# Chinese demography

- China by far the largest country in the world in terms of population, together with India.
- Population trends in China are relevant for the rest of the world.
- Until 1949, China had pre-modern demographic patterns with high birth and death rates.

THE DETERMINANTS OF POPULATION GROWTH

- The *total fertility rate* : average number of children born to a woman of childbearing age (15-44).

- The *birth rate* : birth each year per 1000 inhabitants.

- The *death rate* : deaths each year per 1000 inhabitants.

- All three depend on the *age distribution* of the population.

- The *population growth rate* is the difference between the birth rate and the death rate (expressed per 1000 habitants, divided by 10 to get percentage growth rate).
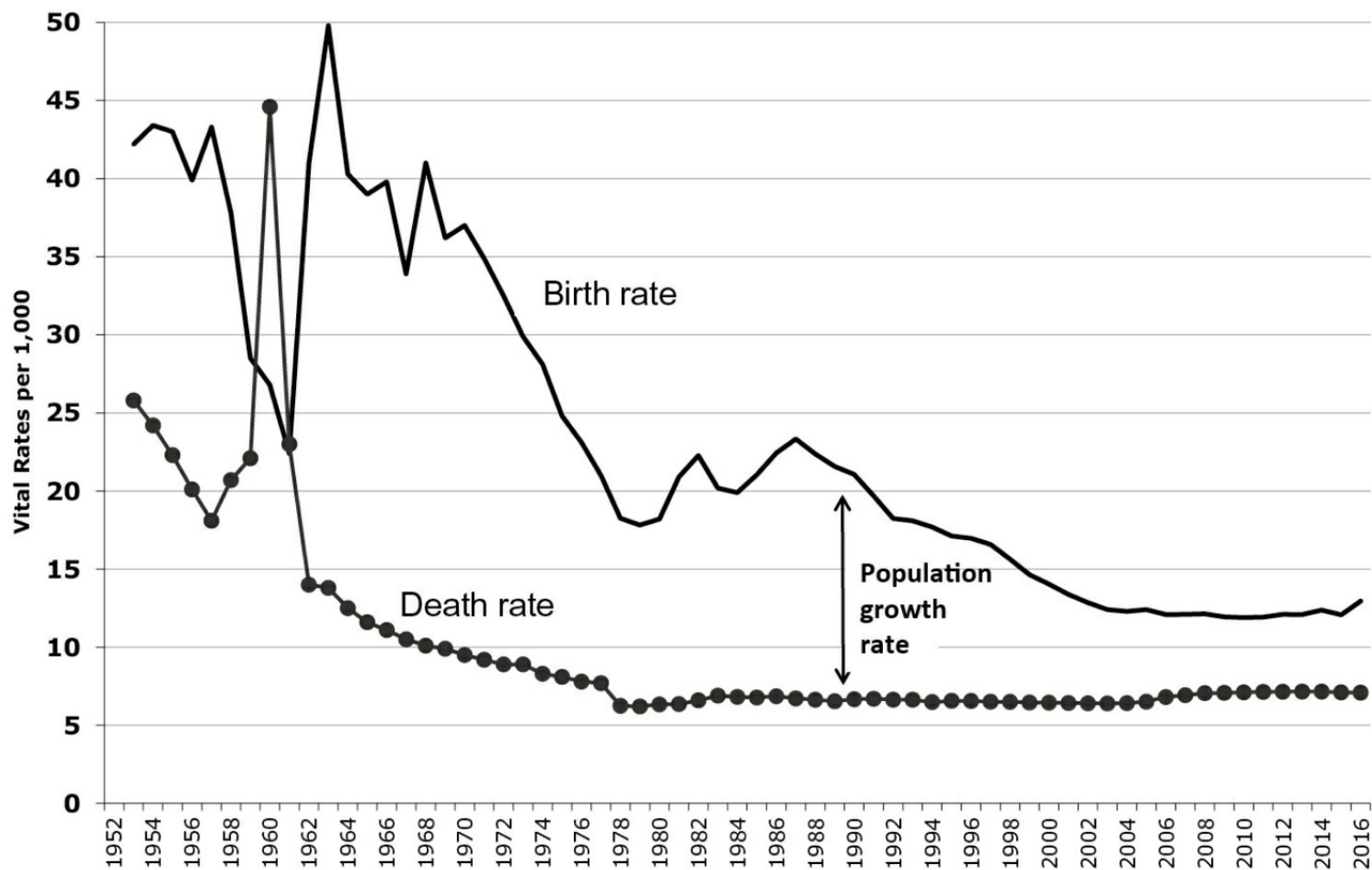
POPULATION OVER TIME AND THE DEMOGRAPHIC TRANSITION

- The global population growth rate increased steadily from 1800s to the 1960s, peaking at about 2%. Since then it has decreased, to around 1.5% now.

- A possible explanation is that the world, like individual countries, is undergoing a *demographic transition:*

    A shift from a stabilized population with high birth and high mortality rates to a stabilized population characterized by low birth and low mortality rates.
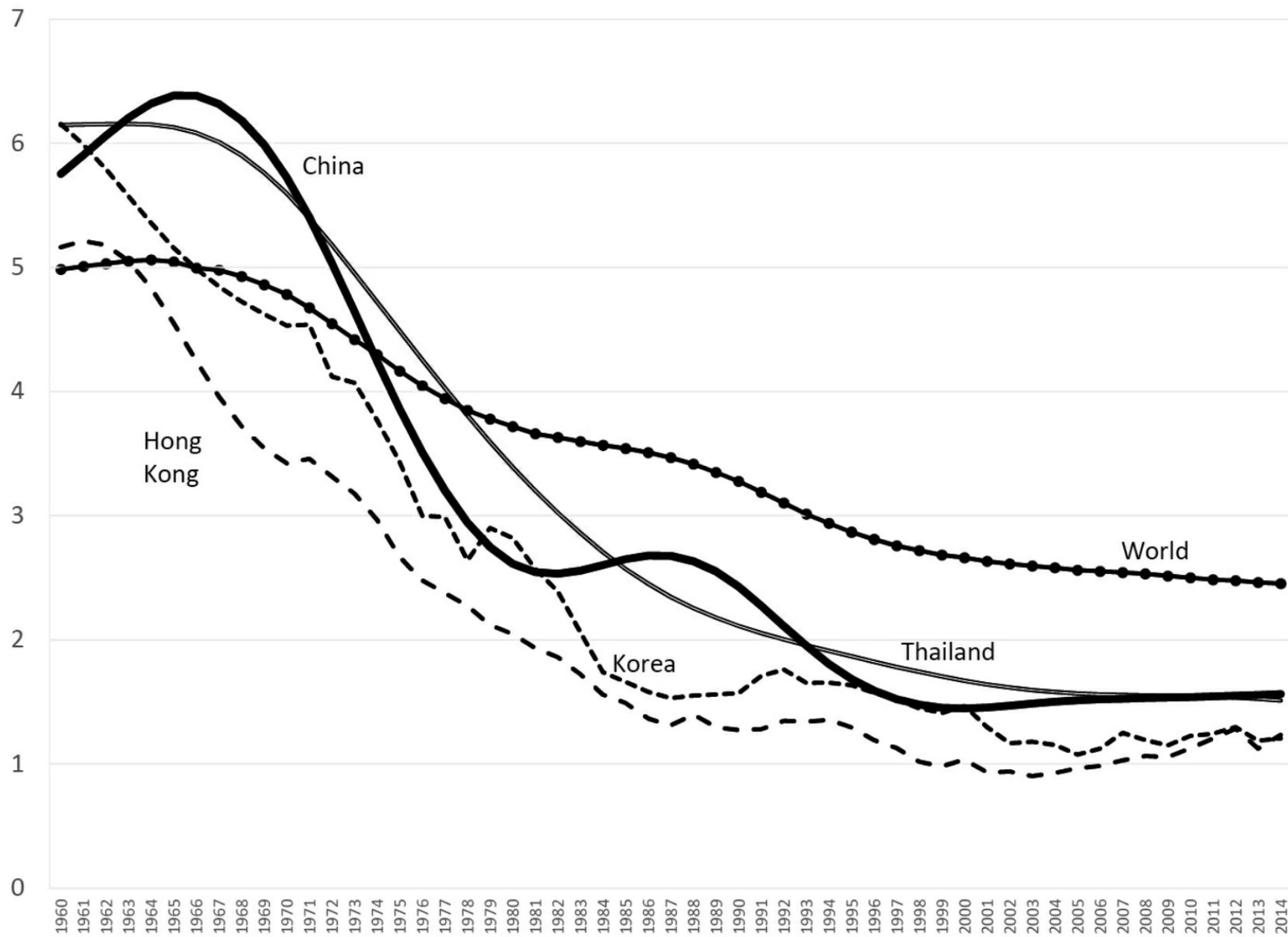
- Demographers expect the world population to stabilize at around *8 billion*.

