POPULATION AGEING AND SOCIAL SECURITY IN ASIA
John Piggott and Rafal Chomik

Context
1. Demographic drivers
2. Population ageing
3. Associated trends

Policy
7. Retirement income
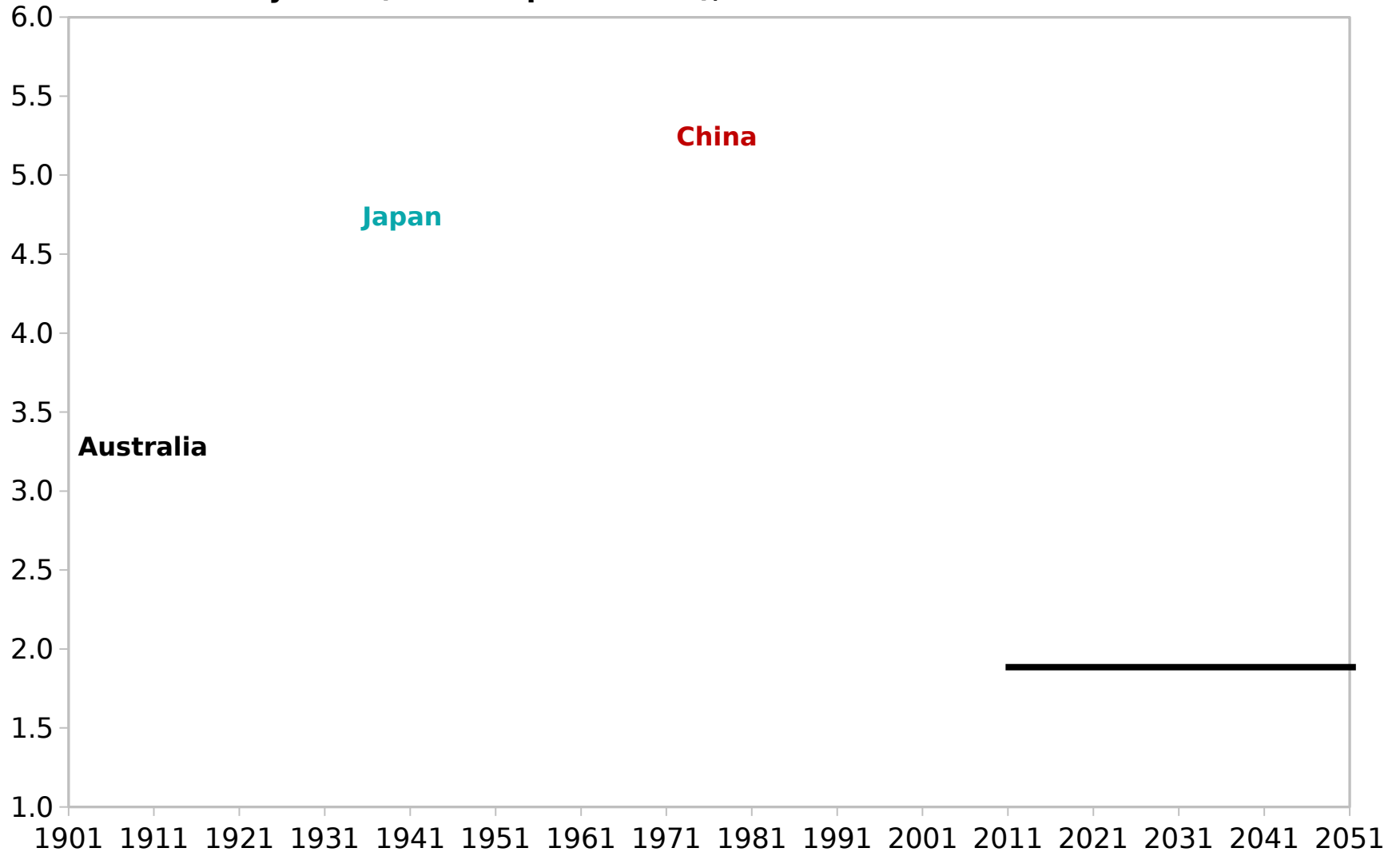8. Labour market
9. Healthcare
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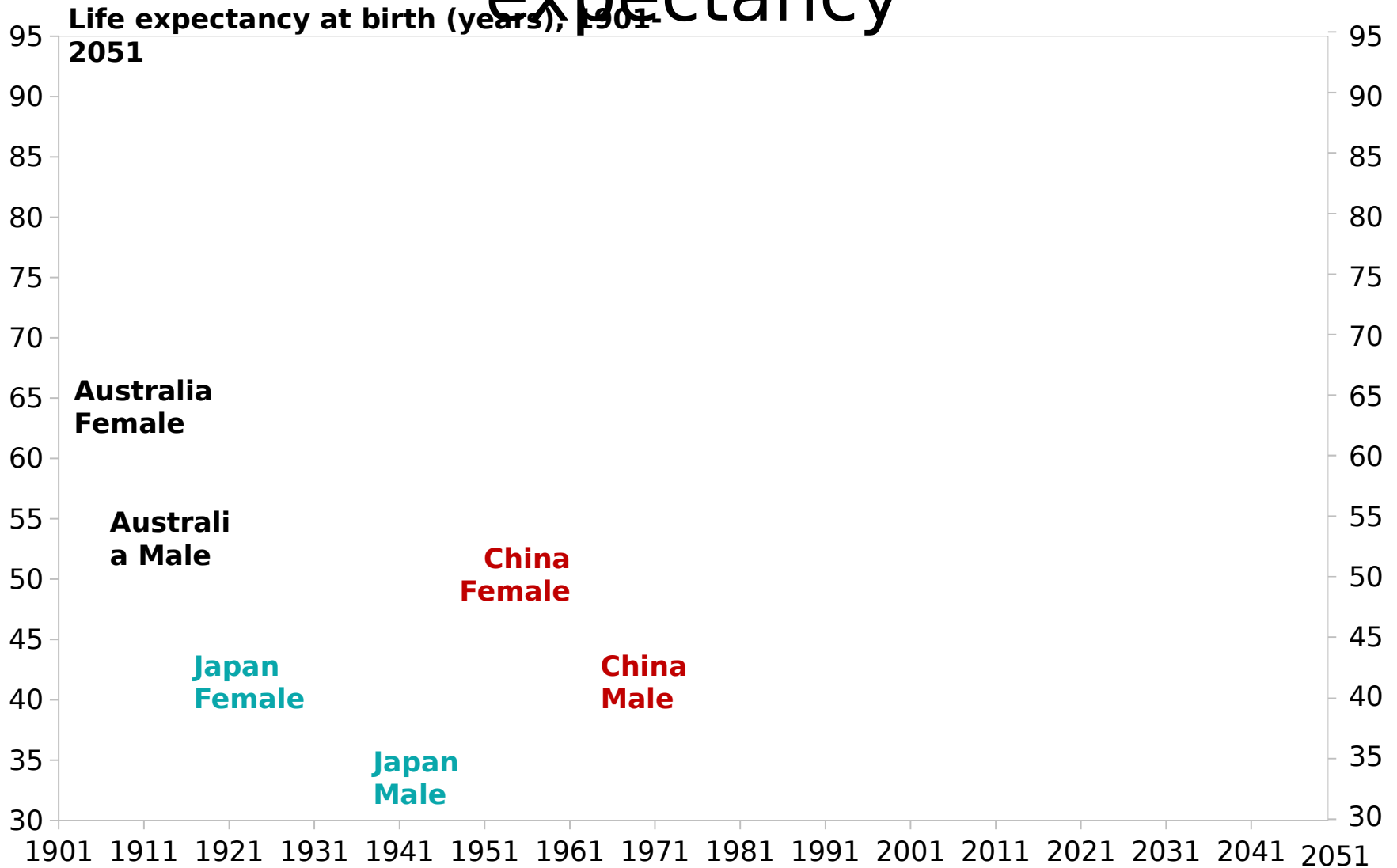2. Population ageing
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1a. Demographic drivers: Fertility

Total Fertility Rate (children per woman), 1901-2051

China

Japan

Australia

1b. Demographic drivers: Life expectancy

Life expectancy at birth (years), 1901-2051

Labels shown in chart: Australia Female, Australia Male, Japan Female, Japan Male, China Female, China Male

1b. Demographic drivers: Mid-life longevity

Improvement in male life expectancy at birth (%)

Improvement in male life expectancy at age 50 (%)

