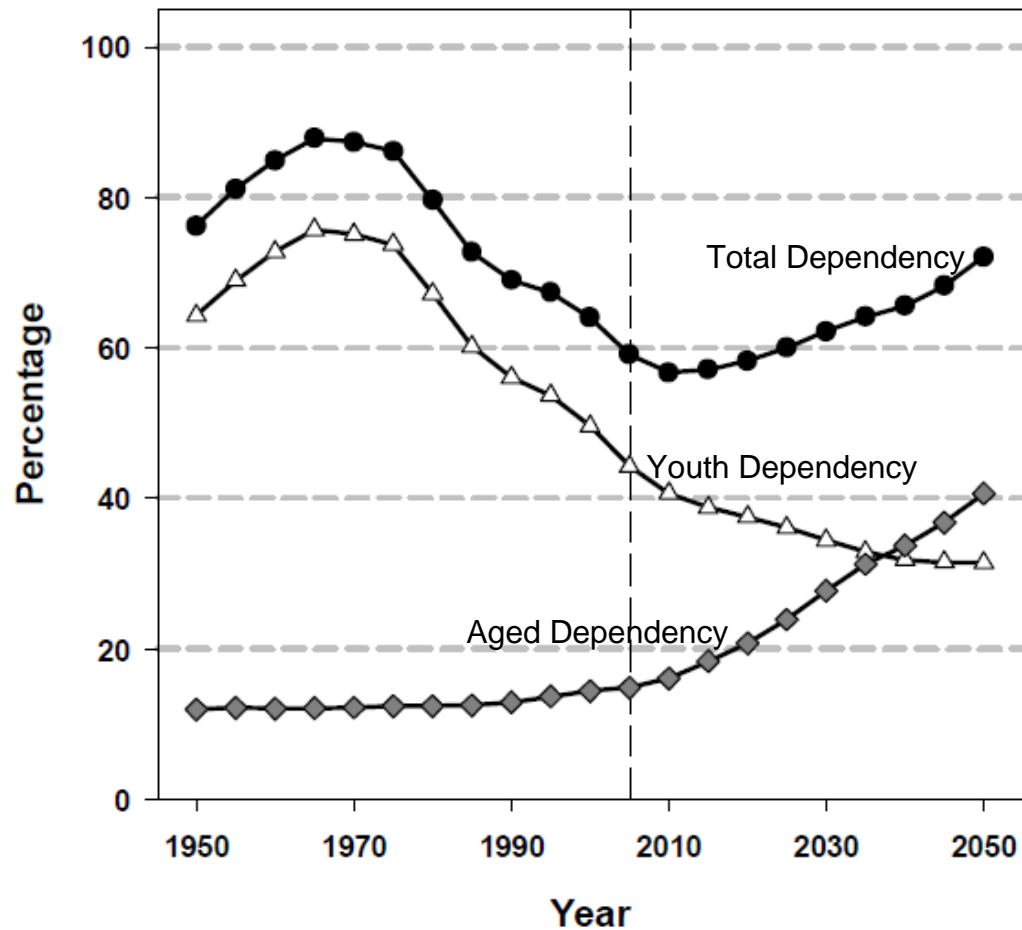
Asia: Evolution of the proportion of the population in major age groups, 1950-2050

