

Week 5 Lecture: Marriage
ECON 125: The Science of Population

Overview

After mortality, fertility is the other natural driver of population growth

Fertility is especially interesting for economists and other social scientists to study because it more directly reflects behavior and choice

As usual, our focus today will be on documenting facts and discussing broad explanations for those facts, without emphasizing any one theory

We will discuss...

- Global fertility decline and Africa as an outlier
- Theories of fertility decline from a range of fields

Delayed Marriage and Very Low Fertility in Pacific Asia

GAVIN W. JONES

TABLE 1 Trends in total fertility rates, 1995–2005, and projected population growth, 2005–30, selected Pacific Asian countries

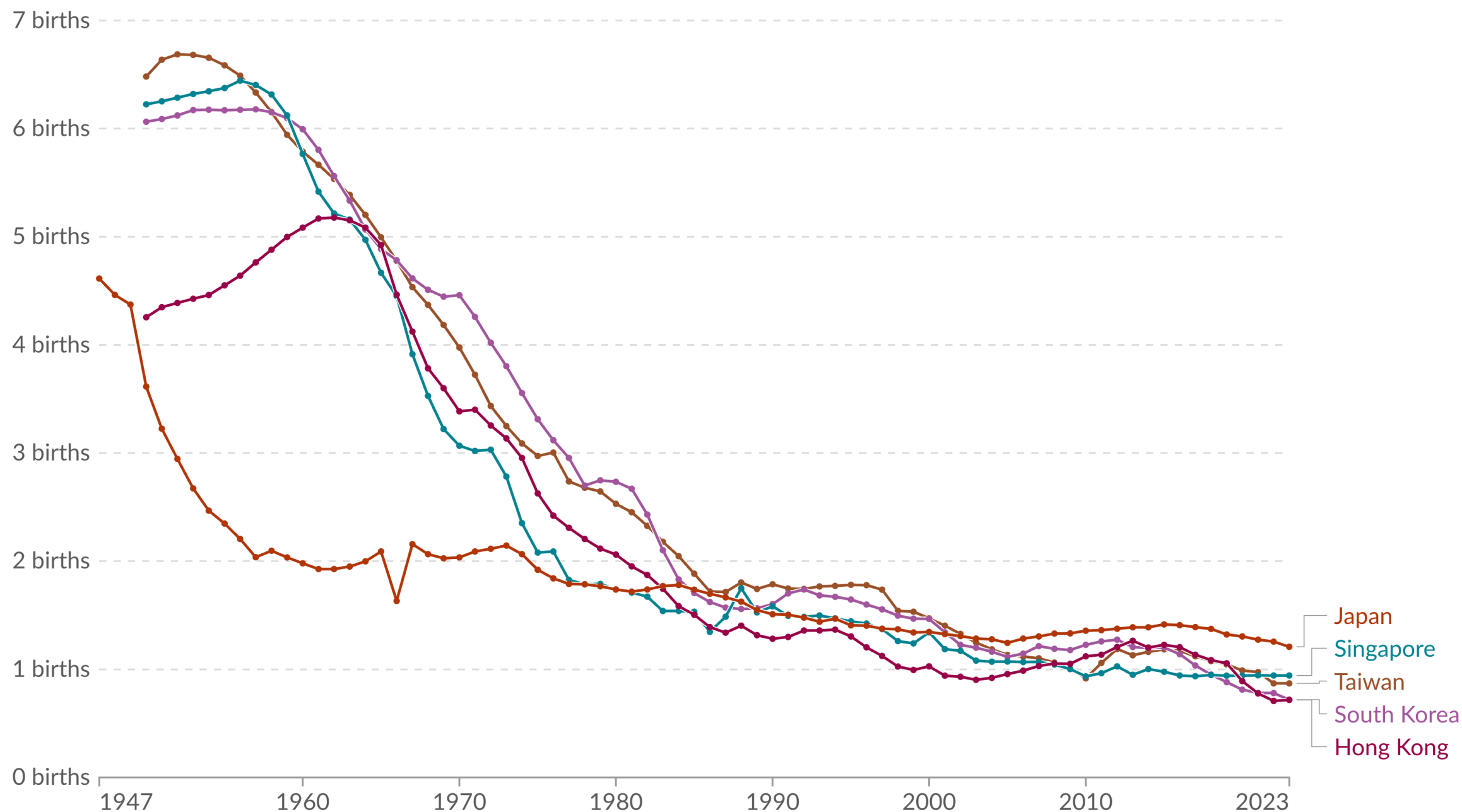
	Japan	South Korea	Taiwan	Singapore	Hong Kong
Total fertility rate					
1995	1.42	1.64	1.78	1.67	n.a.
1996	1.43	1.70	1.76	1.66	1.19
1997	1.39	1.54	1.77	1.61	1.12
1998	1.38	1.47	1.47	1.47	1.02
1999	1.34	1.42	1.56	1.47	.98
2000	1.36	1.47	1.68	1.60	1.04
2001	1.33	1.30	1.40	1.41	.93
2002	1.32	1.17	1.34	1.37	.94
2003	1.29	1.17	1.24	1.26	.90
2004	1.29	1.16	1.18	1.25	.93
2005	1.25	1.08	1.12	1.25	.97
Projected % growth, UN medium projection, 2005–30 ^a					
Population	–4.3	2.8	n.a.	20.2	20.9
15–64 age group	–17.0	–8.7	n.a.	–0.3	4.5
15–24 age group	–20.0	–36.9	n.a.	–25.2	–17.8
Projected % growth, UN low projection, 2005–30 ^a					
Population	–9.9	–4.3	n.a.	12.7	13.0
15–64 age group	–19.8	–12.2	n.a.	–3.3	0.9
15–24 age group	–37.7	–53.1	n.a.	–42.3	–38.2

^aUnited Nations Population Division 2006.