1b. Demographic drivers: Mid-life longevity

% of males aged 15+ who are daily smokers

China

Australia
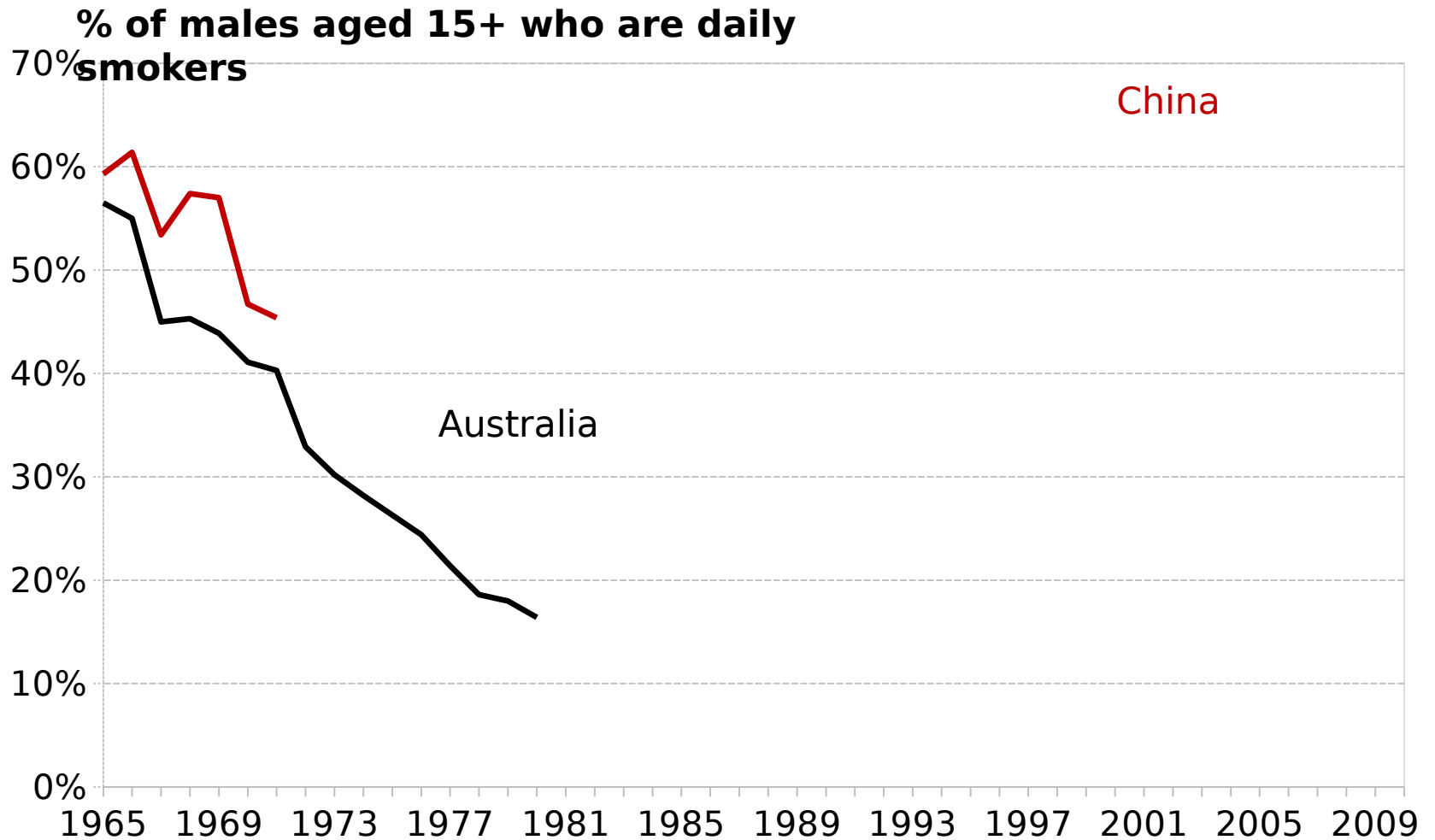
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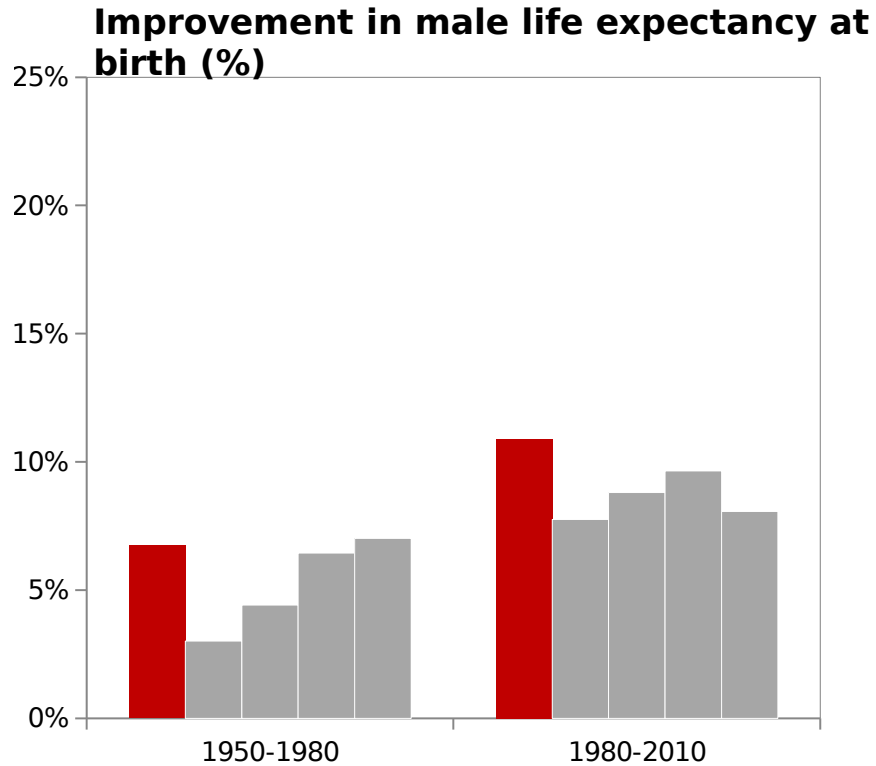8. Labour market
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2a. Population ageing: Dependency ratio

Population aged 65 and above as proportion of population 15-64

Rate in 2050

- 70% Japan
- 61% Korea
- 58% Singapore
- 47% Europe Avg.
- 42% China
- 41% Thailand
- 39% Aust.
- 37% Vietnam
- 35% USA
- 35% Sri Lanka
- 30% Indonesia
- 27% Myanmar
- 23% Malaysia
- 20% India
- 18% Laos
- 16% Philippines
- 15% Pakistan
- 6% Timor

2b. Population ageing: Demographic dividend

Working-age as proportion of total population (%), 1950-2050

Peak of Japan's demographic dividend

Peak of China's demographic dividend

Peak of Australia's demographic dividend

2b. Population ageing: Demographic dividend

Working age population as proportion of total

Korea
Mongolia
China
Singapore   Thailand   Bhut...
        Vietnam   Malaysia   In...
        Myanmar   Laos   Bangladesh
Japan   Indonesia   Nepal   Cambodia
United States   Pakistan
              Australia   Philippines
        China-HK   China-Macao
              Europe Avg.

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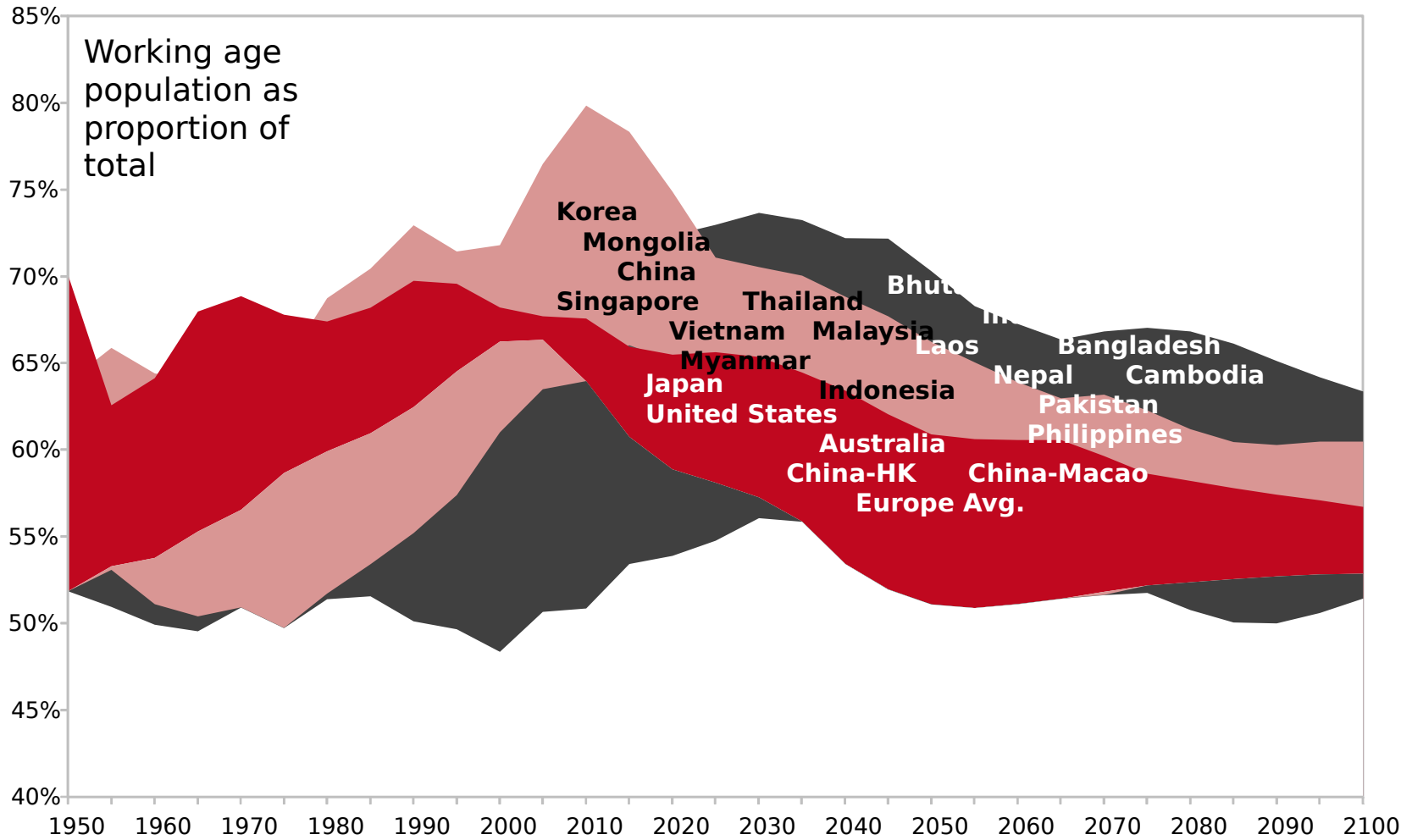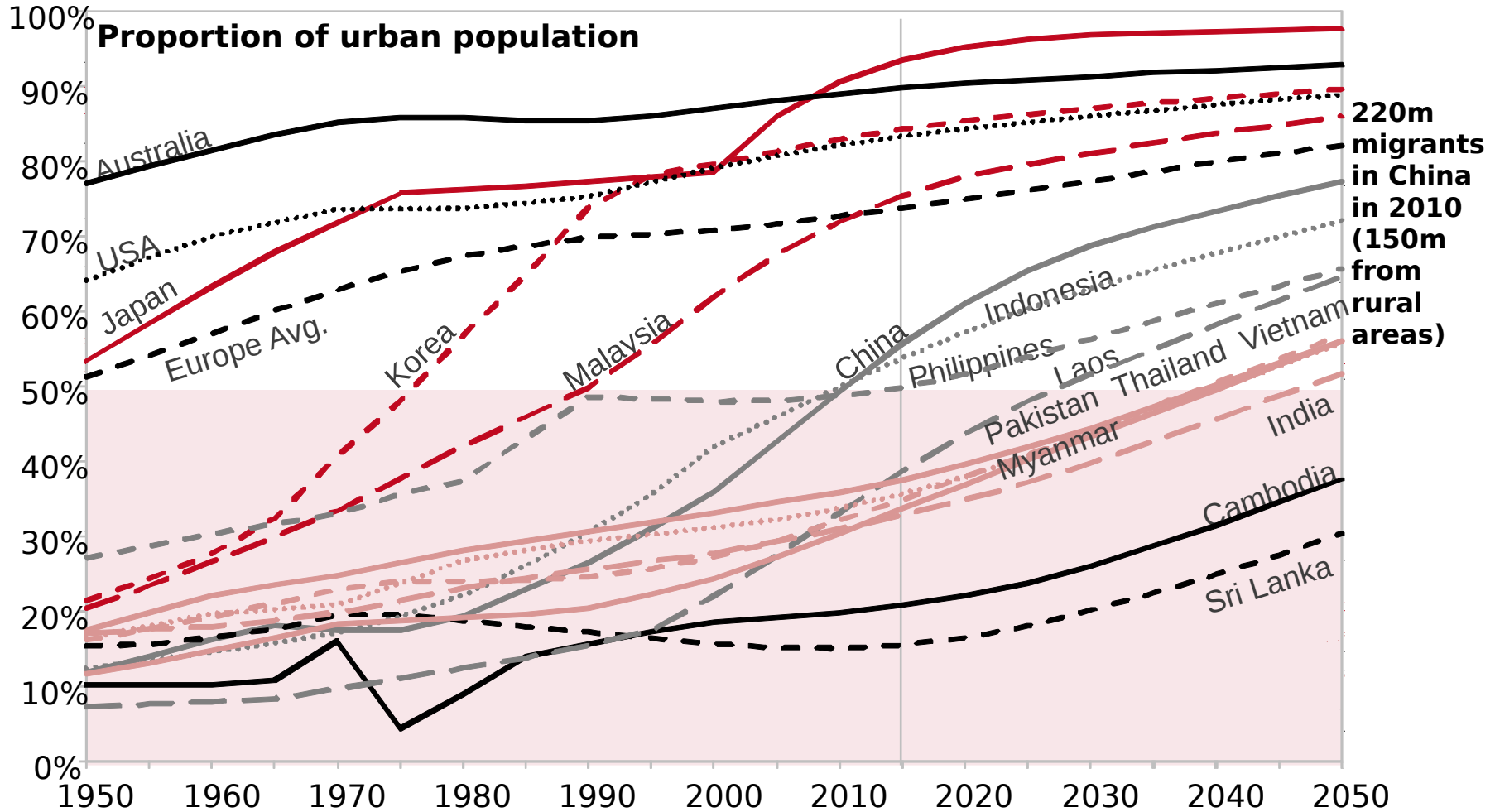7. Retirement income
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3a. Associated trends: Urbanisation