Source: United Nations 2005, p.9



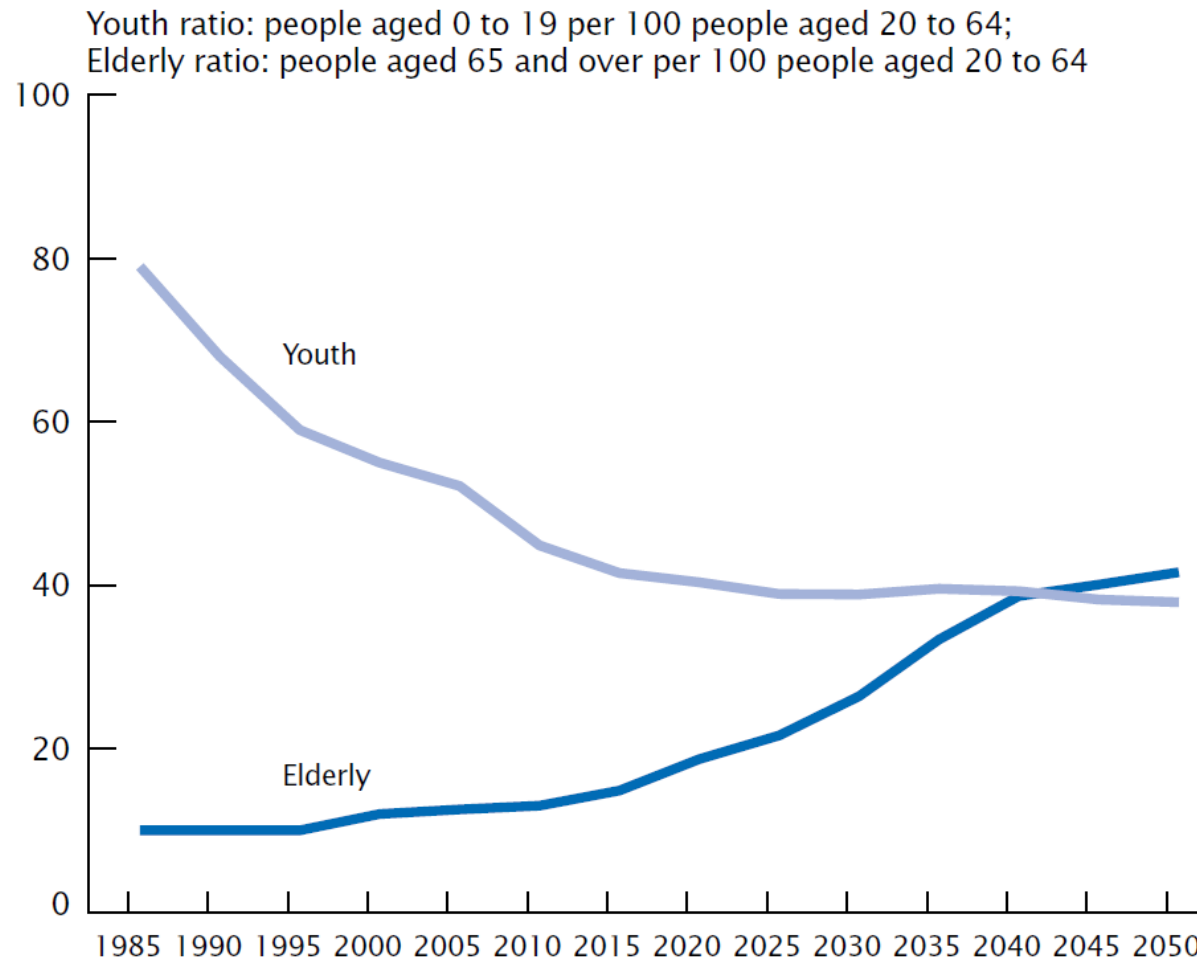
Asia: Trends in the three types of dependency ratios, 1950-2050