Figure 3.4. Average Annual Population Growth Rates per Continent during Recent Decades.
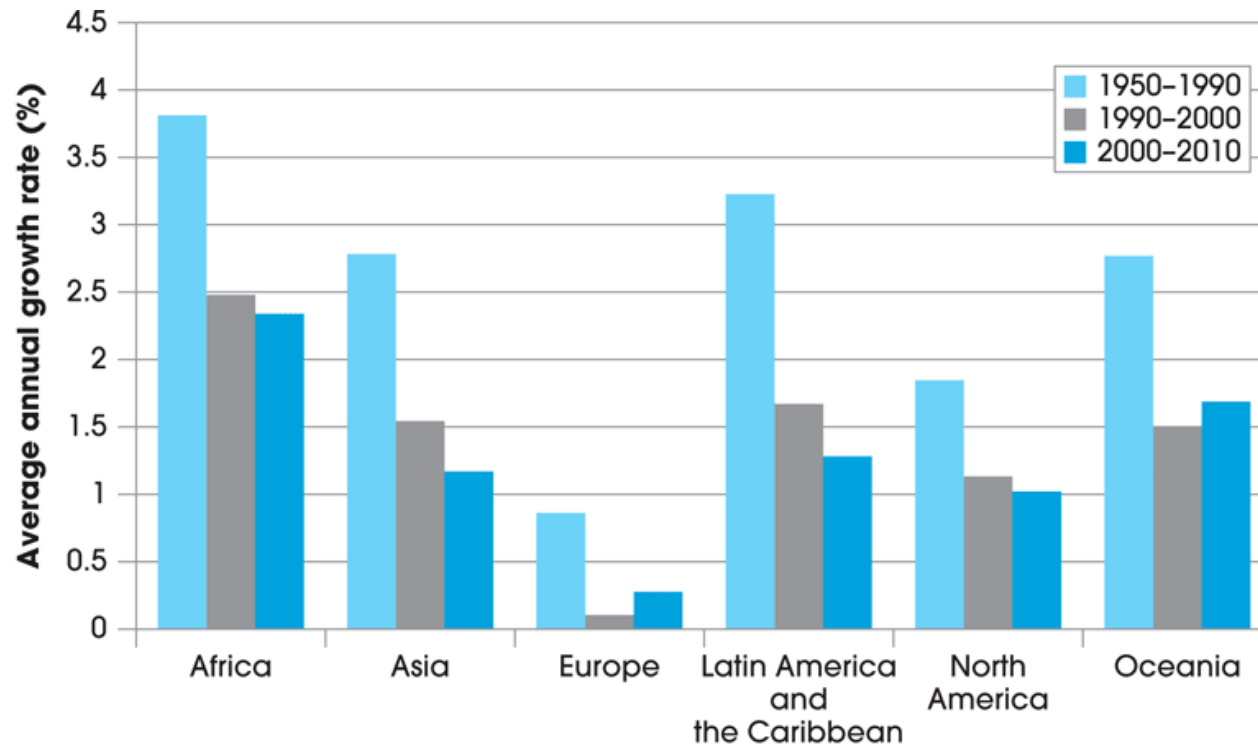
Population growth rates have declined worldwide since 1990.

Special Demographic Features in China

- Sustained decline of death rates at low income level in a large country
- Sustained decline of birth rates due to government policy of family planning after 1970
  - 1971: "later, longer, fewer"
  - 1980: "One child" policy to a target of 1.2 billion in 2000 (but reached that level by 1995)
  - Exceptions: minority groups

Table 7.2
Sex ratio (males per 100 females)

Year	At birth	Population aged 0–4
1953	104.9	107.3
1964	103.8	106.5
1982	107.6	107.0
1990	111.8	109.8
1995	116.6	118.8
2000	117.8	120.8
2003		121.2

One child policy

- Controversial in many ways.
- Led to increases in sex ratios.
- Gender imbalance has demographic as well as social consequences: crime, prostitution, savings and construction in villages. …
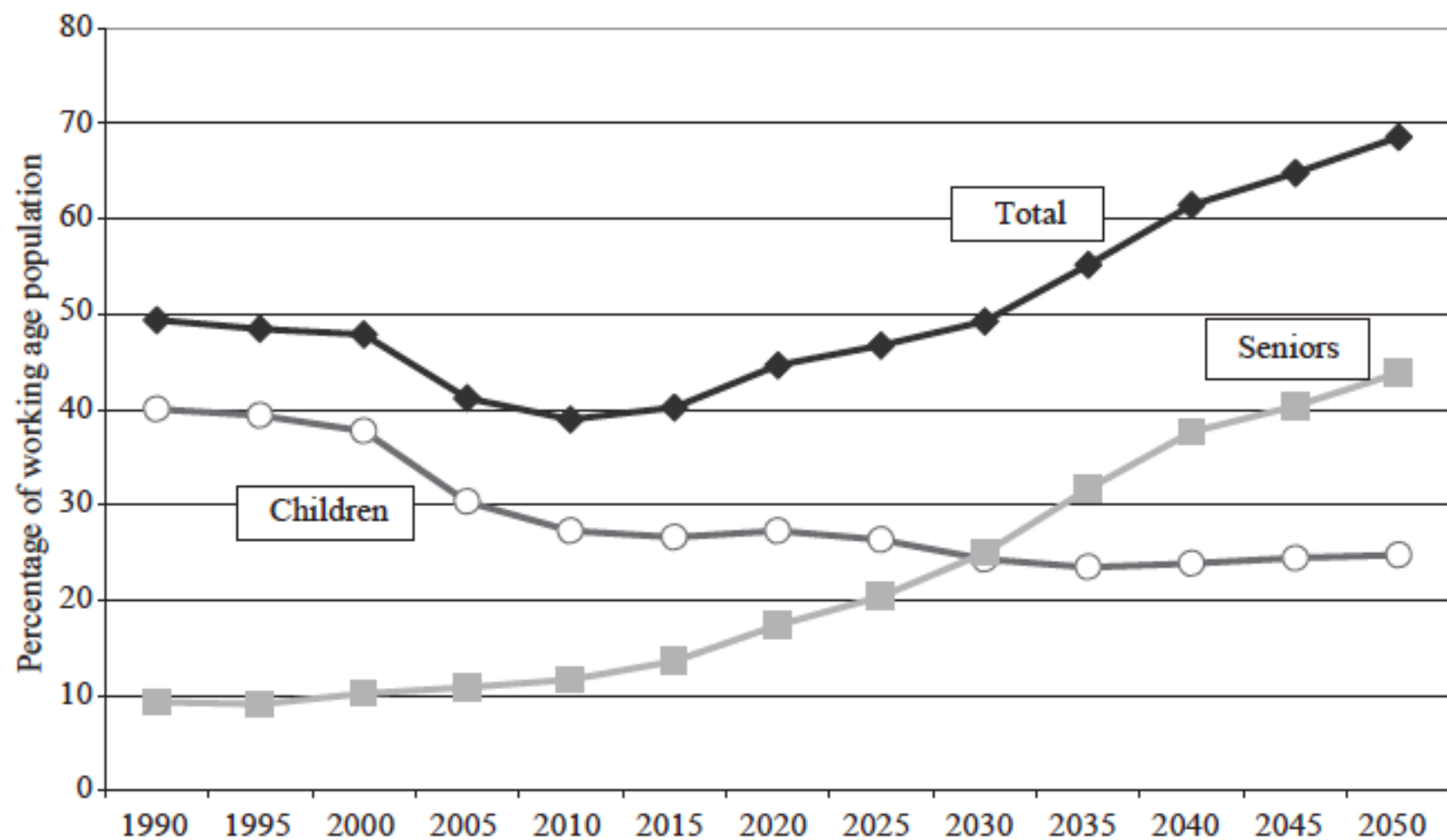
Figure 7.3
Dependency rates

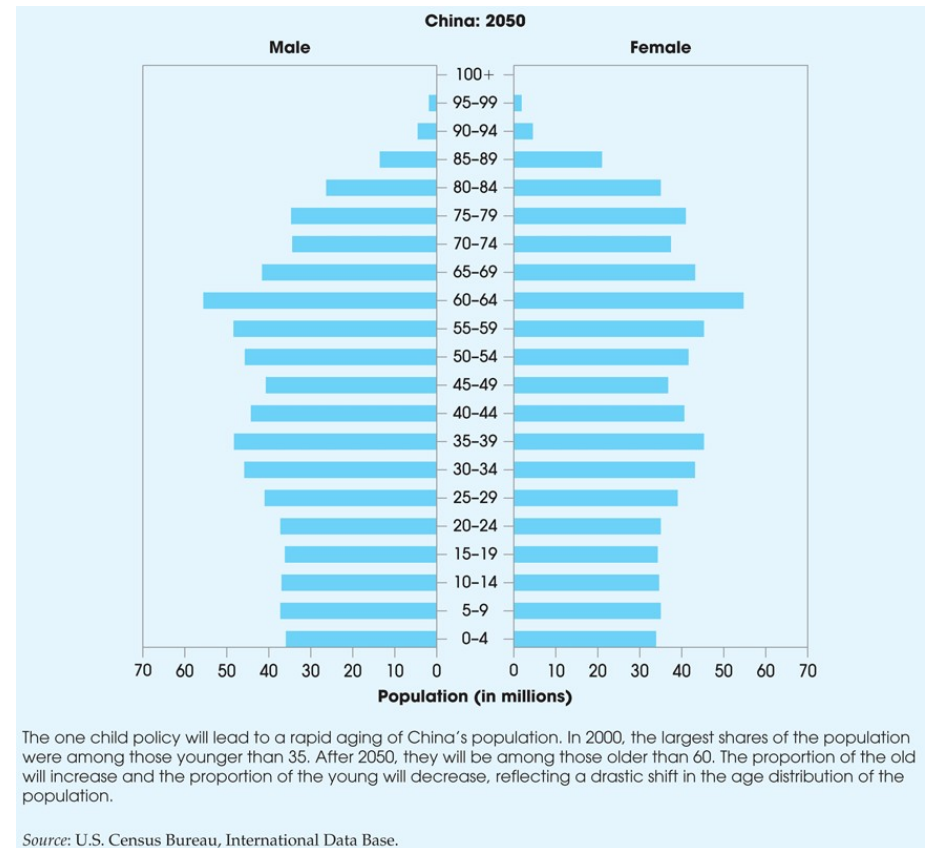Figure 3.10. China's Population Pyramid in 2000 and for 2050.