Proportion of urban population

220m migrants in China in 2010 (150m from rural areas)

Australia
USA
Japan
Europe Avg.
Korea
Malaysia
China
Indonesia
Philippines
Laos
Pakistan Thailand Vietnam
Myanmar
India
Cambodia
Sri Lanka

3b. Associated trends: Social

Average household size

India

Vietnam

Singapore

China

China HK

Korea

Australia

Japan

Germany

6

5

4

3

2

1980s · 1990 · 2000 · 2010
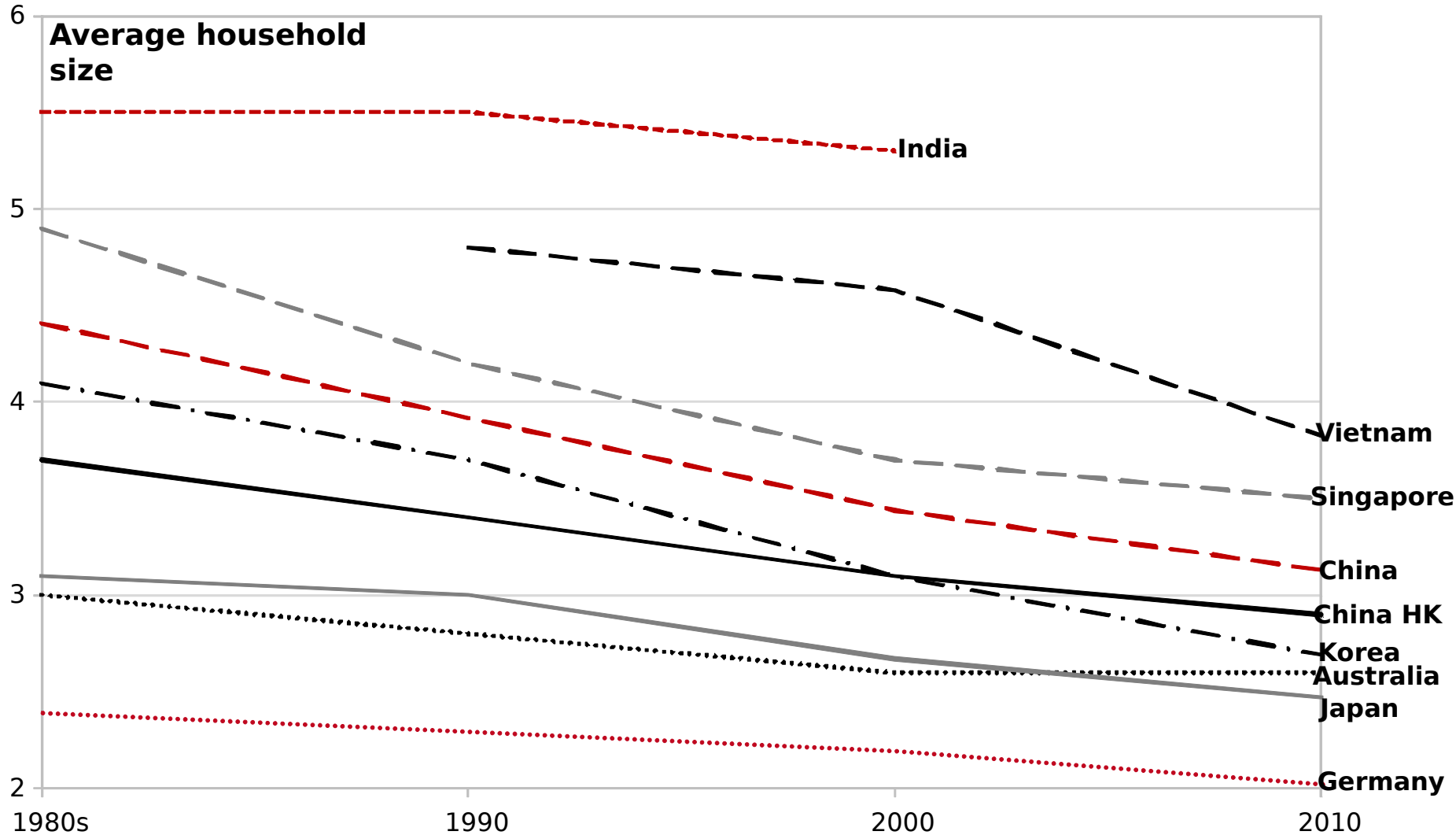
3c. Associated trends: Economic

GDP per capita (1990 PPP)

30000 — Hong Kong / Singapore
25000
20000 — Japan / Korea
15000
10000 — Malaysia / Thailand / China
5000 — Indonesia / Vietnam, India / Philippines / Lao
0

1989 Korea universal healthcare
1948 UK universal healthcare
1935 USA social security and welfare
1961 Japan universal pension and healthcare