Source: United Nations 2005, p.20



Youth and Elderly Support Ratios in China: 1985 to 2050

Source: Kinsella and Velkoff 2001, p.78



Eastern and South-Eastern Asia: Sex Ratios by Age Group, 2010

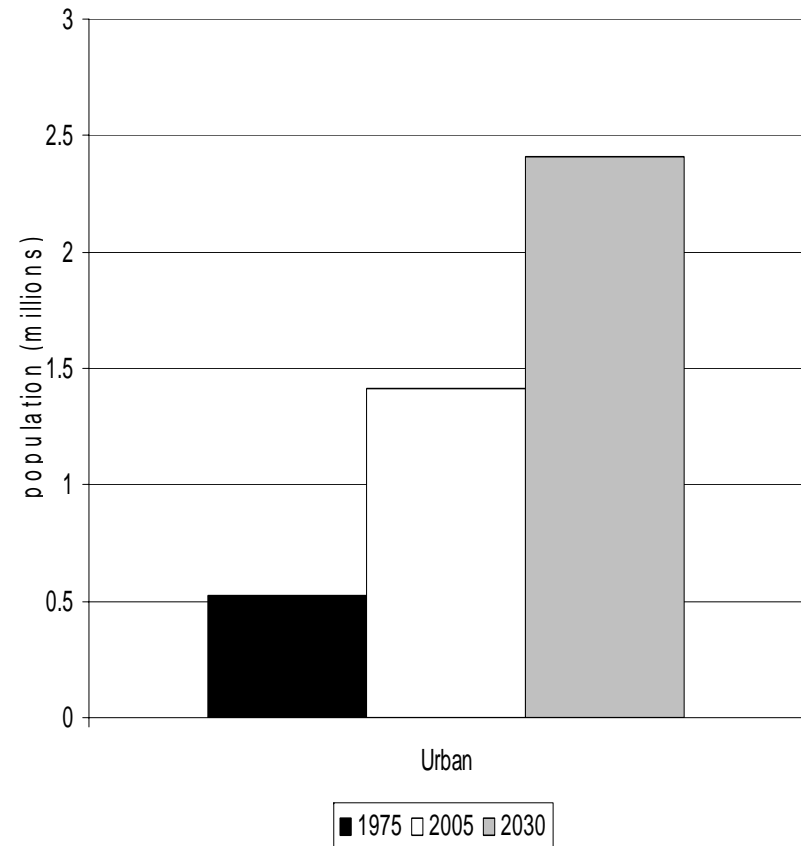
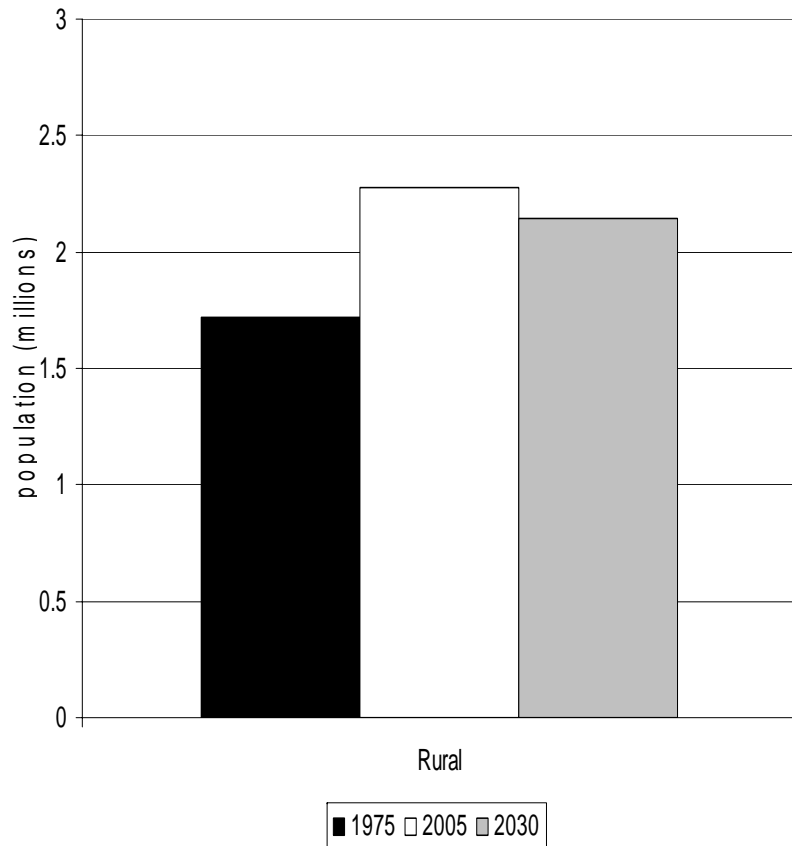
Source: United Nations 2009