SOURCES: Japan: Ministry of Health and Welfare, *Vital Statistics*, various years; Korea: Jun 2004: Table 3.6; Taiwan Province of China: Tsay 2003. Figures for 2003–05 from Department of Household Registration Affairs, Ministry of Interior; Singapore: Singapore Department of Statistics 2006; Hong Kong: Census and Statistics Department, Government of the Hong Kong special administrative region (using resident population approach).

Total fertility rate: births per woman

The total fertility rate¹ summarizes the total number of births a woman would have, if she experienced the birth rates seen in women of each age group in one particular year across her childbearing years.



Data source: UN WPP (2024); HFD (2024)

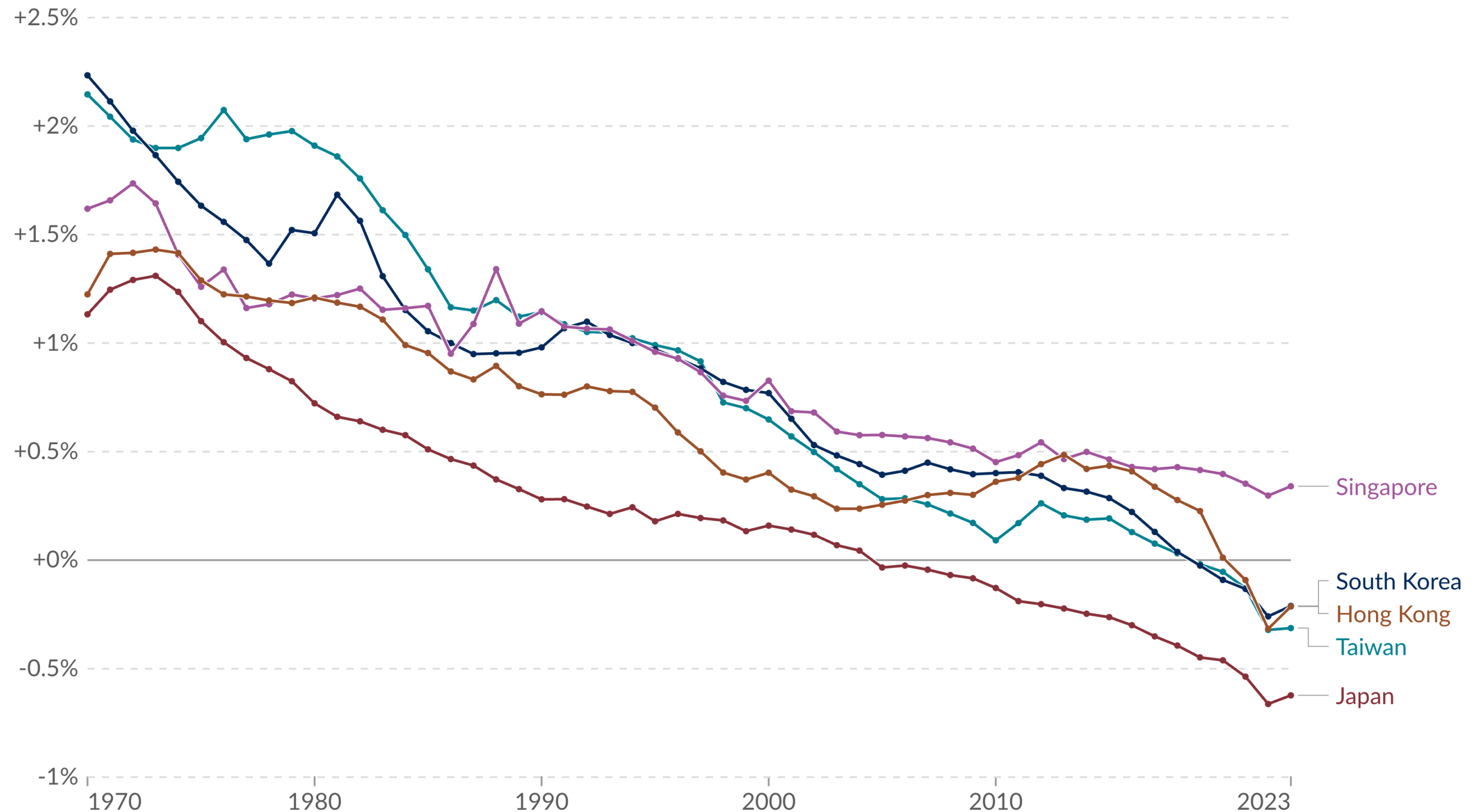
OurWorldinData.org/fertility-rate | CC BY

1. Fertility rate: The total fertility rate is a period metric; it summarizes data from one particular year. For a given year, the total fertility rate represents the total number of children born to a hypothetical woman on average, if she (1) lived to the end of her childbearing years, and (2) experienced the same age-specific fertility rates throughout her whole reproductive life as the age-specific fertility rates seen in that particular year. It is different from the average number of children born to women that eventually have across their childbearing years, which is the cohort fertility rate.

Read more in our article: Why the total fertility rate doesn't necessarily tell us the number of births women eventually have and on our page on the Fertility Rate.