30 W. Europe 1958 1966 1974 1982 1990 1998 2006

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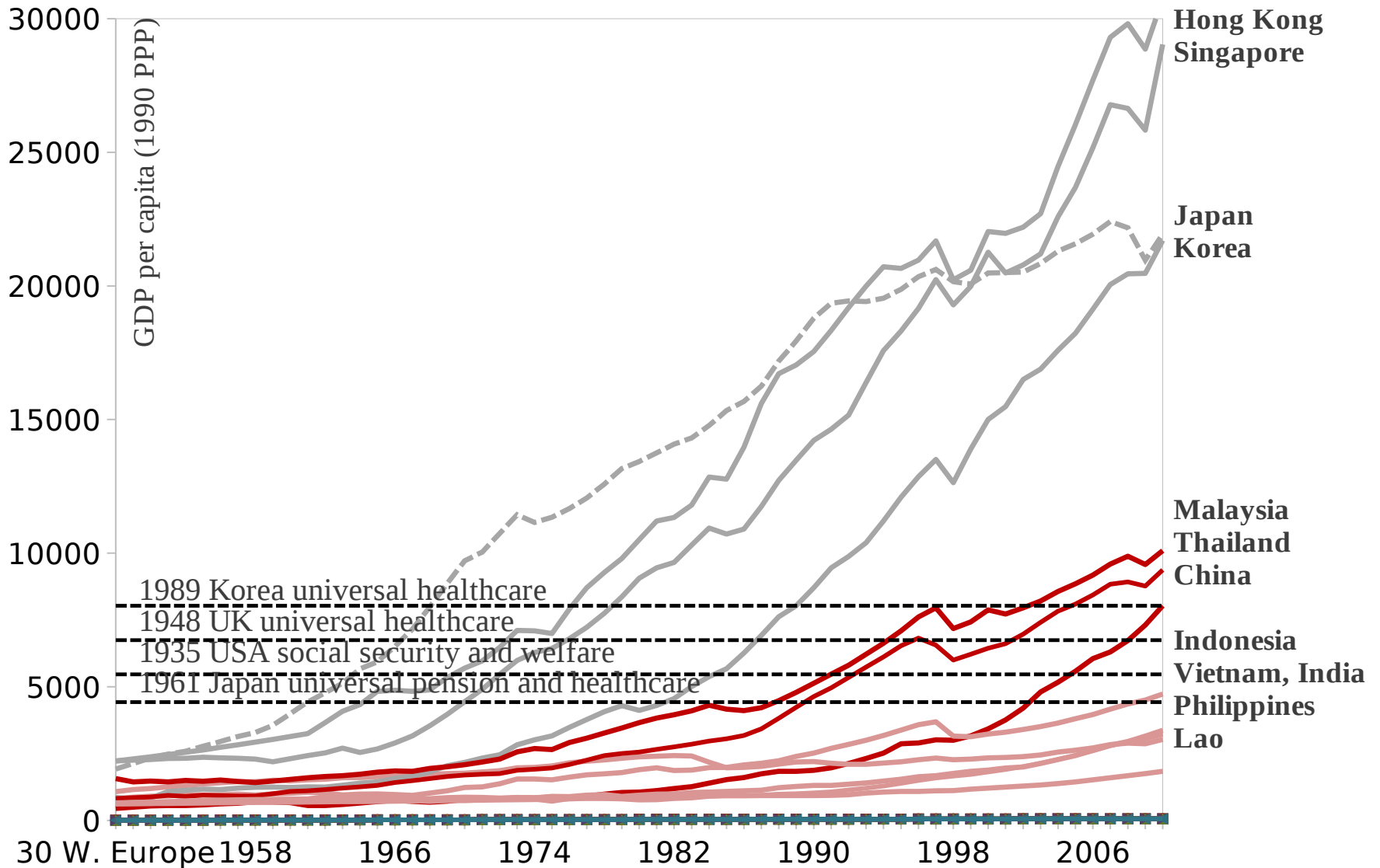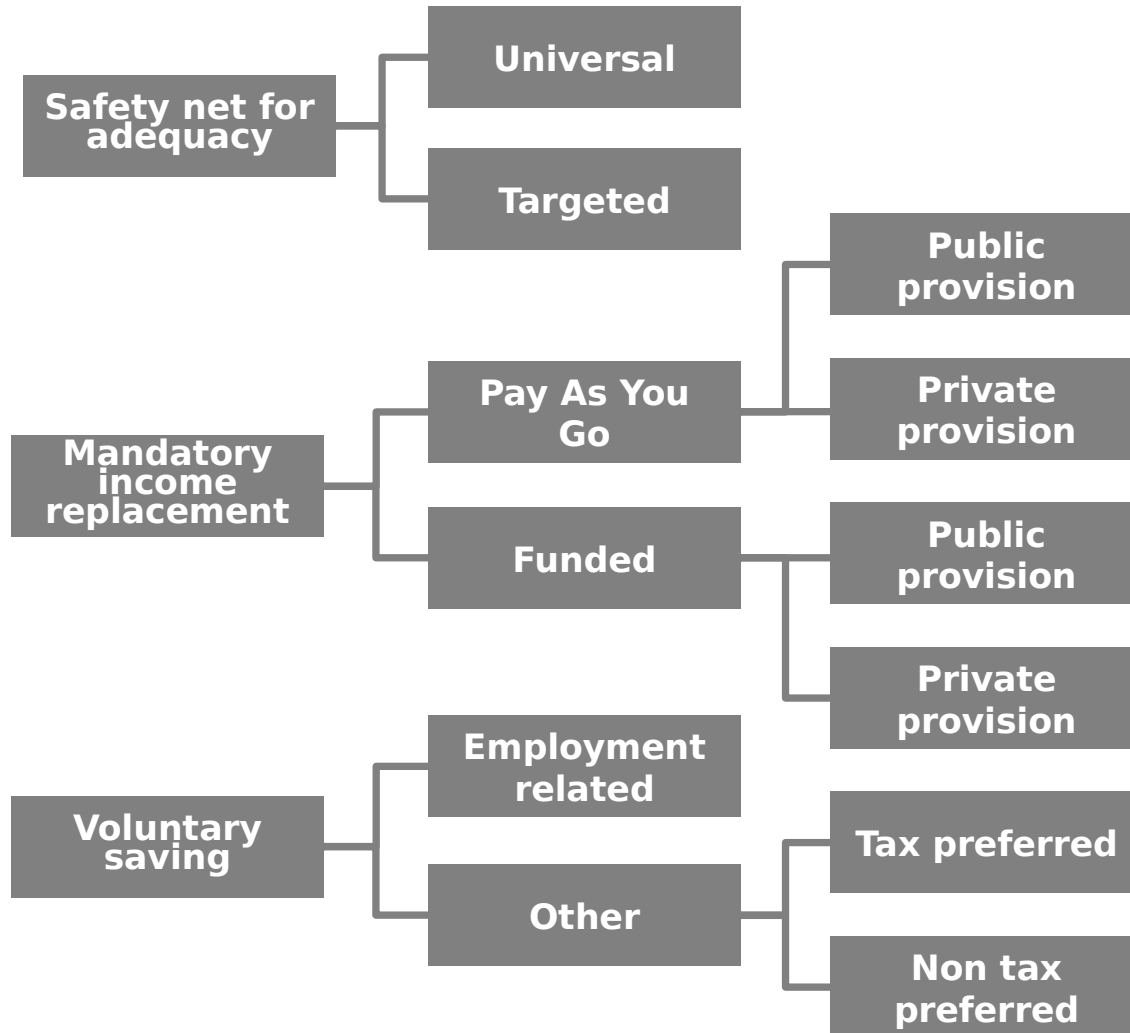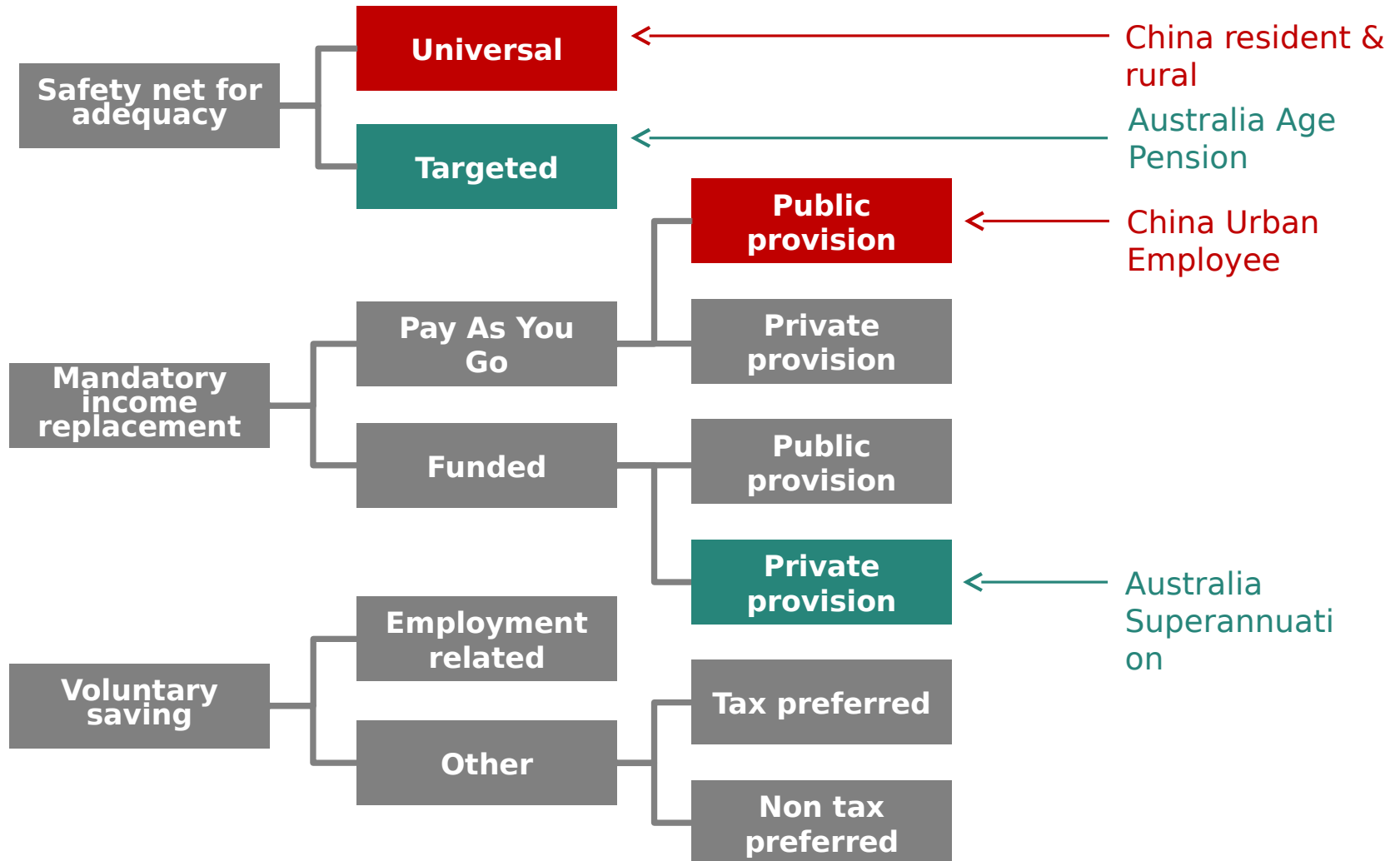7. Retirement income
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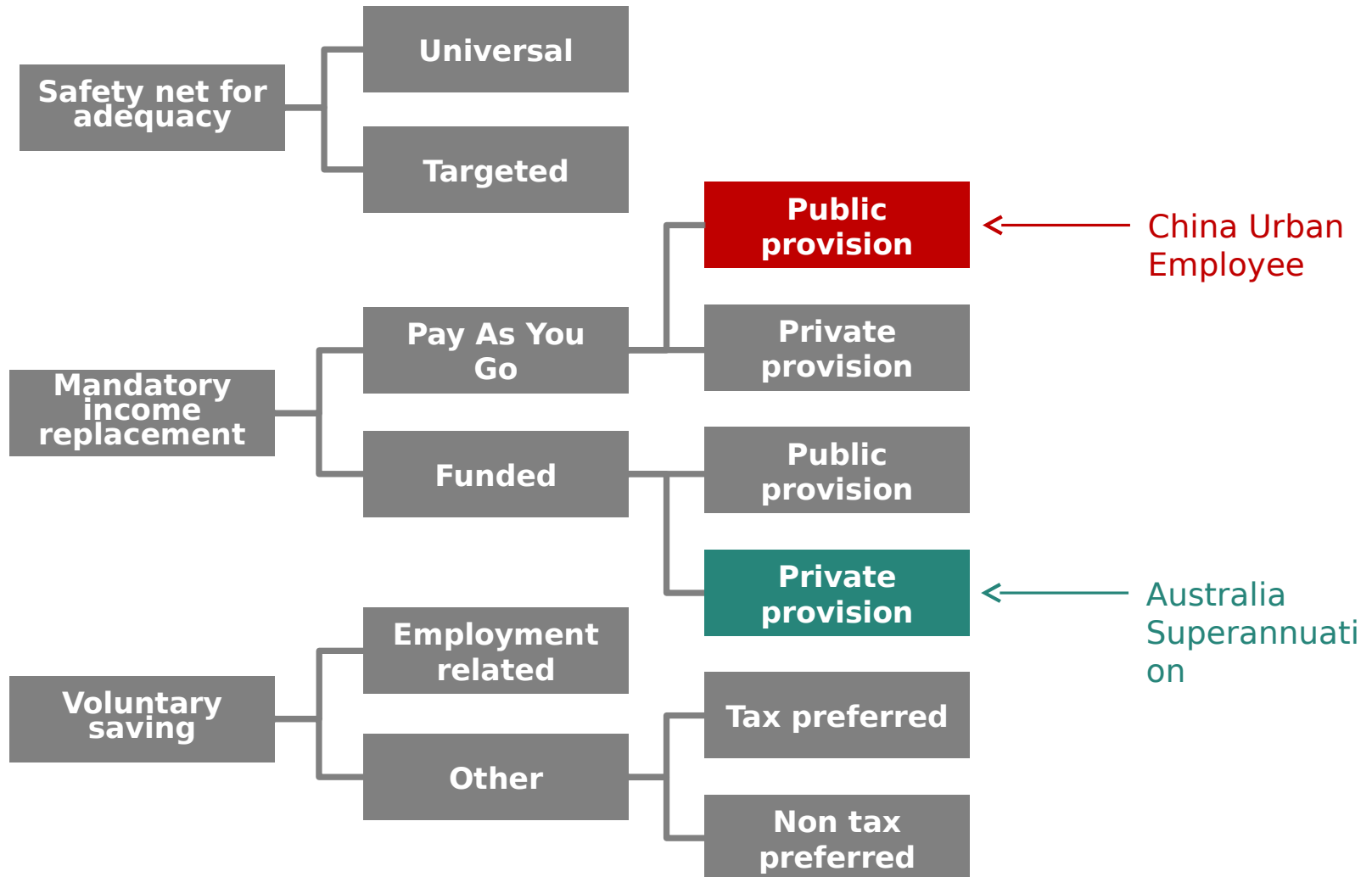
4a. Retirement income: Structure