Age Group	Eastern Asia	South-Eastern Asia
0-14	119.2	104.3
55-59	101.7	94.1
60+	91.3	81.4

Increasing Urbanisation

Asia: Urban and Rural Population, 1975-2030

Source: United Nations 2006



Key Features of Increasing Urbanisation in Asia

- All net population growth in Asia will be in urban areas
- Concentration of youth in urban areas
- Increased scale of commuting and circular migration
- Growth of megacities
- Environmental and governance issues

PERCENTAGE OF THE POPULATION IN EACH AGE GROUP LIVING IN URBAN AREAS, THE WORLD AND MAJOR AREAS

Source: United Nations 2005, p.31

<i>Major area</i>	<i>Year</i>	<i>Percentage in urban areas</i>				<i>Total</i>
		<i>0-14</i>	<i>15-24</i>	<i>25-59</i>	<i>60+</i>	
World	1971	30	38	38	39	35
	1996	39	48	49	49	46
More developed regions	1970	63	70	67	62	66
	2001	72	75	75	70	74
Less developed regions	1972	23	29	27	24	26
	1994	35	43	43	38	40
Africa	1974	21	27	25	19	23
	1991	28	34	36	28	32
Asia	1971	21	27	27	23	24
	2000	32	41	40	37	38
Latin America and the Caribbean	1971	54	61	62	63	59
	1993	71	76	78	76	75
Northern America	1970	72	76	74	73	74
	2000	79	81	79	78	79
Europe	1970	56	64	62	55	60
	2001	66	70	71	64	68
Oceania	1972	77	81	82	85	81
	1990	79	84	83	87	83

The Oldest Old

- Population Aged 80+ fastest growing age group in the world

	2010	2050
China	19.3m	101m
USA	12.1m	32m
India	8.1m	43m

Key Issues for Older People

- Traditional support systems being eroded
- Government resources to devote to growing older population are limited
- Many older people unable to accumulate sufficient resources during their working lives

Impacts of Family Change

- Less residential extension of households
- More physical separation due to migration
- Less children available to support older persons
- Reversal of net intergenerational wealth flows from older relatives to children