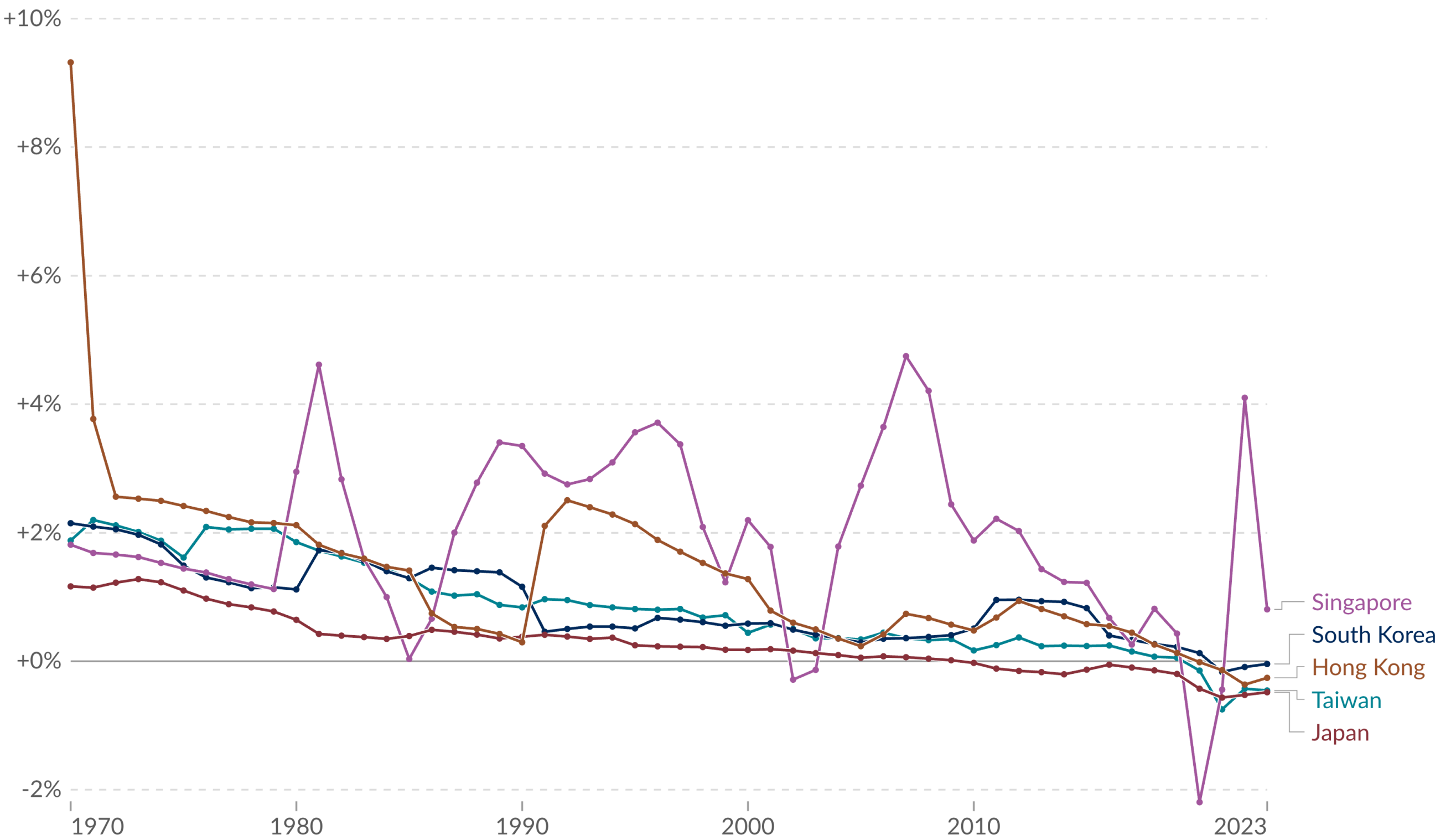
Natural population growth rate, 1970 to 2023

The natural growth rate is the population change determined by births and deaths. Migration flows are not taken into account.