4a. Retirement income: 1ST pillar

Safety net for adequacy
- **Universal** ← China resident & rural
- **Targeted** ← Australia Age Pension

Mandatory income replacement
- **Pay As You Go**
  - **Public provision** ← China Urban Employee
  - **Private provision**
- **Funded**
  - **Public provision**
  - **Private provision** ← Australia Superannuation

Voluntary saving
- **Employment related**
- **Other**
  - **Tax preferred**
  - **Non tax preferred**

4a. Retirement income: 1st pillar

	Universal	Targeted	
Australia		28% of AW	
Hong Kong	Age 70+, 5% of AW	Age 65-69, 5% of AW	Exists but low
Japan	National Pension 16% of AW		
Korea	Basic Age Pension 31% of AW		Raised this year from ~5% of AW
China	Urban Resident Pension, Rural Pension		Exists but low
Indonesia			
Laos			
Malaysia			
Philippines	Old Age Pension basic, 4% of AW		Exists but low
Singapore			
Thailand	500 Baht scheme		Exists but low
Vietnam			

Source: Chomik & Piggott (2012)

4b. Retirement income: 2nd pillar

Safety net for adequacy
- Universal
- Targeted

Mandatory income replacement
- Pay As You Go
  - Public provision — China Urban Employee
  - Private provision
- Funded
  - Public provision
  - Private provision — Australia Superannuation

Voluntary saving
- Employment related
- Other
  - Tax preferred
  - Non tax preferred

4c. Retirement income: 2nd + 3rd pillar
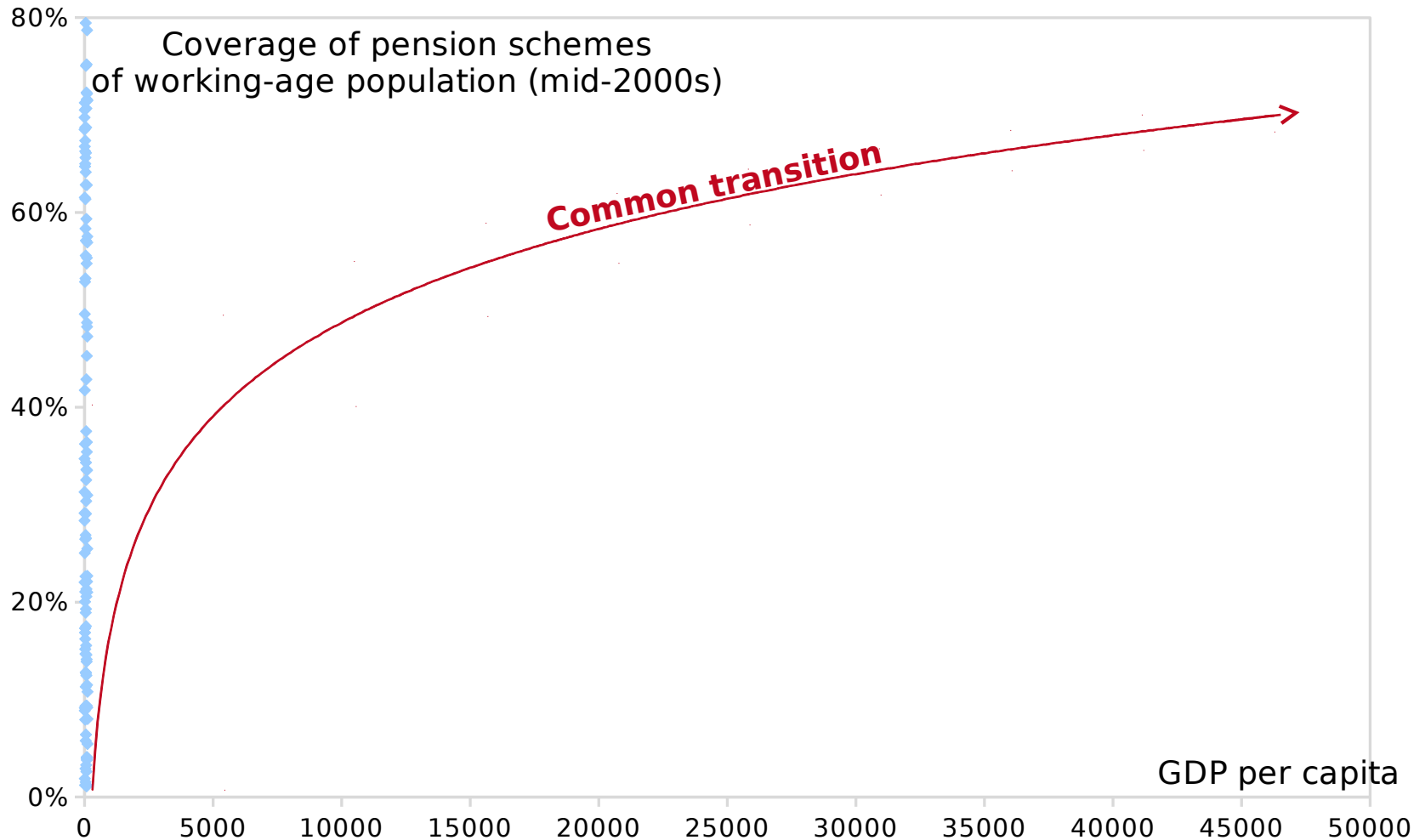

Pension funds' assets for selected OECD and Asian countries, 2011, USD billion
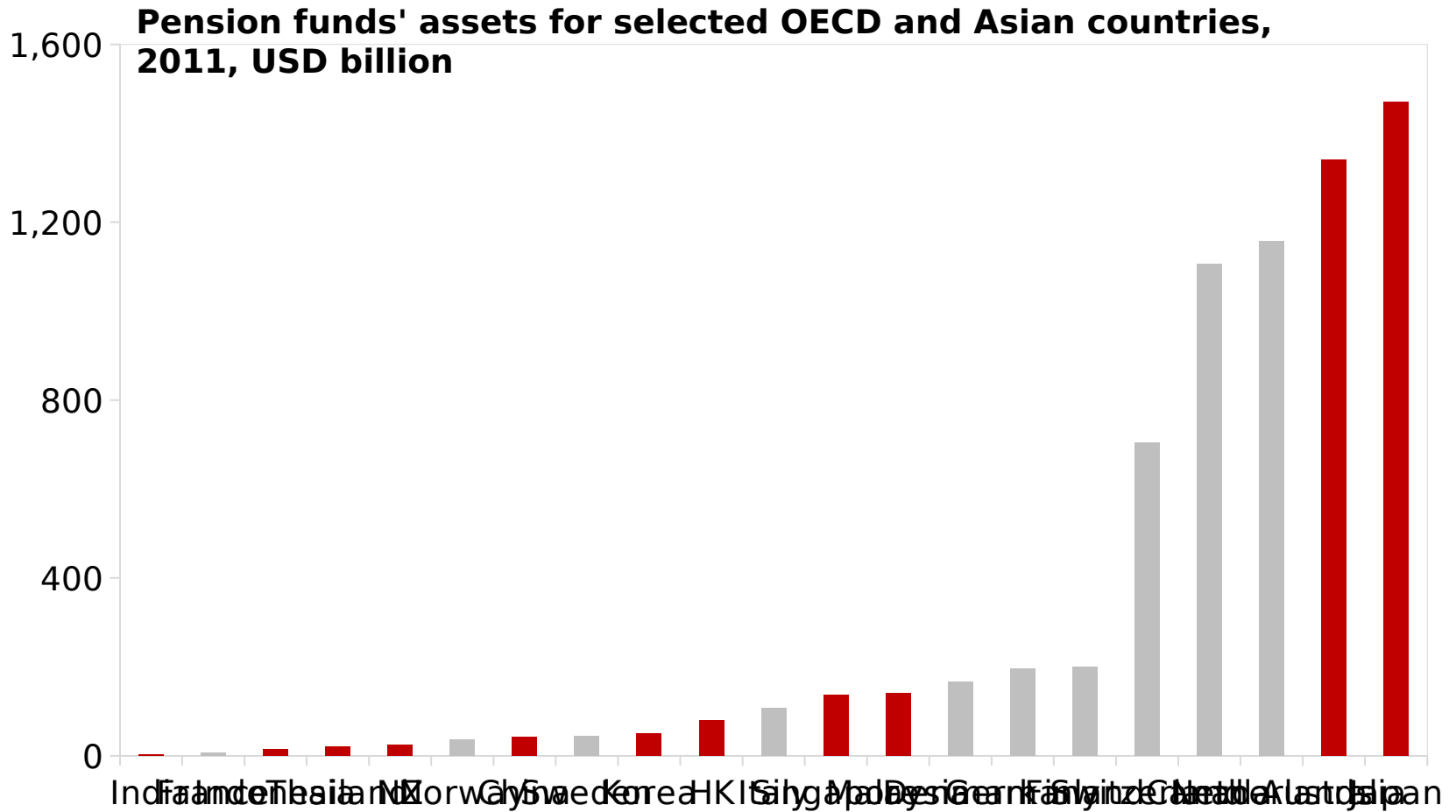
4d. Retirement income: Regulations