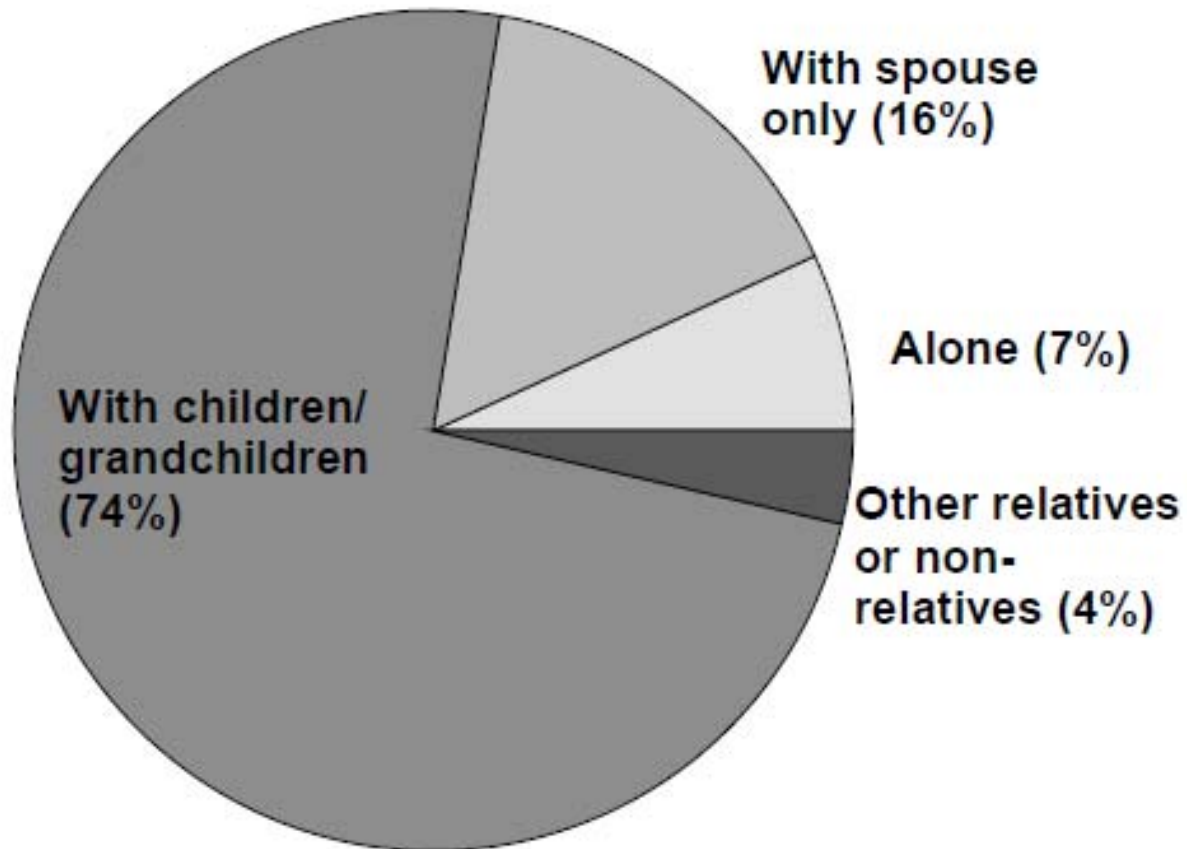
PROPORTION OF PERSONS AGED 60 YEARS OR OVER WHO LIVE ALONE: ESTIMATES FOR THE WORLD AND MAJOR AREAS, BY SEX (Percentage)

Source: United Nations 2005, p.32

<i>Major area or region</i>	<i>Total</i>	<i>Men</i>	<i>Women</i>
World	14	8	19
Africa	8	6	11
Asia	7	5	9
Europe	26	13	35
Latin America and the Caribbean	9	7	10
Northern America	26	15	34
Oceania ^a	25	16	34

Asia: Living arrangements of older persons (Persons aged 60 years or over)