China: 2000
Male / Female
Population (in millions)
Source: U.S. Census Bureau, International Data Base.

China: 2050
Male / Female
Population (in millions)
The one child policy will lead to a rapid aging of China's population. In 2000, the largest shares of the population were among those younger than 35. After 2050, they will be among those older than 60. The proportion of the old will increase and the proportion of the young will decrease, reflecting a drastic shift in the age distribution of the population.
Source: U.S. Census Bureau, International Data Base.

Table 8.2

Percentage of population age 65 or older.

	2015	2030	2050
China	10.0	17.0	26.7
Hong Kong	15.3	27.4	35.3
Japan	26.6	32.2	40.1
Korea	13.2	24.0	34.7
Taiwan	12.5	23.1	34.9
Vietnam	5.8	11.3	20.7

Source: U.S. Census Bureau International Database, http://www.census.gov/population/international/data/idb/informationGateway.php, accessed December 15, 2016.

Table 7.3
Growth of working-age population (average annual rates, percent)

Year	National	Rural	Urban
1982–1990	2.5		
1990–1995	1.7		
1995–2000	1.4		
2000–2005	1.6	□0.1	4.1
2005–2010	1.0	□0.9	3.2
2010–2015	0.5	□1.6	2.5
2015–2020	□0.1	□2.4	1.6
2020–2025	0.0	□2.3	1.5
2025–2030	□0.2	□2.8	1.1
2030–2035	□0.7	□3.8	0.6
2035–2040	□0.8	□3.9	0.3
2040–2045	□0.5	□3.5	0.3
2045–2050	□0.6	□3.6	0.0
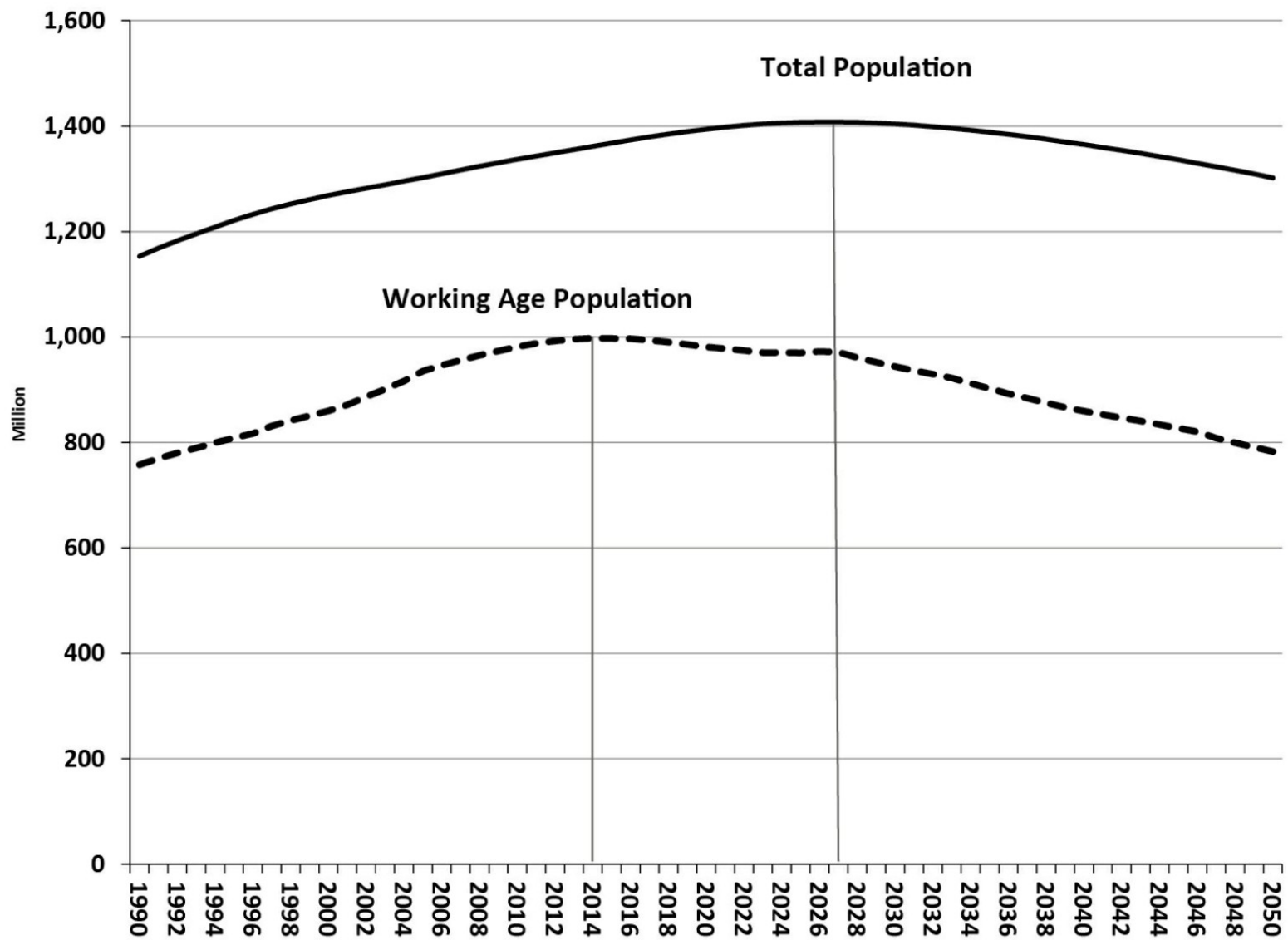
Table 7.4
Primary source of support for population 60 and over, 2004

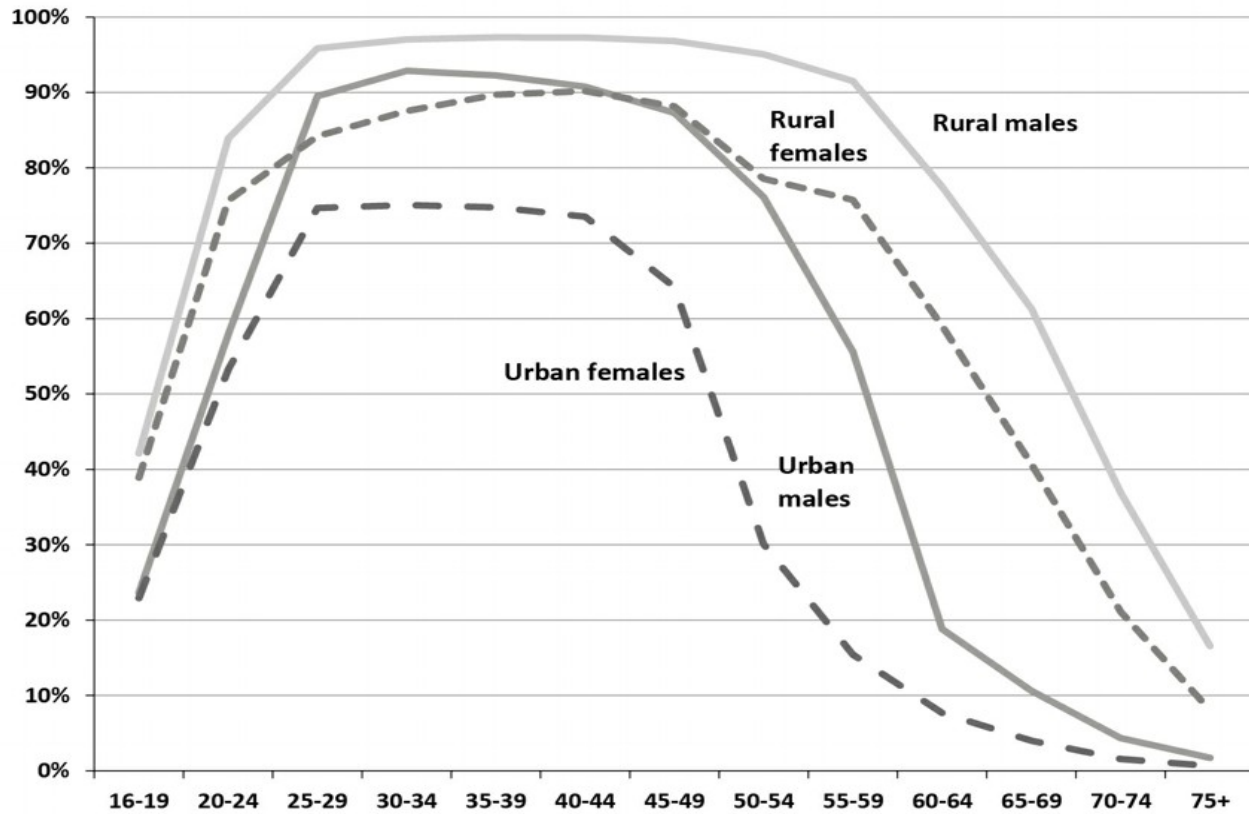|	Working	Pension or insurance	Children
Urban men	8%	80%	12%
Urban women	4%	59%	38%
Rural men	43%	12%	46%
Rural women	23%	4%	73%