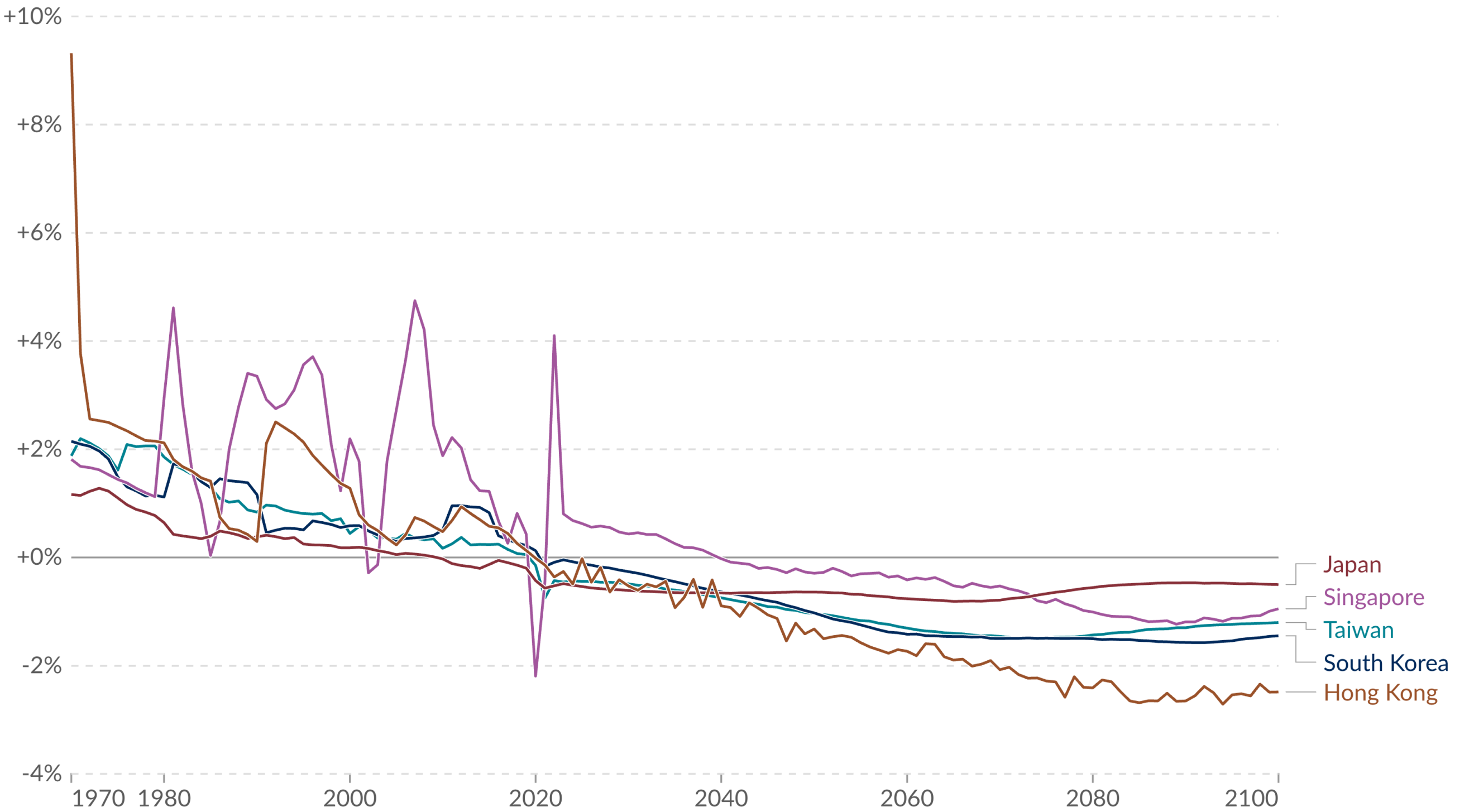
Population growth rate, 1970 to 2023

The growth rate is the population change determined by births, deaths, and migration flows.



Population growth rate, 1970 to 2100

The growth rate is the population change determined by births, deaths, and migration flows. Projections from 2024 onwards are based on the UN's medium scenario.



Low Fertility in Pacific Asia

Widespread fertility decline

- 1950: 5 - 6 children per woman
- 1990-present: < 2 children per woman

Population growth rate already negative in many countries, projected to intensify during the rest of the century

Policy discussions often label low fertility / population decline a “crisis”

Jones argues that low fertility is linked with the decline of marriage

TABLE 2 Proportion of women single at ages 30–34 and 40–44, selected Pacific Asian populations, 1970 and 2000

Population	30–34		40–44	
	1970	2000	1970	2000
Japan	7.2	26.6	5.3	8.6
South Korea	1.4	10.7	0.2	2.6
Hong Kong	5.6	31.2	2.9	12.2
Singapore Chinese	11.1	21.6	3.6	15.0
Singapore Malays	3.9	12.2	1.7	8.2
Malaysian Chinese	9.5	18.2	3.4	8.4
Malaysian Malays	3.3	9.7	1.1	4.4
Thailand	8.1	16.1	3.9	9.3
Philippines	8.9	14.8	6.0	7.1
Indonesia	2.2	6.9	1.2	2.4
Myanmar	9.3	25.9	6.2	14.8

NOTE: Populations ranked in descending order roughly by level of economic development.

SOURCE: Jones 2004: Appendix Table 1.

TABLE 3 Comparison of the percentage of single, never-cohabited (European countries) and the percentage of single, never-married (Pacific Asian countries) men and women combined aged 25–34, 2000

Europe (1)	% single (2)	% single, not currently cohabiting (3)	% single, never cohabited (4)	Pacific Asia (5)	% single (6)	% single in city (7)
Sweden	72	33	13	Japan	49.1	
Denmark	63	31	14	South Korea	37.6	47.7
Finland	57	28	17	Hong Kong	51.6	51.6
Great Britain	43	32	16	Taiwan	42.3 ^a	
Ireland	55	39	32	Singapore	37.7	37.7
France	61	30	15	<i>Singapore Chinese</i>	40.7	40.7
Belgium	41	26	20	<i>Singapore Malays</i>	27.7	27.7
Luxembourg	35	20	11	<i>Singapore Indians</i>	27.1	27.1
Netherlands	53	31	23	Malaysia	30.8	35.8
East Germany	54	32	17	<i>Malaysian Chinese</i>	42.0	44.8
West Germany	50	25	19	<i>Malaysian Malays</i>	24.9	27.8
Austria	48	26	13	<i>Malaysian Indians</i>	31.8	34.7
Spain	56	45	41	Thailand	27.5	44.4
Portugal	39	34	32	China	11	
Italy	66	59	55	Philippines	33.5 ^a	38.4 ^a
Greece	44	34	29	Indonesia	17.9	23.7
				Myanmar	33.1	

Marriage Decline in Pacific Asia

Share of women never married by age 30 or 40 doubled or more in many Asian countries between 1970 and 2000

- In South Korea, 1% of 30 year-olds had never married in 1970, compared with 11% in 2000
- Jones describes China as an exception, although ethnic Chinese populations elsewhere show similar declines - return to this later

Similar marriage declines occurred in Europe, but cohabitation and non-marital fertility more common

- In Sweden, ~ 40% of 30-year-old women lived with an unmarried romantic partner in 2000.
- Closer to a relabeling, less consequence for fertility

Market Reasons for Marriage Decline in Pacific Asia

Marriage occurs in a market, with varying supplies of (and demands for) women and men with different attributes

- Ignoring non-binary populations here - important but not major drivers of the trends described here
- Women seek to “marry up”
- Rising women’s education → shortage of “marketable” men

Compounded by rising demands on women’s time: children, work, and aging parents → makes marriage and childbearing less attractive

TABLE 4 Percent of women single, by age and highest educational qualification attained: Singapore and Myanmar 2000

Singapore	30–34	35–39	40–44
Below secondary	15.6	11.1	9.1
Secondary	18.4	14.5	14.8
Postsecondary	24.4	21.4	20.4
University	32.8	29.1	26.7
All levels	19.5	15.1	13.6
Myanmar	25–34	35–44	
No schooling	20.0	10.9	
Primary	27.6	14.1	
Middle school	33.3	17.2	
High school	44.9	30.9	
University	68.6	41.3	
All levels	33.4	16.8	

SOURCE: Jones 2004: Tables 1 and 2.