1. **Accumulation and decumulation** integration

2. **Enrolment** and contributions

3. **Incentives**, particularly if voluntary

4. **Low-cost** retirement savings instruments

5. **Default investment**, but choice of risk profiles and horizons

6. **Default life-cycle** investment to protect those near retirement

7. **Annuitisation to** protect against longevity

8. **Annuity market** supply and cost-efficiency

9. **Risk-hedging** instruments and information

10. **Financial illiteracy** and communication

4e. Retirement income: Coverage

Coverage of pension schemes
of working-age population (mid-2000s)

Common transition

GDP per capita

80%

60%

40%

20%

0%

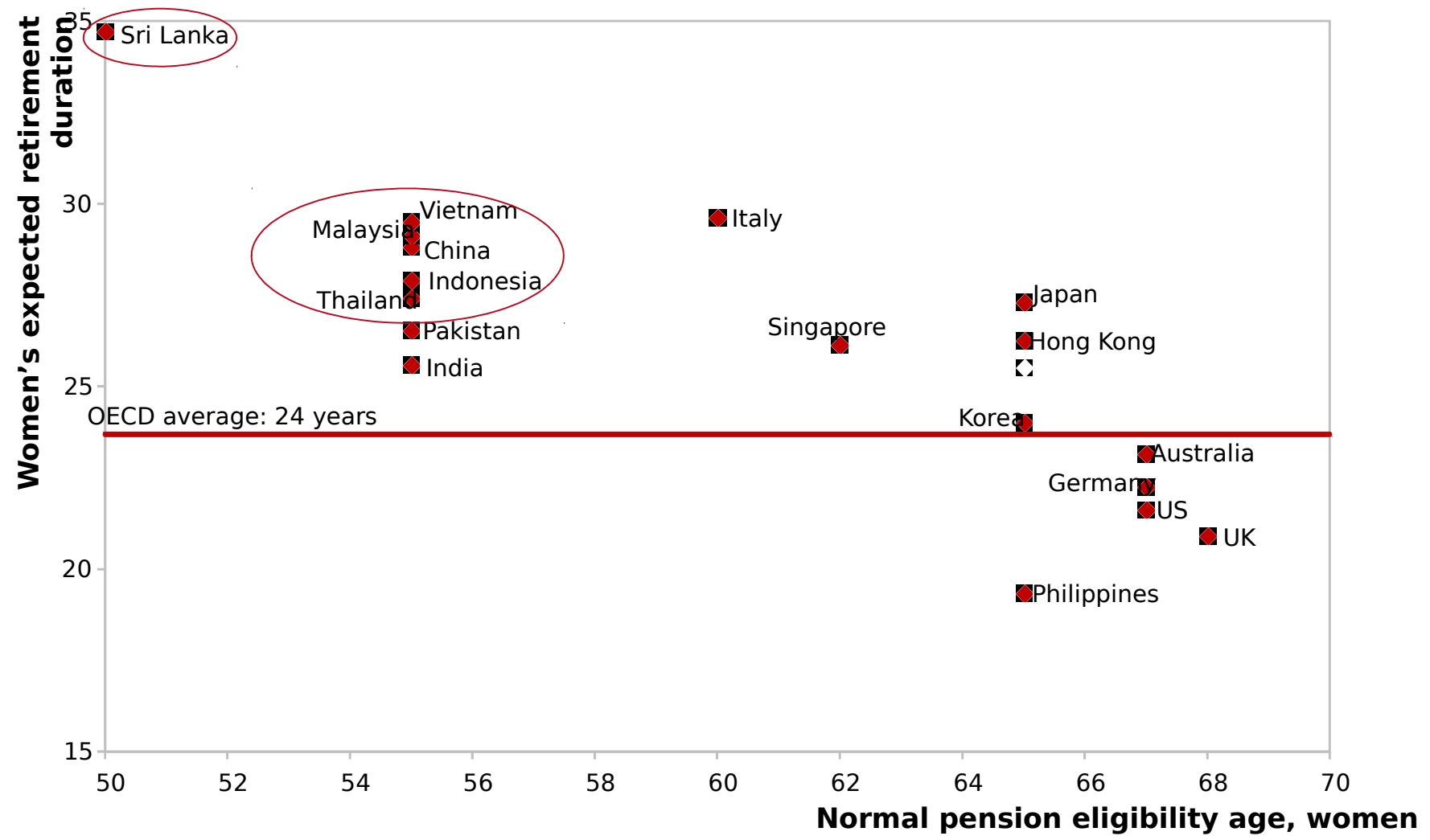0   5000   10000   15000   20000   25000   30000   35000   40000   45000   50000
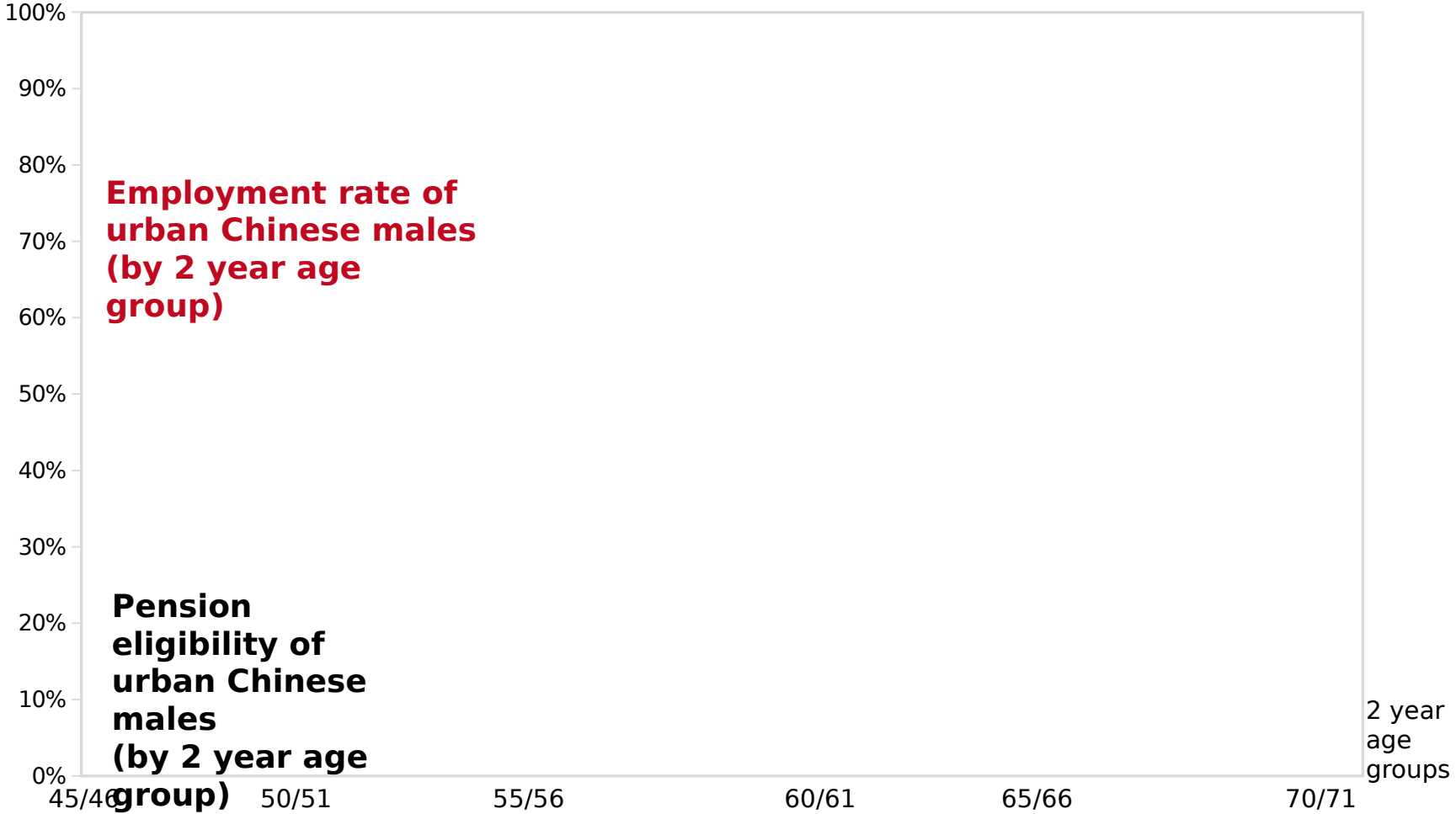
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5a. Labour market: Pension access age

Source: Chomik & Piggott (2012)

5a. Labour market: Pension access age

Employment rate of urban Chinese males (by 2 year age group)

Pension eligibility of urban Chinese males (by 2 year age group)