Recent demographic policies

- One Child Policy abandoned in 2015, two children allowed.

- In 2021, people encouraged to have three children.

- Fertility choices remain low. Policies of crackdown on tutor industry, suggestions of restricting homework,… must be seen in this context.
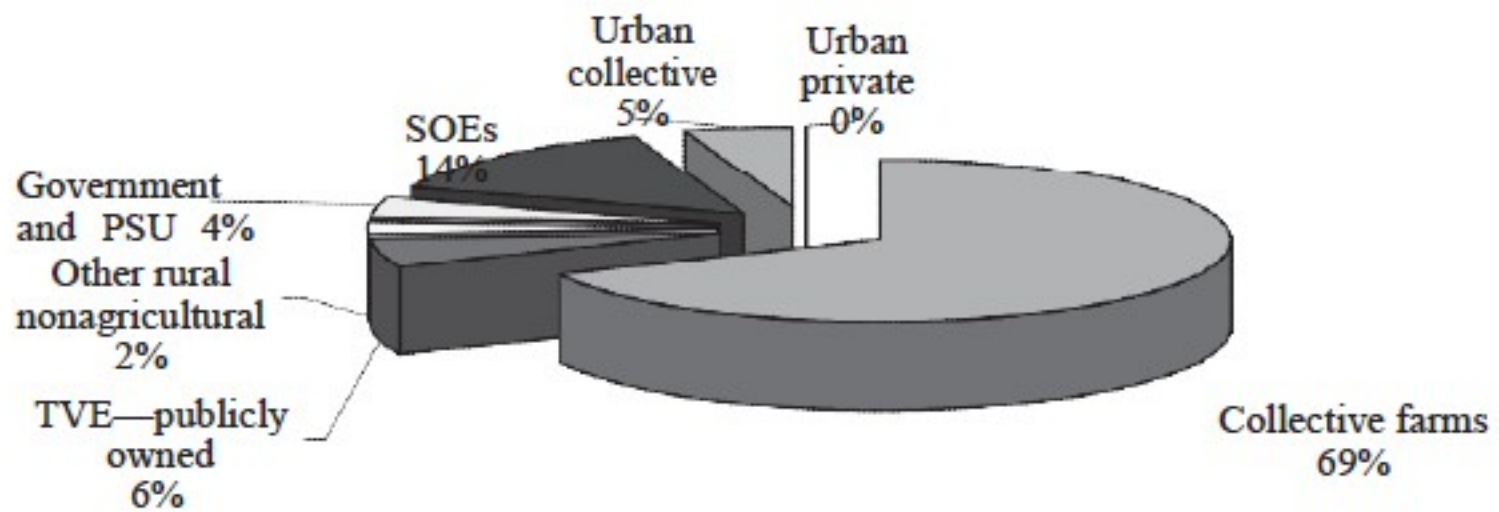
Labor markets in China

- Under socialism, no real labor markets. Everybody employed in a public work unit. No labor mobility even compared to Soviet Union.

- This changed completely with market reforms and with restructuring of SOEs (more than 30 million laid off). 5-year labor contracts spread.

- Very large labor force participation (above 70%), in particular women.
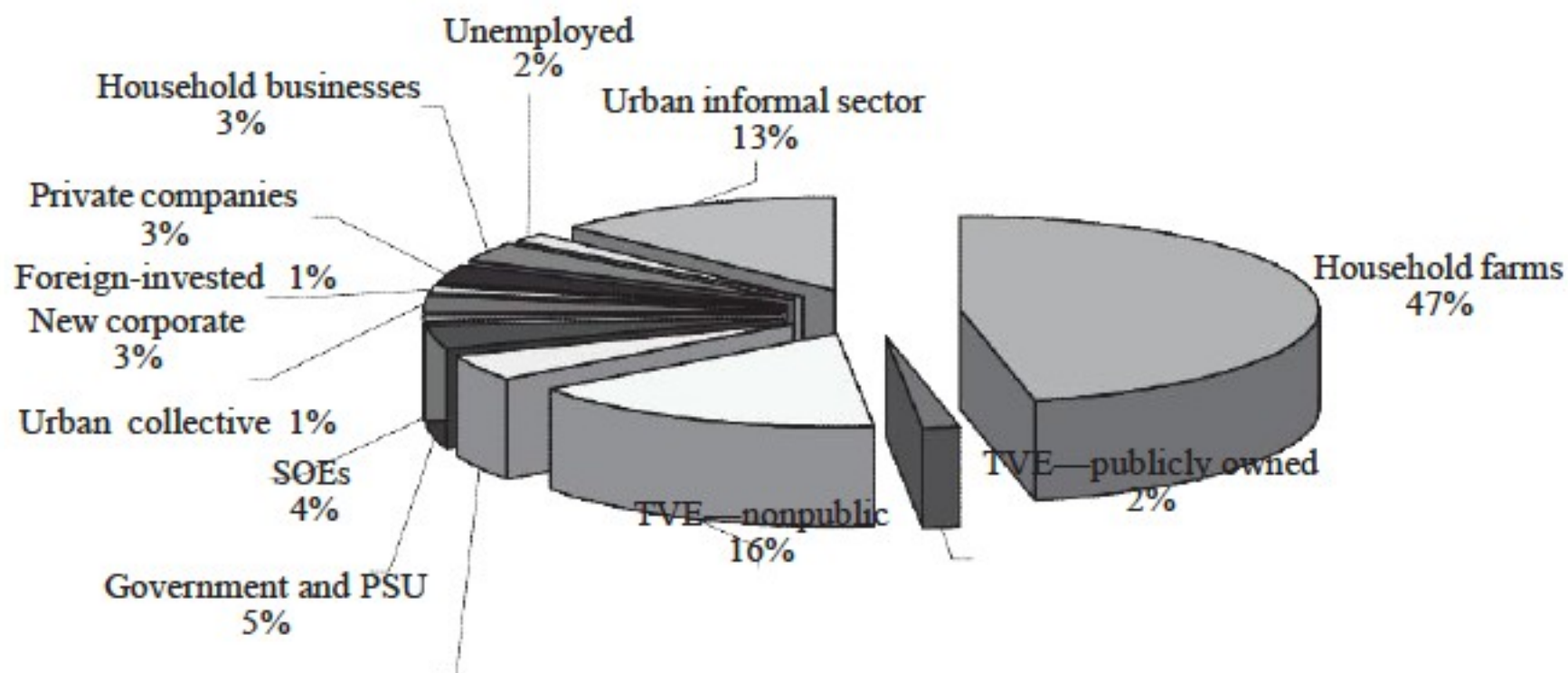
Employment rates