TABLE 5 Labor force participation rates by age for females in Japan, Singapore, and South Korea, 1970–2004

	Japan			Singapore			South Korea		
	25–29	30–34	35–39	25–29	30–34	35–39	25–29	30–34	35–39
1970	46	48	46	31	23	19	32	36	43
1975	43	44	43	47	32	29	35	41	49 ^b
1980	49	48	49	59	44	37	34 ^c	46 ^c	56 ^c
1985	54	51	54	67	49	45	36	43	56
1990	61	52	61	76	63	55	43	50	58
1995	66	54	66	79	64	58	48	48	59
2000	70	57	70	83 ^a	71 ^a	63 ^a	56	49	59
2004	74	61	74	84	75	67	64	50	59

^a2001. ^bExcludes widowed and divorced women. ^c1982.
SOURCES: Statistics Bureau, Japan Ministry of Management and Coordination, *Roudo-ryoku Chosa Houkoku* (Labor Force Survey Report), various years. Singapore: Singapore Ministry of Manpower, various years; Singapore Department of Statistics 1983. South Korea: Labour Force Survey data taken from ILO Labour Statistics Database.

Late Marriage and Less Marriage in Japan

ROBERT D. RETHERFORD

NAOHIRO OGAWA

RIKIYA MATSUKURA

Percent never married, men versus women, Japanese prefectures in 1990

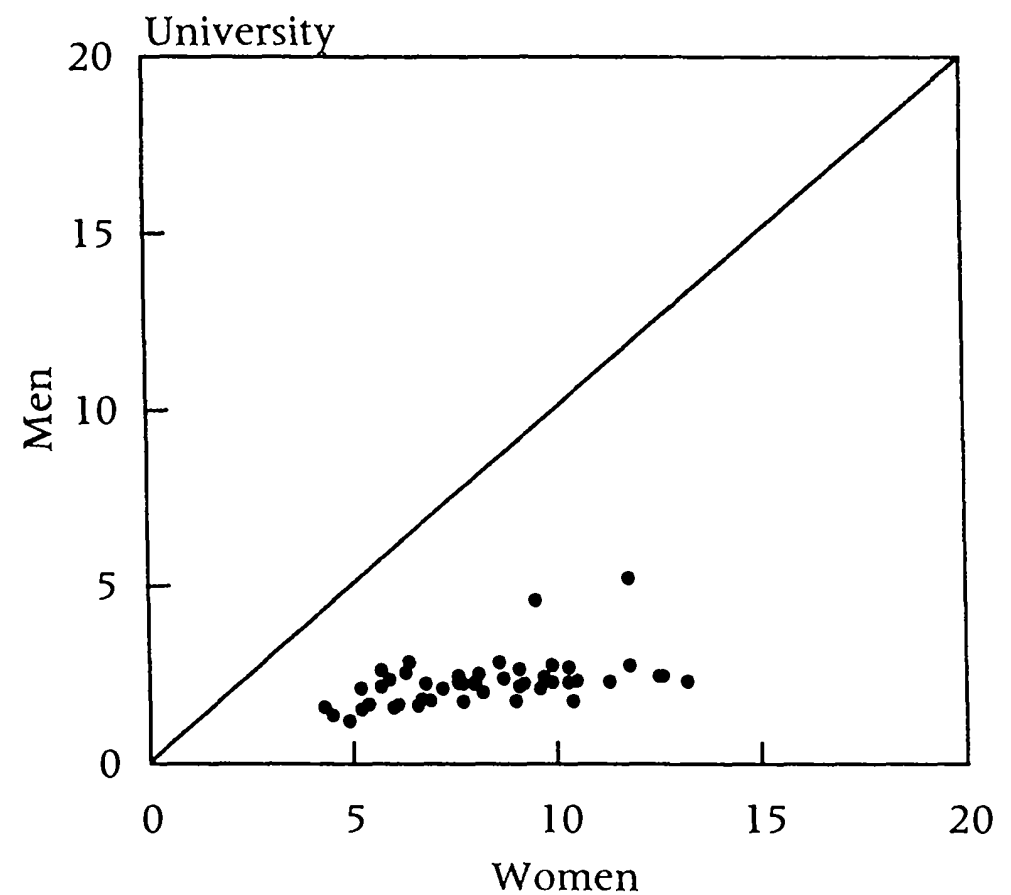
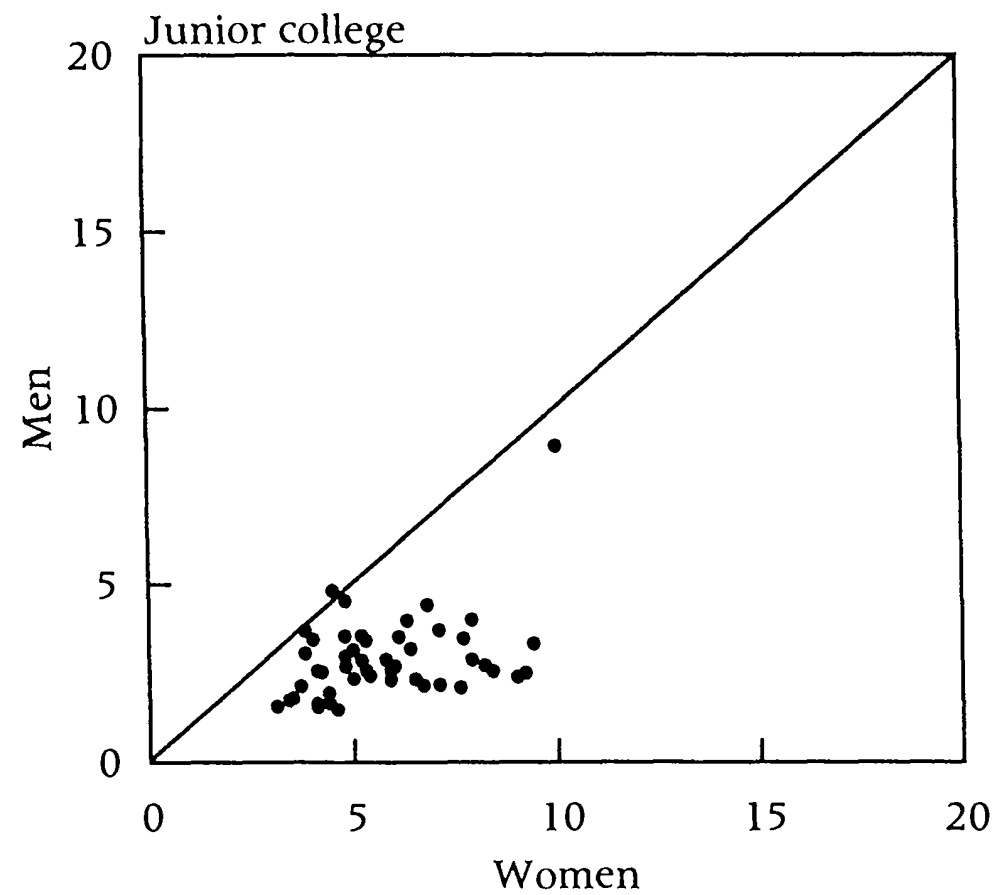
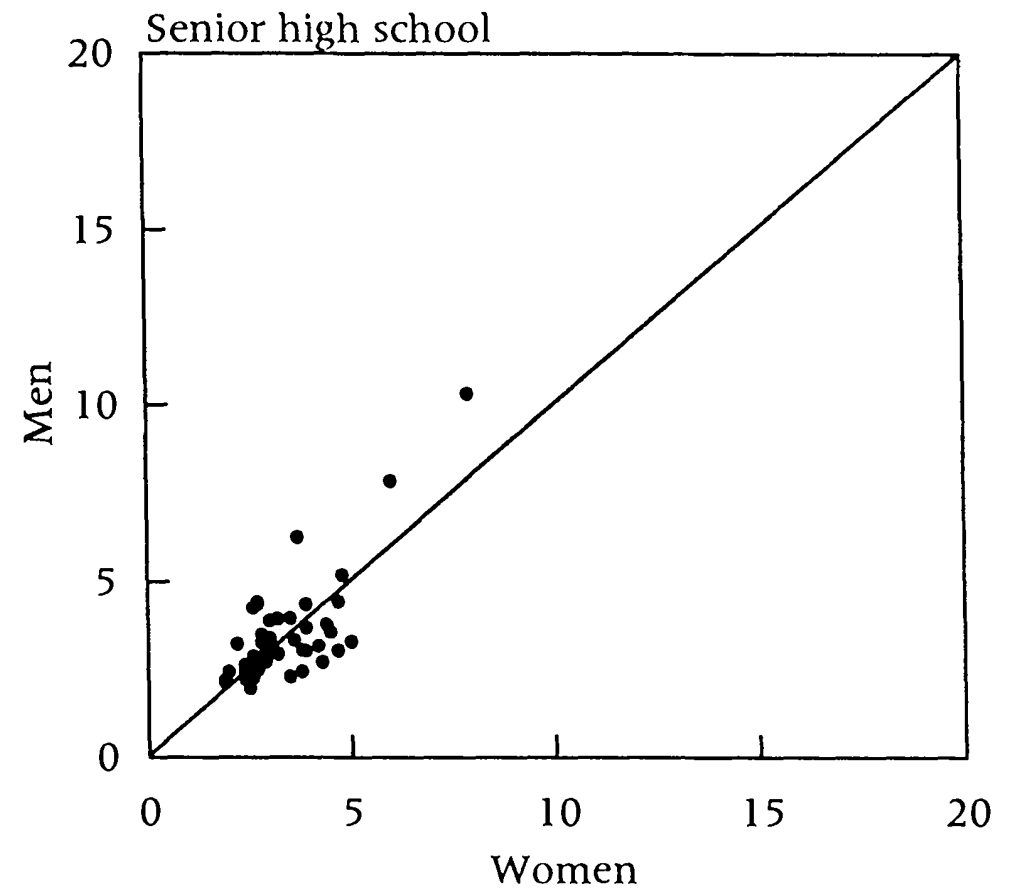
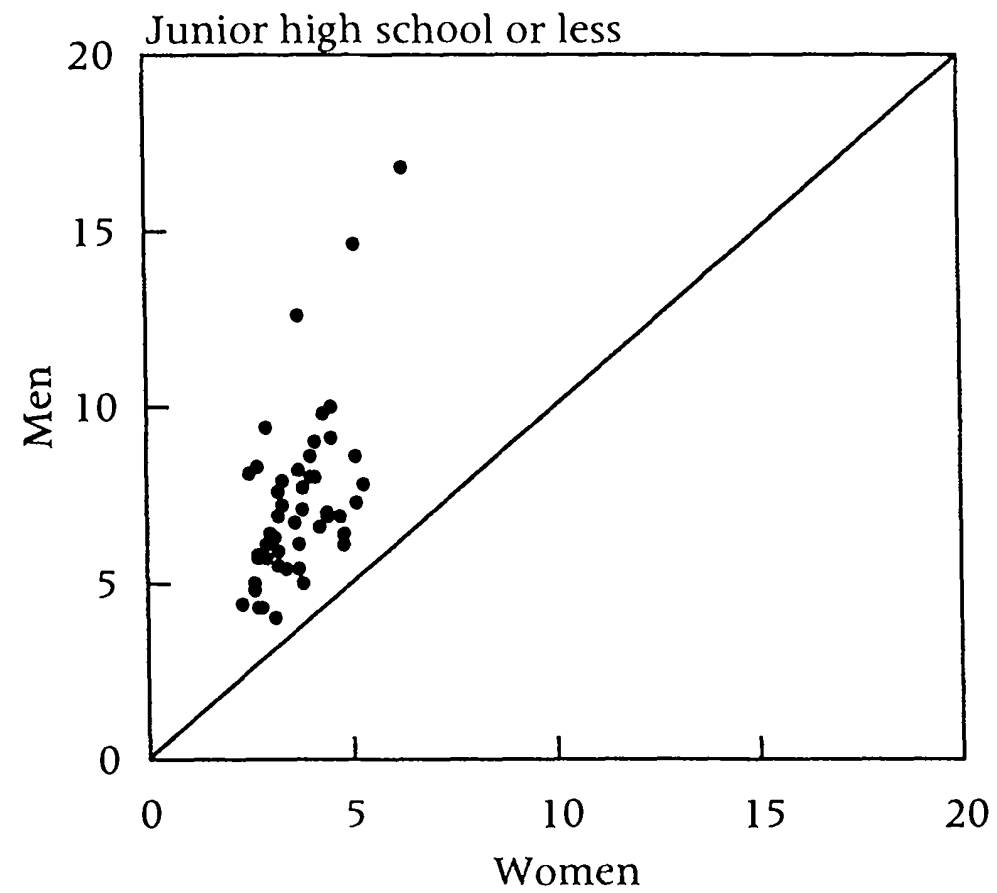
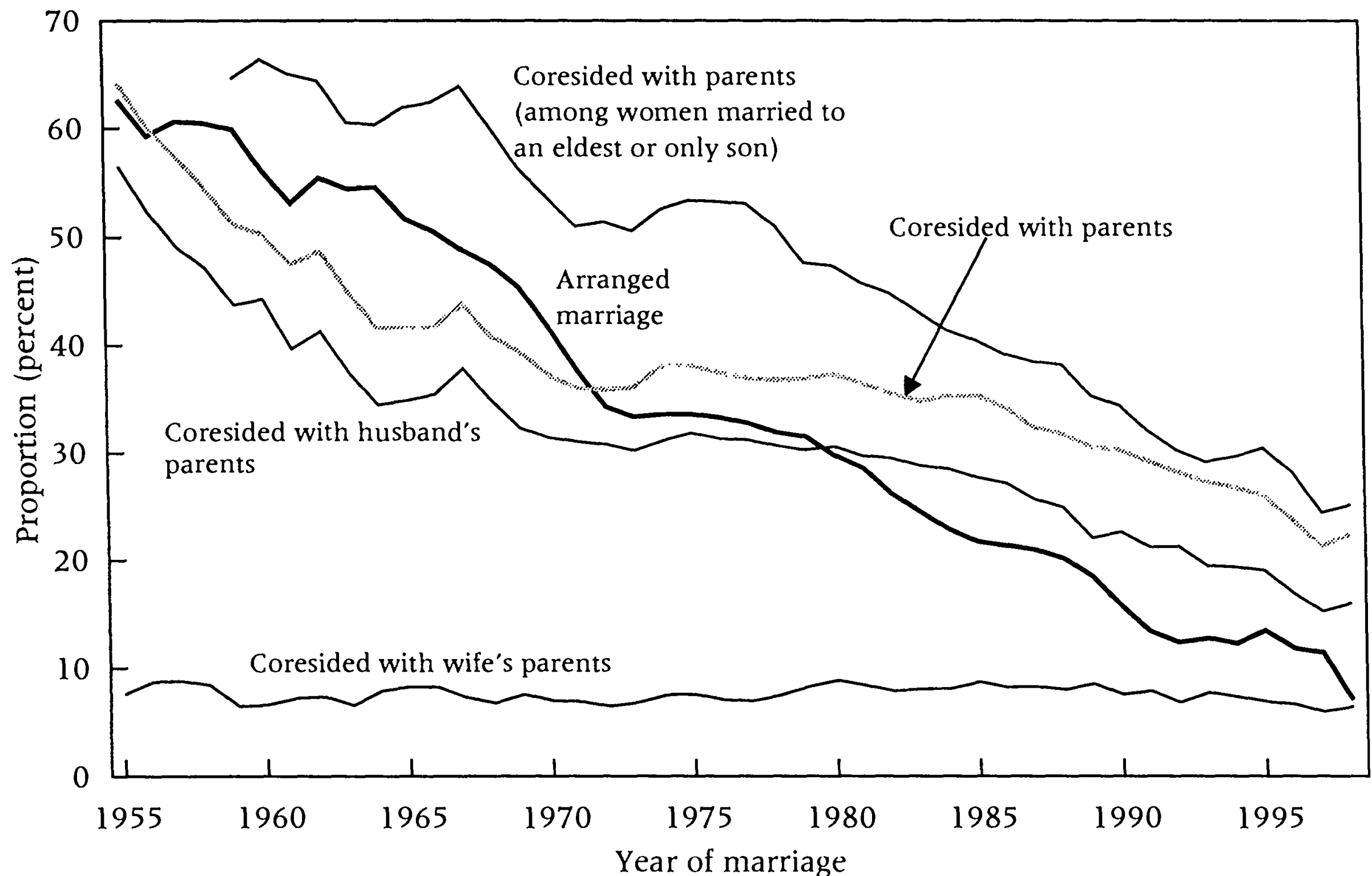