2 year age groups

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

45/46   50/51   55/56   60/61   65/66   70/71
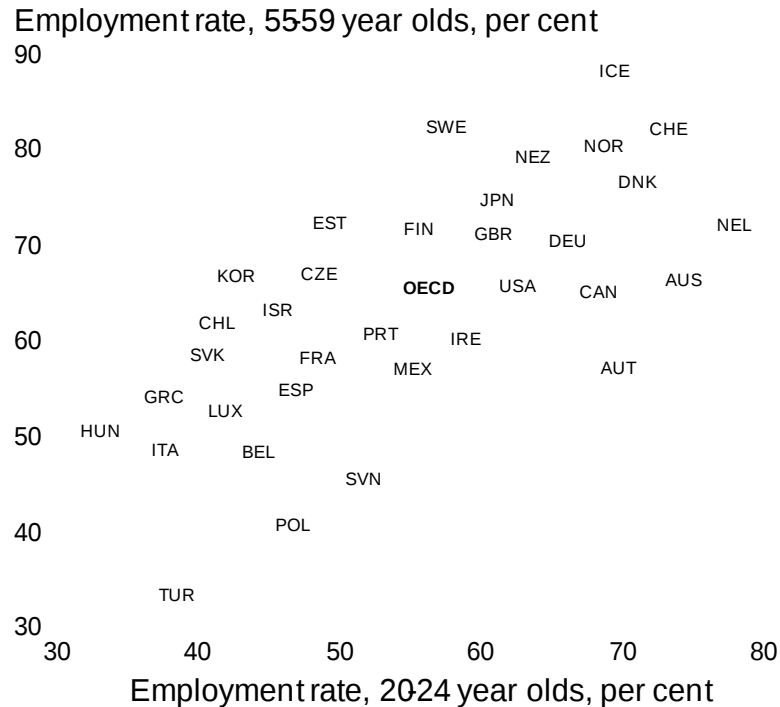
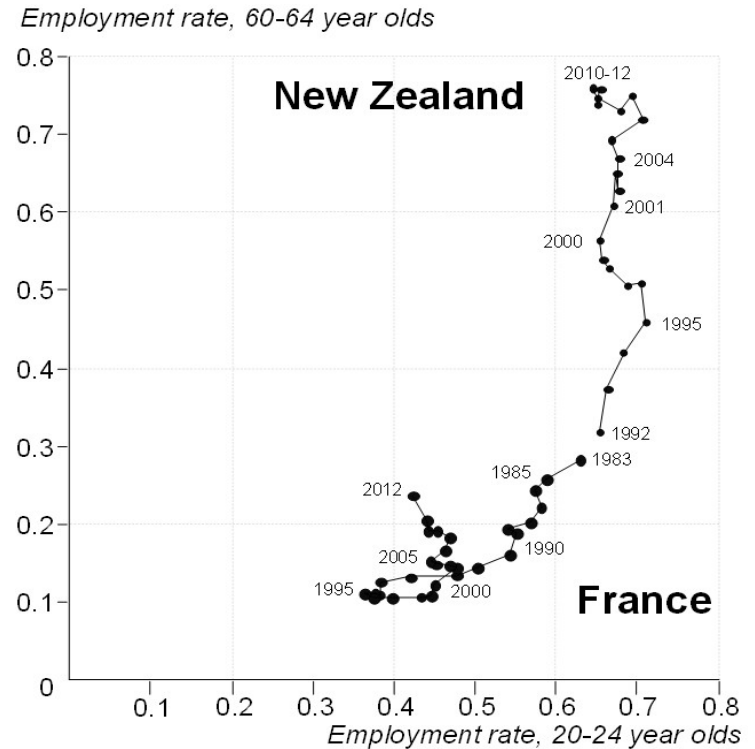# 5b. Labour market: Lump of labour fallacy

- That there is a fixed demand for labour and a job becomes available if someone stops work

- Used to support a supposed link:
  Early retirement ▯ Unemployment reduction

- In fact, working creates its own demand:
  More workers ▯ more productive economy

5b. Labour market: Lump of labour fallacy

Across countries

Employment rate, 5559 year olds, per cent

Employment rate, 2024 year olds, per cent

Across time

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6a. Healthcare: Different development levels

Total health
expenditure
per capita
(PPP $) 2010

100

Advanced

Emerging

Developing

10

GDP per capita (PPP $)
2010

1000   10000

6b. Healthcare: Coverage concepts

Proportion of costs covered

Benefits covered
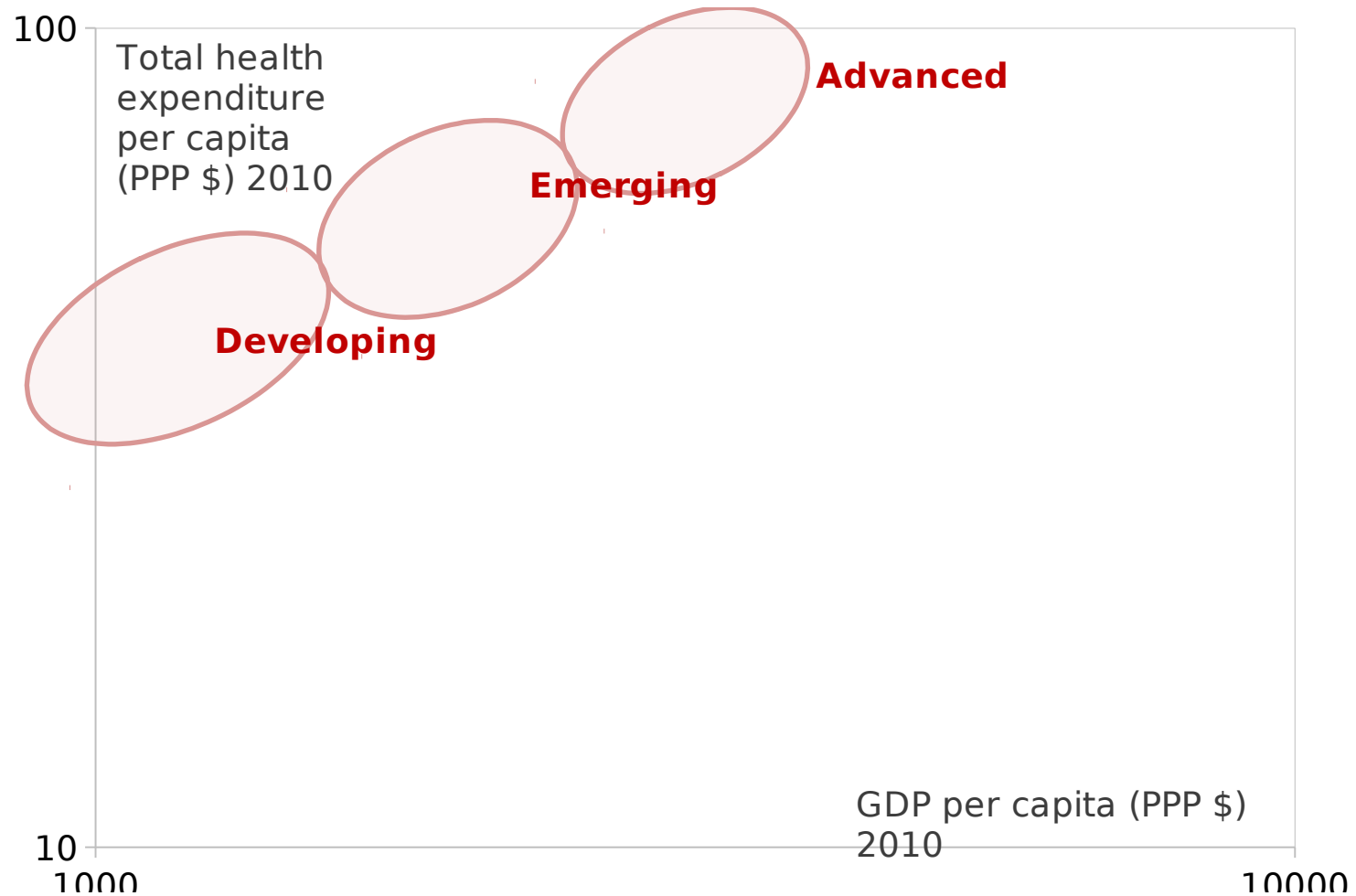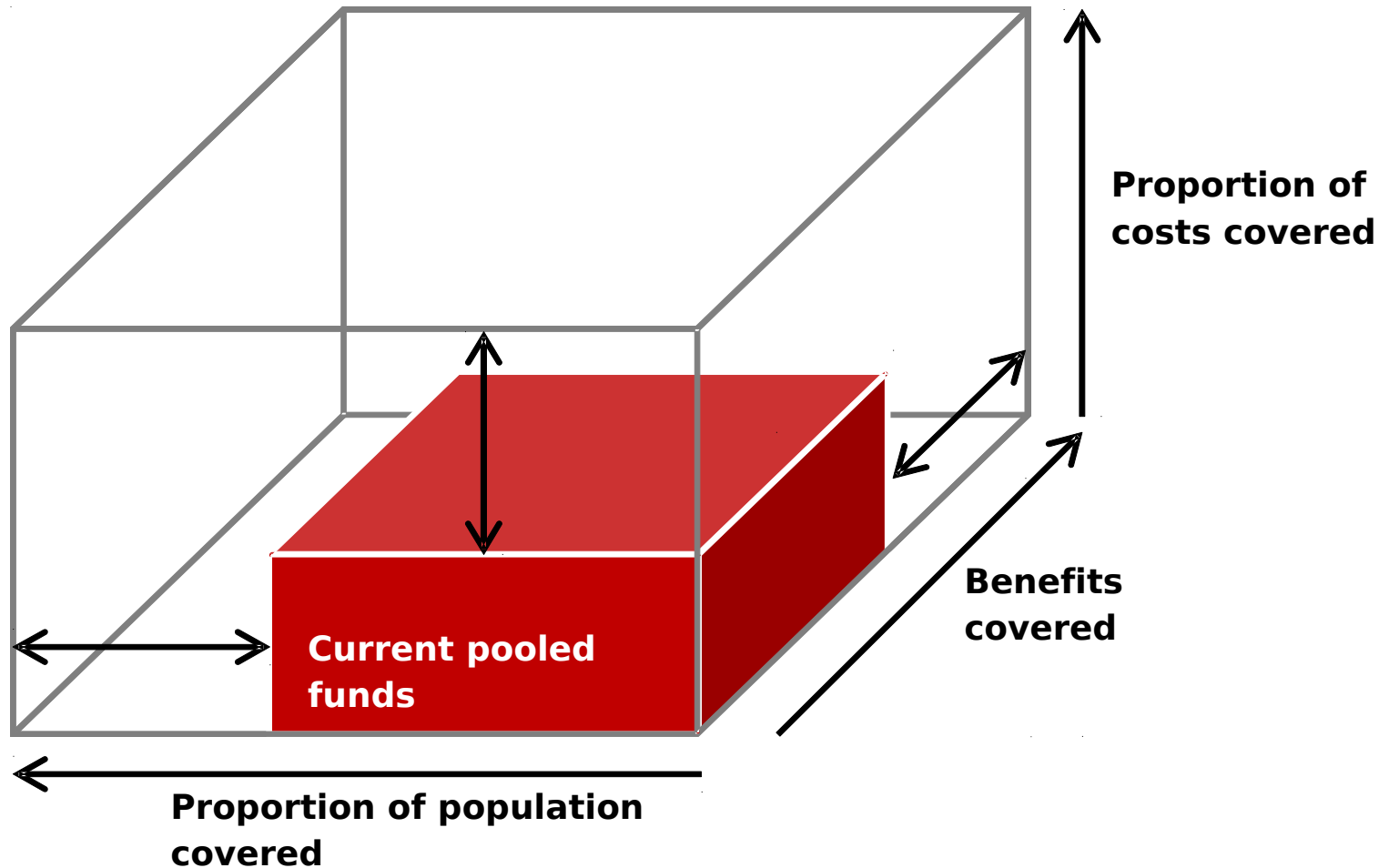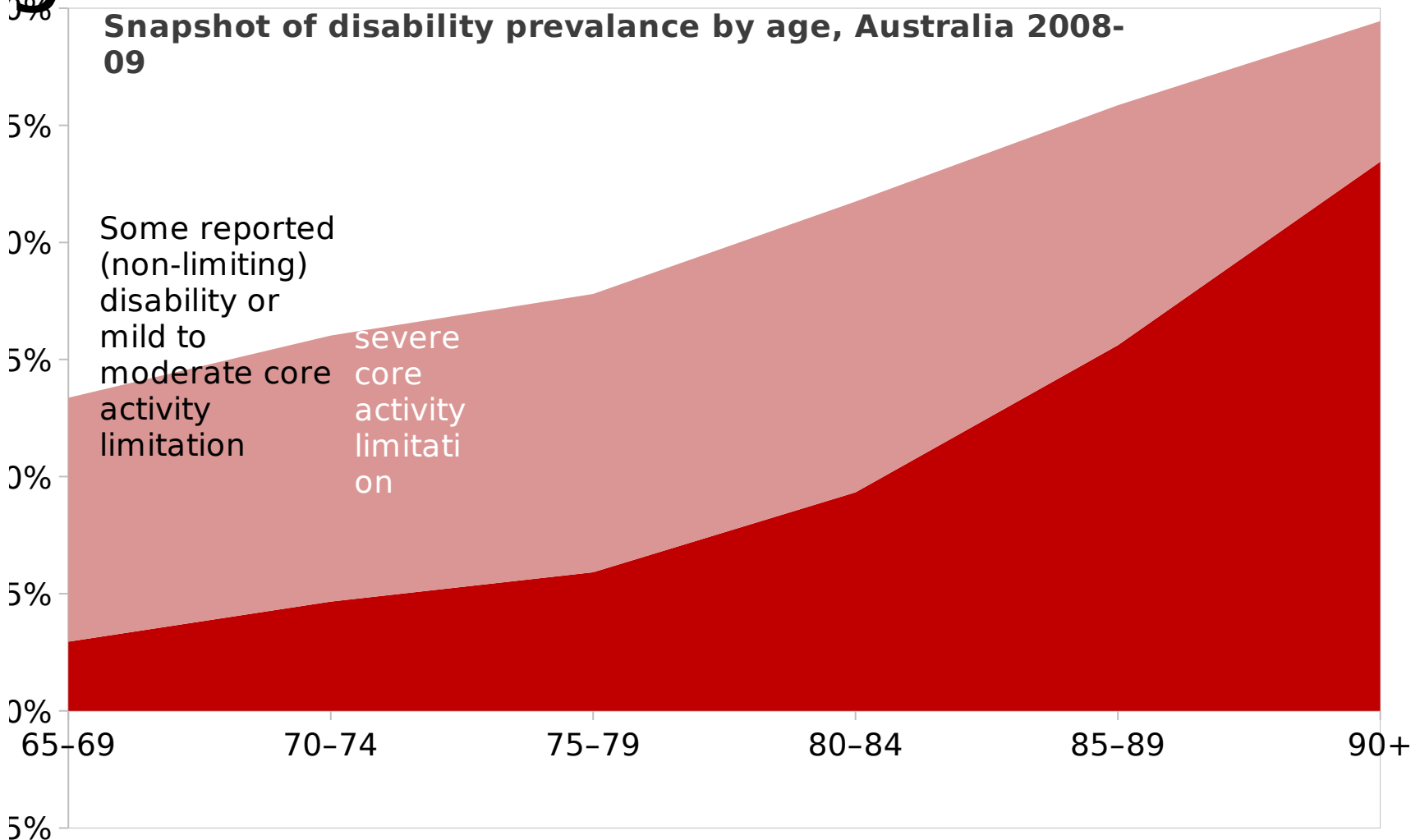
Current pooled funds