Figure 21

1978: 402 million

Urban
collective
5%

Urban
private
0%

SOEs
14%

Government
and PSU 4%

Other rural
nonagricultural
2%

TVE—publicly
owned
6%

Collective farms
69%

2003: 744 million

Figure 8.1
Employment by ownership

Unemployed
2%

Household businesses
3%

Urban informal sector
13%

Private companies
3%

Foreign-invested 1%

New corporate
3%

Household farms
47%

Urban collective 1%

SOEs
4%

TVE—publicly owned
2%

Government and PSU
5%

TVE—nonpublic
16%

2013

- Self-Employed (with permits) 16%
- Informal (Unregistered) 16%
- Government and PSUs 11%
- SOEs and State-Controlled Corporations 13%
- Collectives 1%
- Corporations (not State-Controlled) 13%
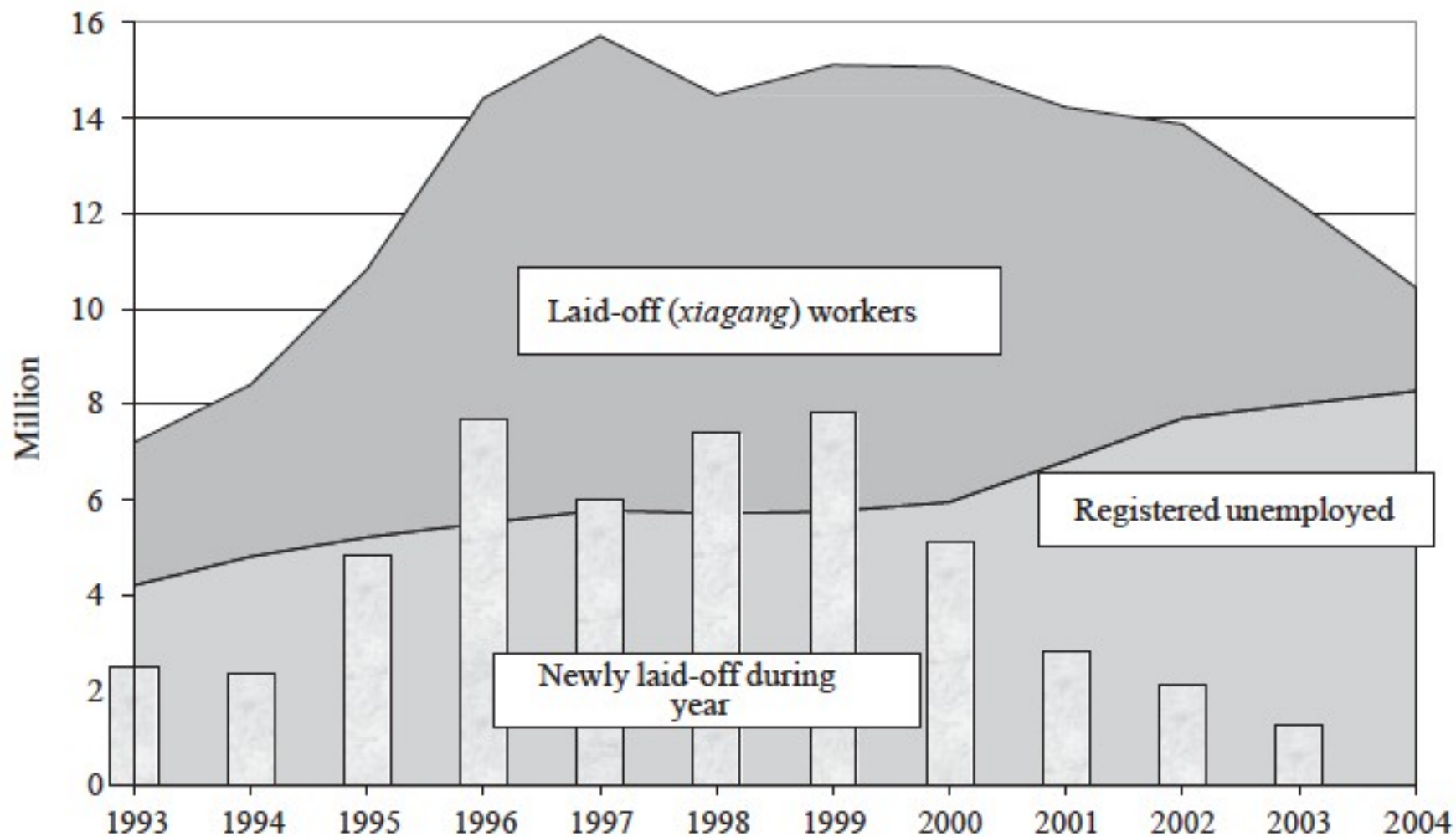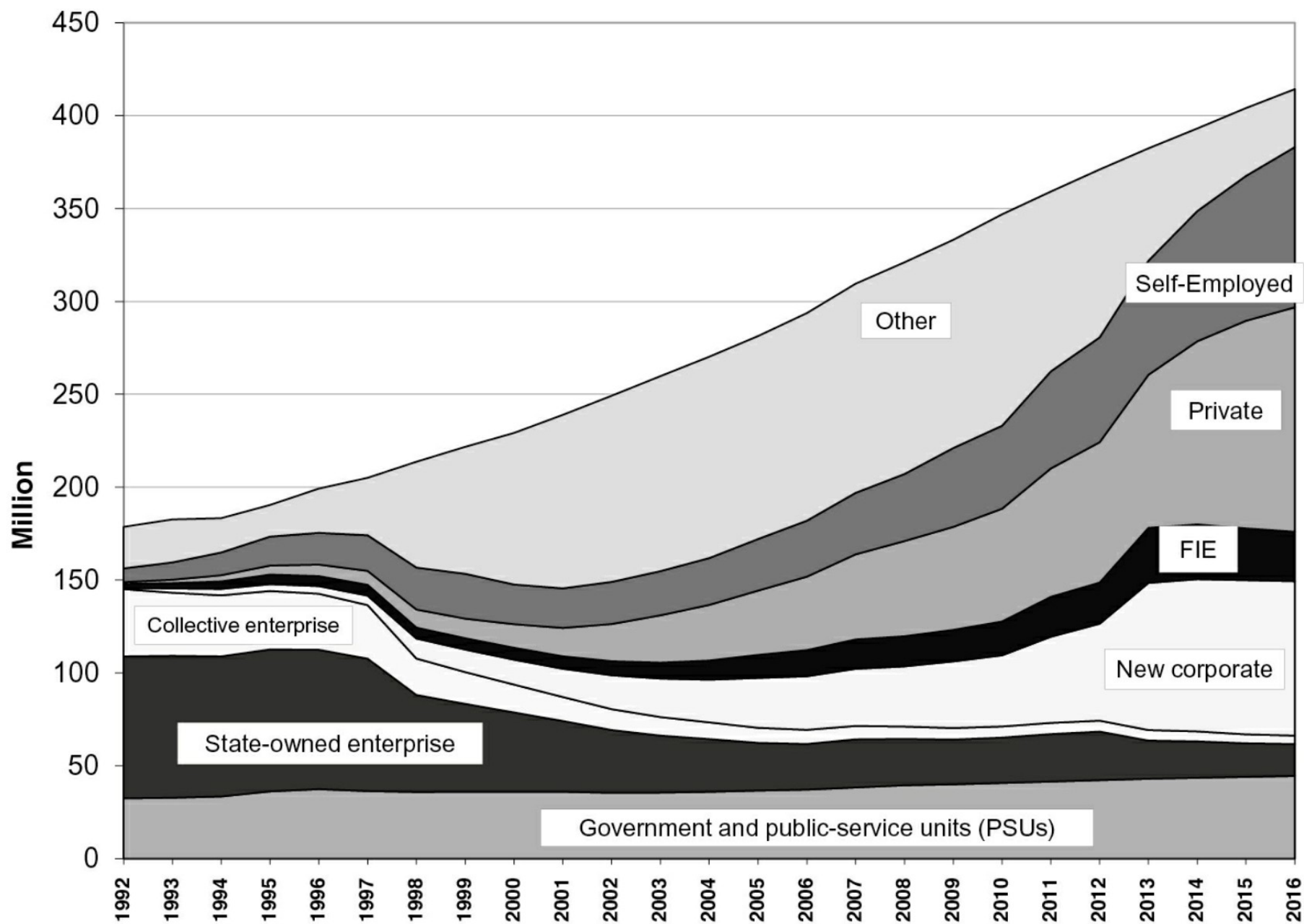- Foreign-Invested Enterprises 8%
- Private Firms 22%