Source: United Nations 2005, p.33



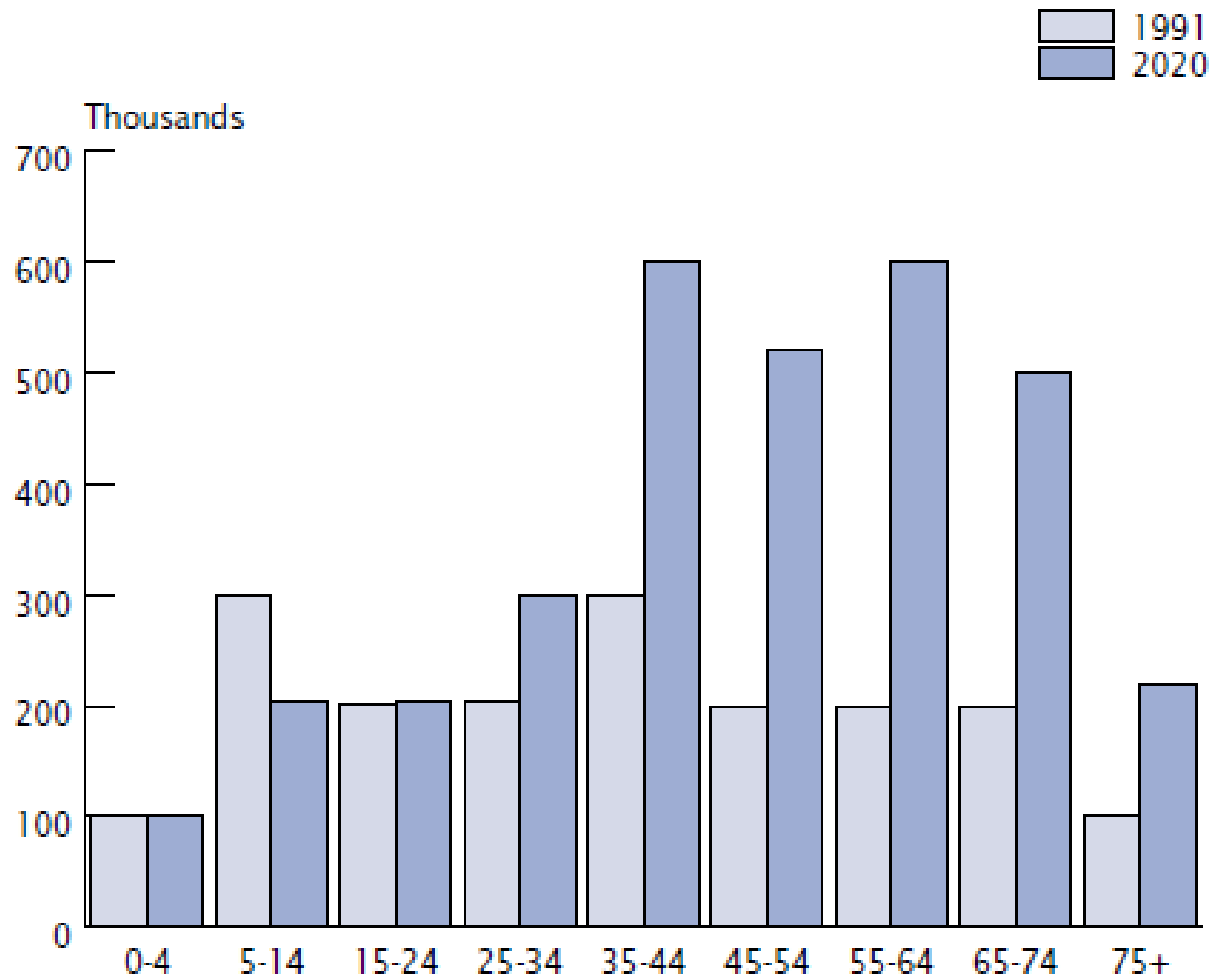
Wellbeing of Older People

More vulnerable to

- Poor physical and mental health
- Poverty
- Loneliness, isolation
- Influenced by social change and change in families

Projected Numbers of Disabled Males in the Philippines by Age: 1991 and 2020

Source: Kinsella and Velkoff 2001, p.43



Income Support

- Heavy reliance on children – ASEAN study, 22% of elderly males and 47% of females major source of support. 50 and 70% relied on them for some income
- Pension schemes limited – usually to formal sector
- Pensions rarely sufficient to meet needs
- Importance of family and community

Coping with Ageing Populations (UN)

- No single action can adequately address the problem. No “silver bullets”
- Policy adjustments should be carried out by effecting small changes in many domains
- Making adjustments early is easier than delaying things until there is a crisis

Specific Actions (UN)

- Increase labour force participation
- Immigration
- Increased age at retirement
- Decrease benefits to retirees
- Increase contribution of workers to social security system
- Change in social security system from pay as you go to capitalisation
- Promotion of increases in productivity and development of new innovations

Policy Response: The Three Ps

- Population
- Productivity
- Participation

Population and Policy

- **Much demographic change is predictable**
- **Two dimensions:**
 - **Anticipating and preparing for demographic shifts**
 - **Influencing the future shape of population**
- **Need to see population policy not as a freestanding separate policy but as a facilitator in economic, social, environmental and political policy**
- **Few countries have developed population policy integrated with economic policy**
- **Ageing is a structural feature of the economies of all Asian countries and needs to be recognised as such**

Conclusion

- Window of opportunity for the demographic dividend across the regions, although the peak has passed for many countries
- All countries in the region are experiencing demographic ageing
- Scale and pace of ageing varies between nations
- Need for early policy response