FIGURE 11 Trends in the proportion of marriages that were arranged and the proportion of newly married couples who coresided with parents at the time of marriage: Japan, 1955–98



SOURCE: Three-year moving averages, based on pooled data for currently married women aged 15–49 from nine rounds of the National Survey on Family Planning between 1981 and 2000.

A Second Demographic Transition in Pacific Asia?

Declining marriage and sub-replacement fertility led many commentators to wonder if Asian countries were experiencing a “Second Demographic Transition” like Western countries

Second Demographic Transition

- Declining marriage, rising divorce, declining overall fertility, rising non-marital fertility
- Often linked with rising individualism and desire for self-realization, falling importance of children

Some demographic patterns have changed similarly in Asia and West, but attitudes toward family and individualism have been different

Final two slides: China no longer looking so different...

A decomposition study on the factors influencing China's total fertility rate changes between 1990 and 2020

Chuanfang Chen, Xinyan Xiong & Guo Tang✉

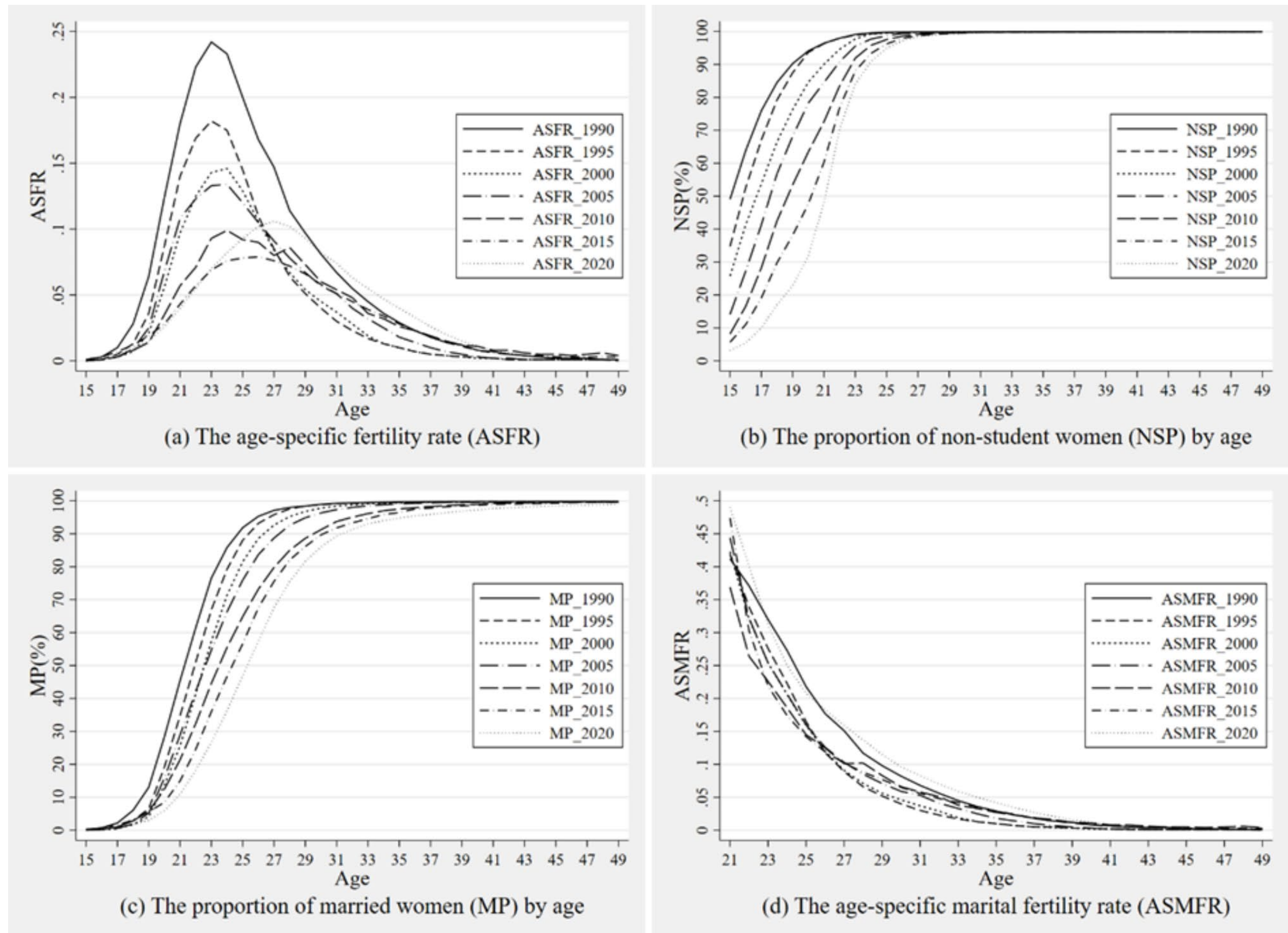


Fig. 1. ASFR, NSP by age, MP by age and ASMFR from 1990 to 2020.