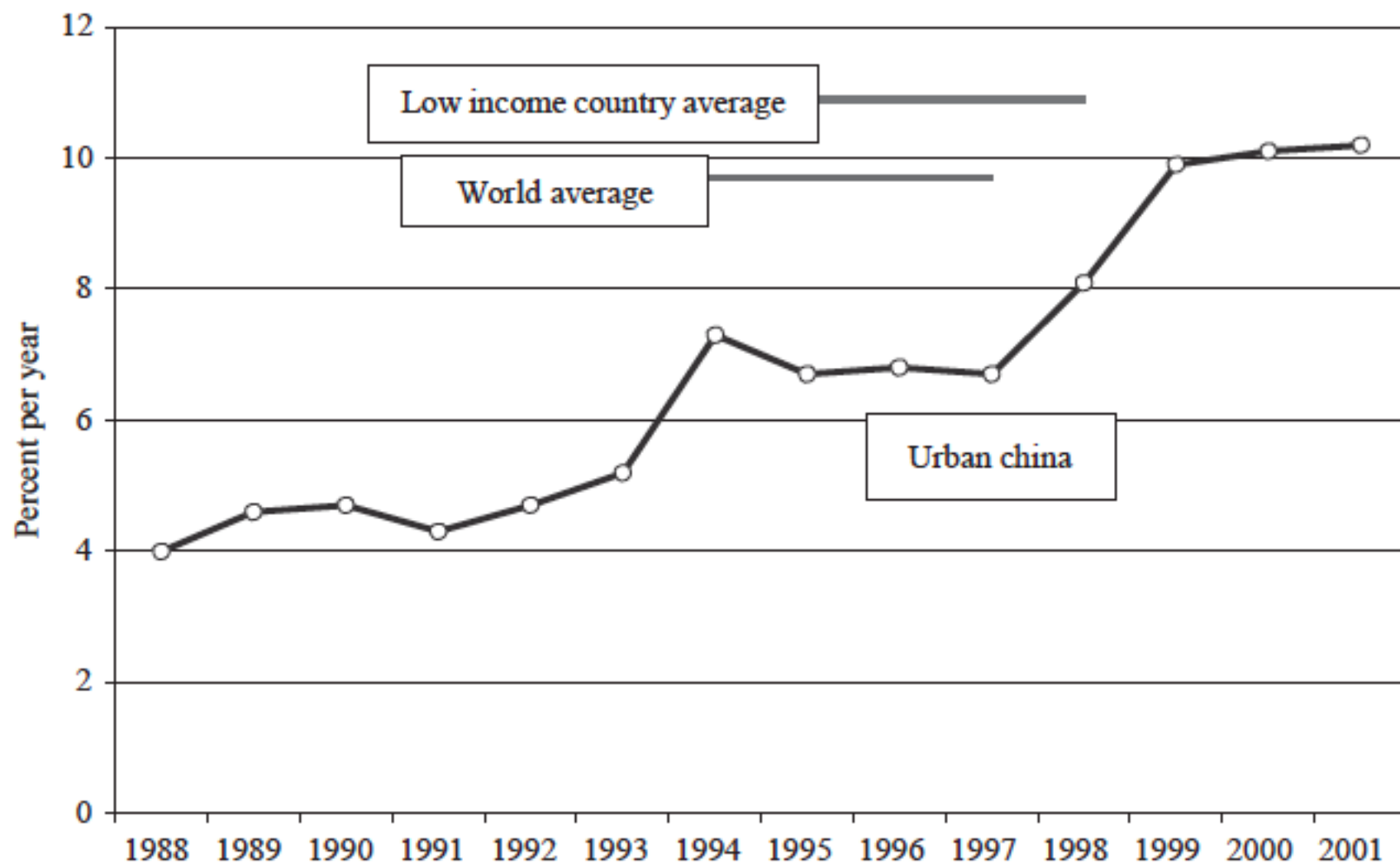**Figure 8.2**
Laid-off and unemployed workers

Figure 8.4
Return to an additional year of schooling

Table 9.1

Educational attainment of the Chinese population (percent).

Population, 15 and above	1982	1990	2000	2010	2015
Tertiary (above grade 12)	0.9	1.7	4.7	11.0	14.9
Upper-middle (up to grade 12)	10.0	9.4	14.4	16.1	18.2
Lower-middle (up to grade 9)	23.8	27.2	39.1	42.4	39.9
Primary (up to grade 6)	30.8	43.2	32.9	24.1	21.0
No formal schooling	34.5	18.5	9.0	6.4	6.0

Urban employed, 2015

Tertiary (above grade 12)	32.2		Postgraduate education	1.9
		OF WHICH:	Four-year university	14.4

Labor Market and migration

- Rural to urban migration (floating migrants)
  - Cheap
  - Hard working
- Competition between urban dwellers and floating migrants
- Local government regulations
  - Barriers (numerous licenses, restrictions of employment)
  - Entitlement to local public goods (schools, health care)
- Policy accommodations
  - Temporary or permanent permits ("Green cards") based on jobs and investment (housing purchase)
  - Varies by region

Social Safety Net

- Four components
  - Pension
  - Health care
  - Unemployment insurance
  - Welfare support
- The Chinese tradition of reliance on children after retirement
- Proportion of population over 60 primarily dependent on children for financial support

	Urban	rural
Women	41.7%	82.0%
Men	7.7%	54.4%

- How to finance retirement?

Table 8.2
Social security system

Year	Total retirees (million)	Ratio employed to total retirees	Total urban pensions (billion RMB)	Total pensions share GDP (percent)
1980	8.2	12.8	5.0	1.1
1990	23.0	6.1	39.6	2.1
2000	38.8	3.5	273.3	2.8
2003	45.2	2.7	414.9	3.1
2004	46.7		451.1	2.8

Types of Pension

	pay as you go	funded
on benefit basis	Social security	Company defined benefits plan
on contribution basis	Nominal individual account	Individual account

Economics of Pension Reform

- The US model
  - Social security (social pool, unfunded, compulsory)
  - Company sponsored defined benefit plan
  - Company sponsored defined contribution plan (401(k), 403(b)) and IRA – individual accounts
- The Social welfare model (Europe and Canada)
  - Social pool
- The Singapore model
  - "Providence fund" (compulsory, funded), used for retirement, health care, housing purchase, unemployment
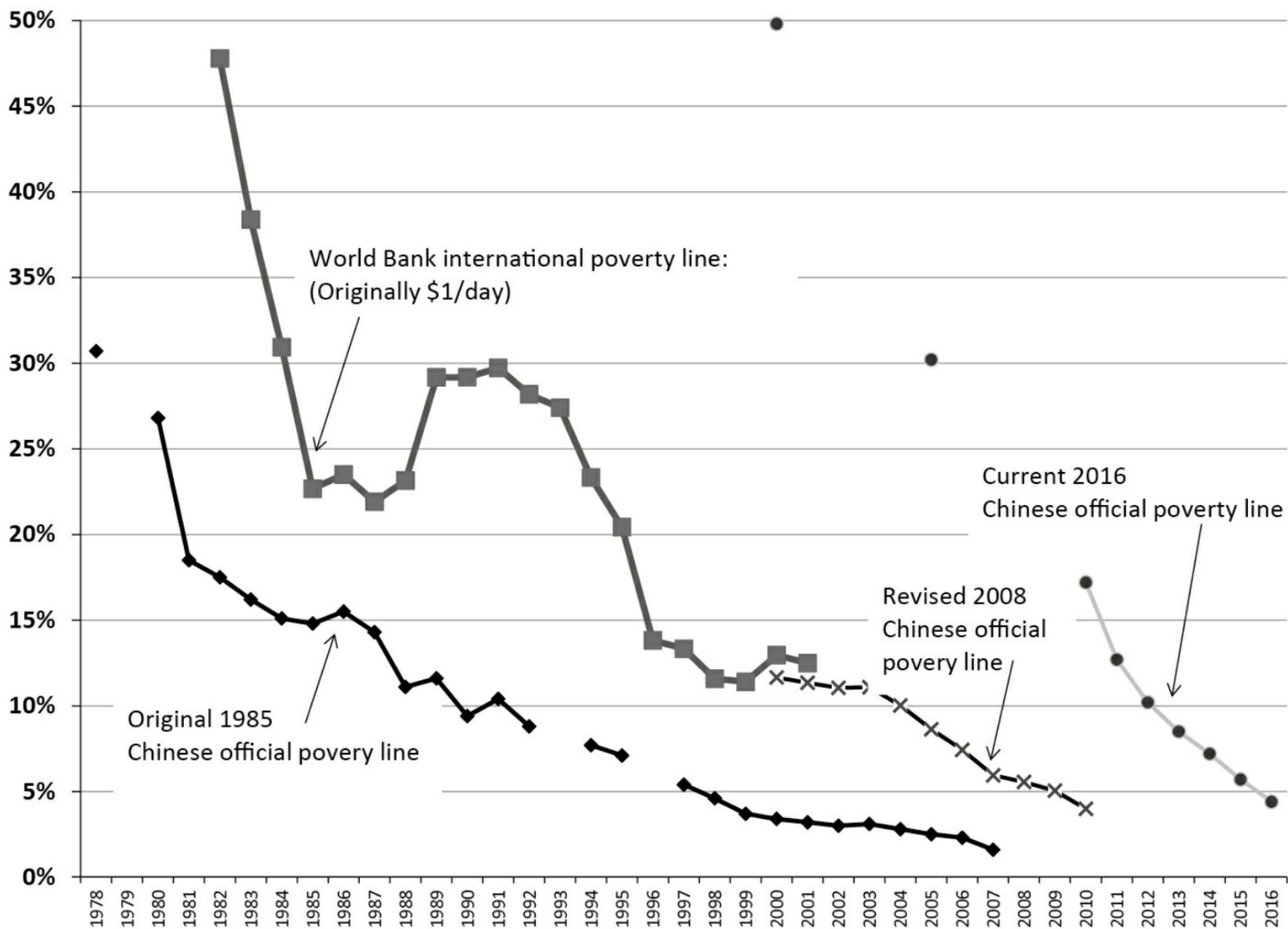 - Inheritable

What is the Model for China?

- A combination of
  - Unfunded social pool
  - Funded personal account
- Current debates
  - Proportion of each
  - Who is managing social pool
  - Who is managing personal account
- China's special problems
  - Transitional problem (from old to new system)
  - Aging problem
  - Capital market development
- Huge business opportunities
  - Money and assets managers

Income growth in China

- High income growth, first in rural areas but afterwards in urban areas.