Proportion of population covered

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7a. Aged care: Disability ↑ with age

Snapshot of disability prevalance by age, Australia 2008-09

Some reported (non-limiting) disability or mild to moderate core activity limitation

severe core activity limitation

65–69 70–74 75–79 80–84 85–89 90+

7b. Aged care: Years in disability ↑

Life expectancy and healthy life expectancy over time

Australia: 1990 — 68.8 (grey), 11.2 (red); 2010 — 71.8 (grey), 12 (red)

China: 1990 — 63.5 (grey), 8 (red); 2010 — 70.4 (grey), 8.6 (red)

Japan: 1990 — 72.3 (grey), 9.7 (red); 2010 — 75.5 (grey), 10.4 (red)

Inonesia: 1990 — 57.3 (grey), 9.2 (red); 2010 — 62.5 (grey), 9.3 (red)
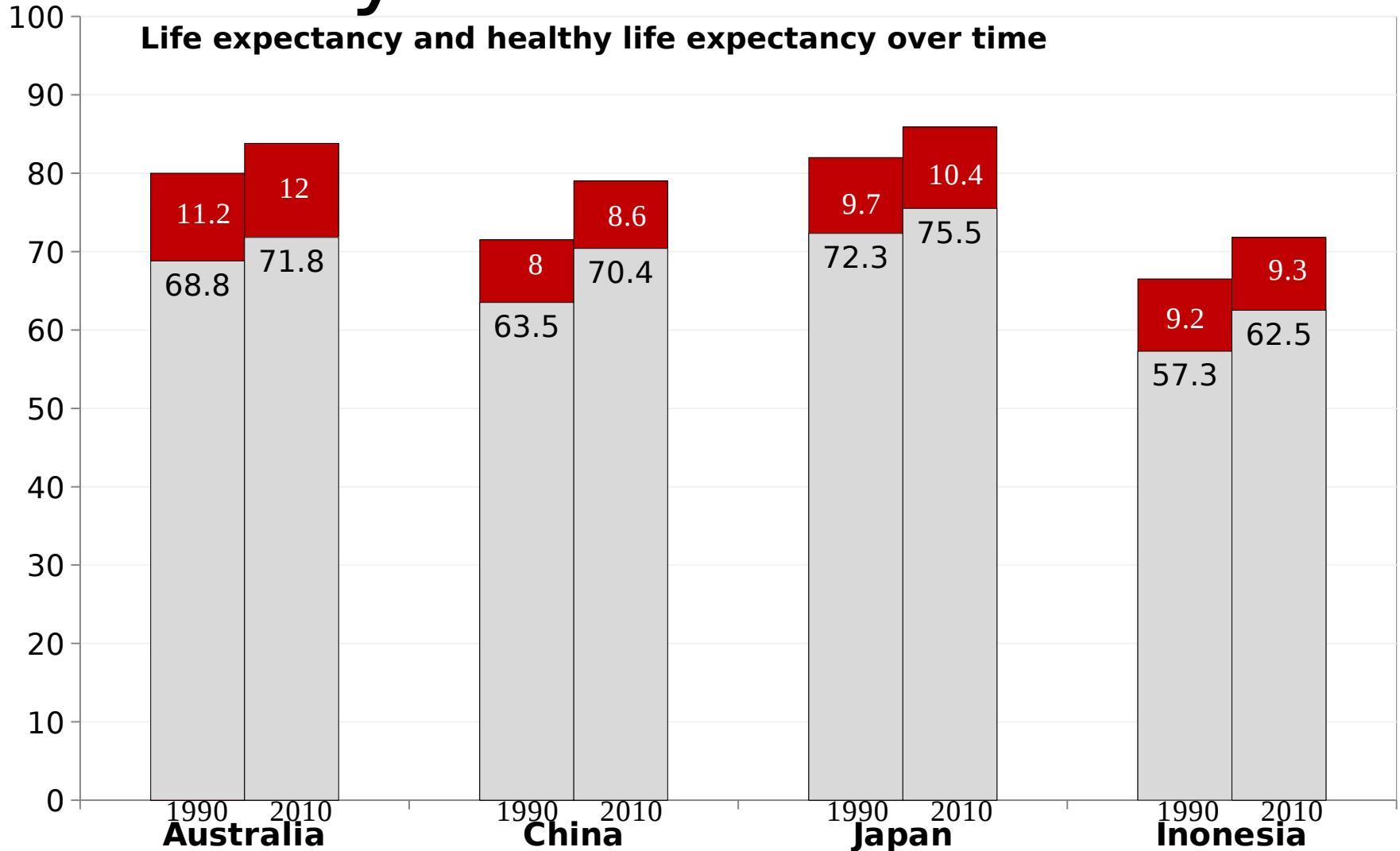
7c. Aged care: Expansion of supply

Cumulative number of aged care homes in selected Chinese cities

Foreign companies can help with all aspects of development and management: software, operations, training and standards as well as building

Sector reclassified from "restricted" to "permitted" (so can be 100% foreign owned)

Before 1990, 96% were govt run. By 2000s 80% of new facilities private

Beijing

Tianjin

Nanjing

300
250
200
150
100
50
0

1960 1964 1968 1972 1976 1980 1984 1988 1992 1996 2000 2004 2008 2012

Source: Feng et al, 2011

7d. Aged care: Policy areas

- Structure (home v institution)
- Financing (public insurance / tax; means testing; reverse mortgages; private insurance)
- Informal care (support progs; labour market)
- Provision (efficiency / tech; workforce)
- Quality (regulation; market mechanisms)
- Interventions (prevention & rehabilitation)

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