Poverty alleviation

- Rural poverty has strongly declined in rural areas ($1 a day World Bank measure).

- Poverty is mostly a rural issue in China, urban poverty is low.

- It first declined thanks to the reforms. Later, poverty reduction was much slower and irregular. It accelerated since 2012, targeting poorest areas.

World Bank international poverty line: (Originally $1/day)

Current 2016 Chinese official poverty line

Revised 2008 Chinese official povery line
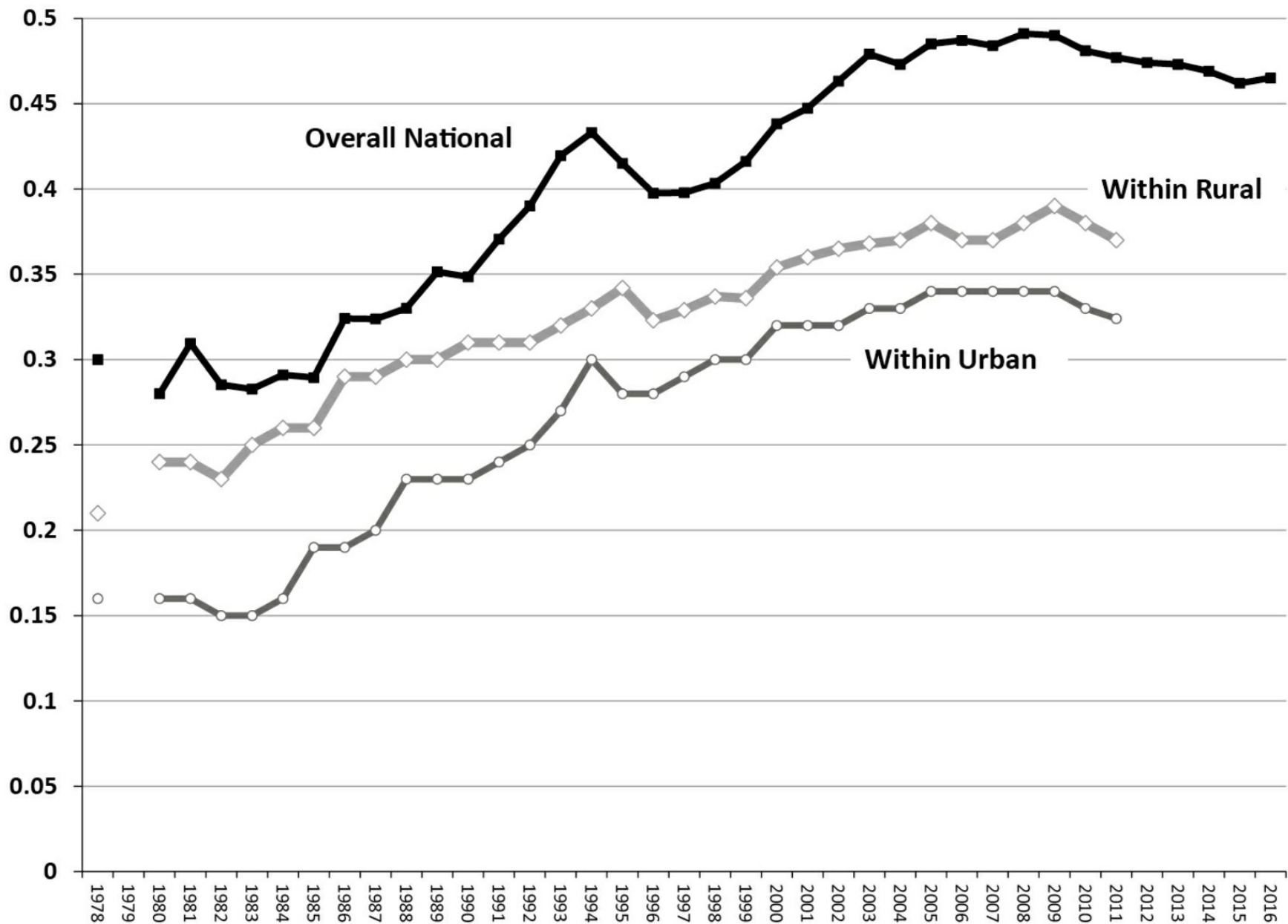
Original 1985 Chinese official povery line
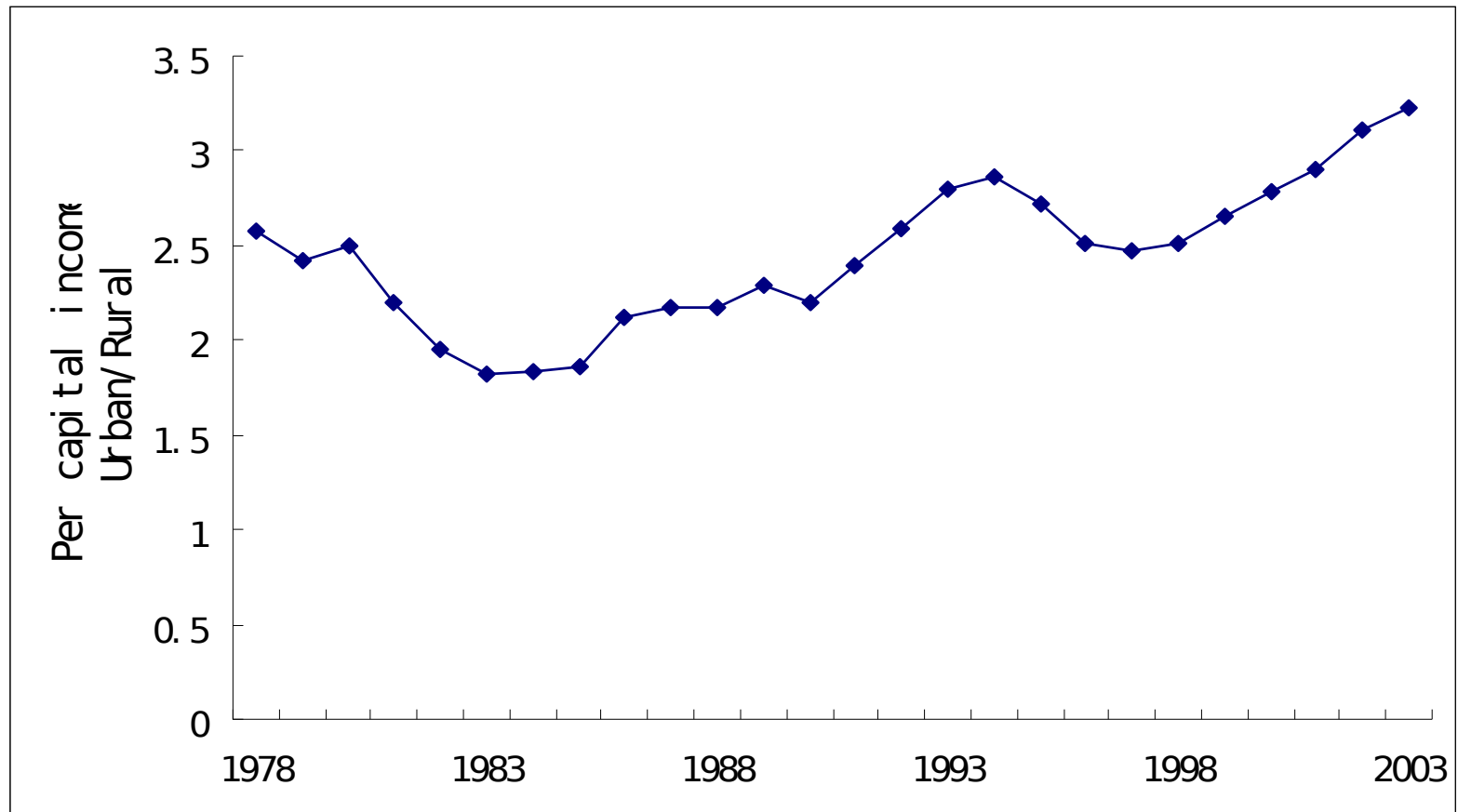
Income Inequality in China

- Decomposition of income inequality
  - Within rural
  - Within urban
  - Between urban and rural
- China has gone from being an egalitarian to an inegalitarian country, in international perspective.
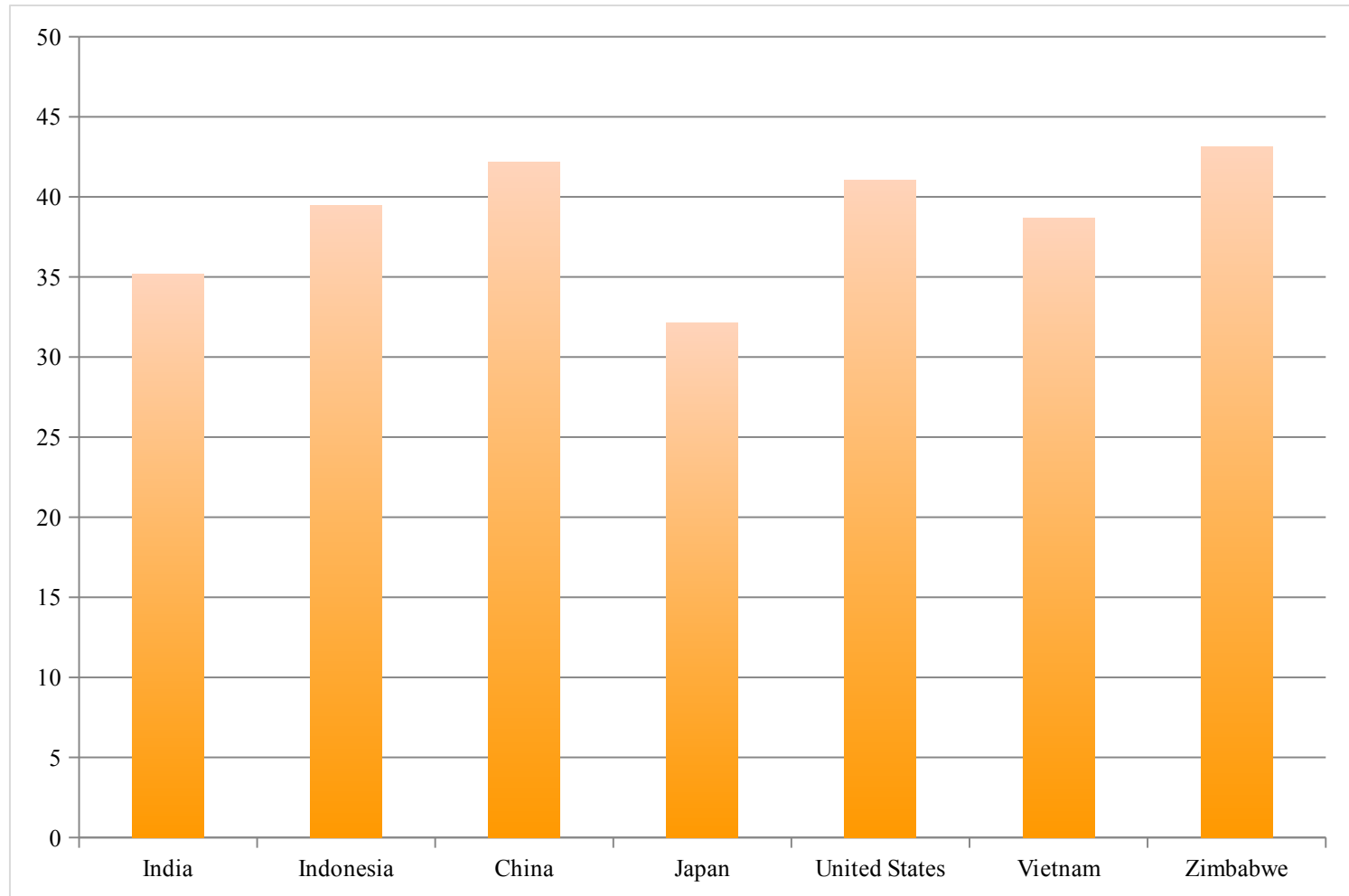
The Gini Coefficient

Gini Coefficient = A/(A+B)

100%

A

50%

B

25%

10%

0   25%   50%   75%   100%
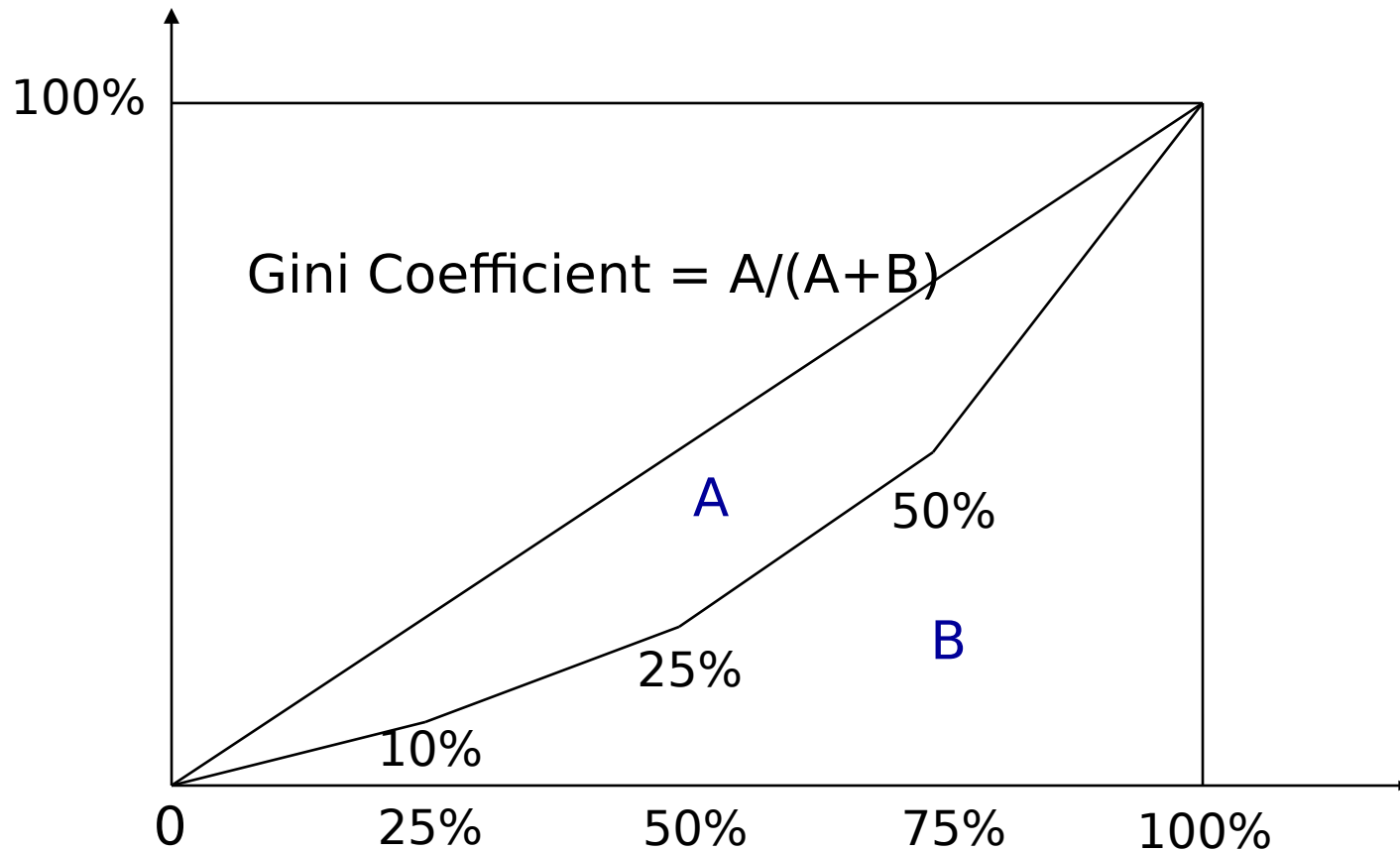
Urban-Rural Per Capita Income Ratio

Some Gini coefficients

Factors Affecting Income Inequality

- Within rural
  - Non-agricultural job opportunities
  - Labor mobility
  - Land distribution
- Within urban
  - The private sector development
  - Layoffs in the state sector
  - Monopoly in some sectors
- Between rural and urban
  - Rural and urban labor market segmentation
  - Government agriculture product price policies
  - Welfare policy discrimination

Human Development index

- Based on geometric mean of :
    - Gross national income
    - Life expectancy at birth
    - Mean years of schooling and expected years of schooling

Table 9.2
Comparison of Human Development Index, 2003

Chinese provinces		Nations	
High human development			
		Norway	0.96
Shanghai	0.91	Hong Kong	0.92
Beijing	0.88	Korea	0.90
Tianjin	0.86	Argentina	0.86
Guangdong, Liaoning, Zhejiang, Jiangsu	0.81–0.82	Mexico	0.81
Medium human development			
Heilongjiang, Fujian	0.79	Brazil, Malaysia, Colombia	0.79
Shandong, Hebei, Jilin	0.77–0.78	Thailand	0.78
Hainan, Xinjiang, Hubei, Shanxi, Hunan, Chongqing	0.75–0.76	Philippines	0.76
		China 2003	**0.75**
		Turkey	0.75
Henan, Inner Mongolia	0.74		
		China 1999	**0.72**
Jiangxi, Guangxi, Shaanxi, Sichuan, Anhui	0.73		
Ningxia	0.71		
		Indonesia, Vietnam	0.70
Qinghai, Gansu	0.68		
		Guatemala, Honduras	0.67
Yunnan	0.66	Egypt	0.66
Guizhou	0.64		
		China 1990	**0.63**
		India	0.60
Tibet	0.59		
		Myanmar	0.58
		China 1980	**0.56**
		Pakistan	0.53
Low human development			