

Global Demographic Outlook to 2025: Risks and Opportunities for the World Economy

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Outline of presentation

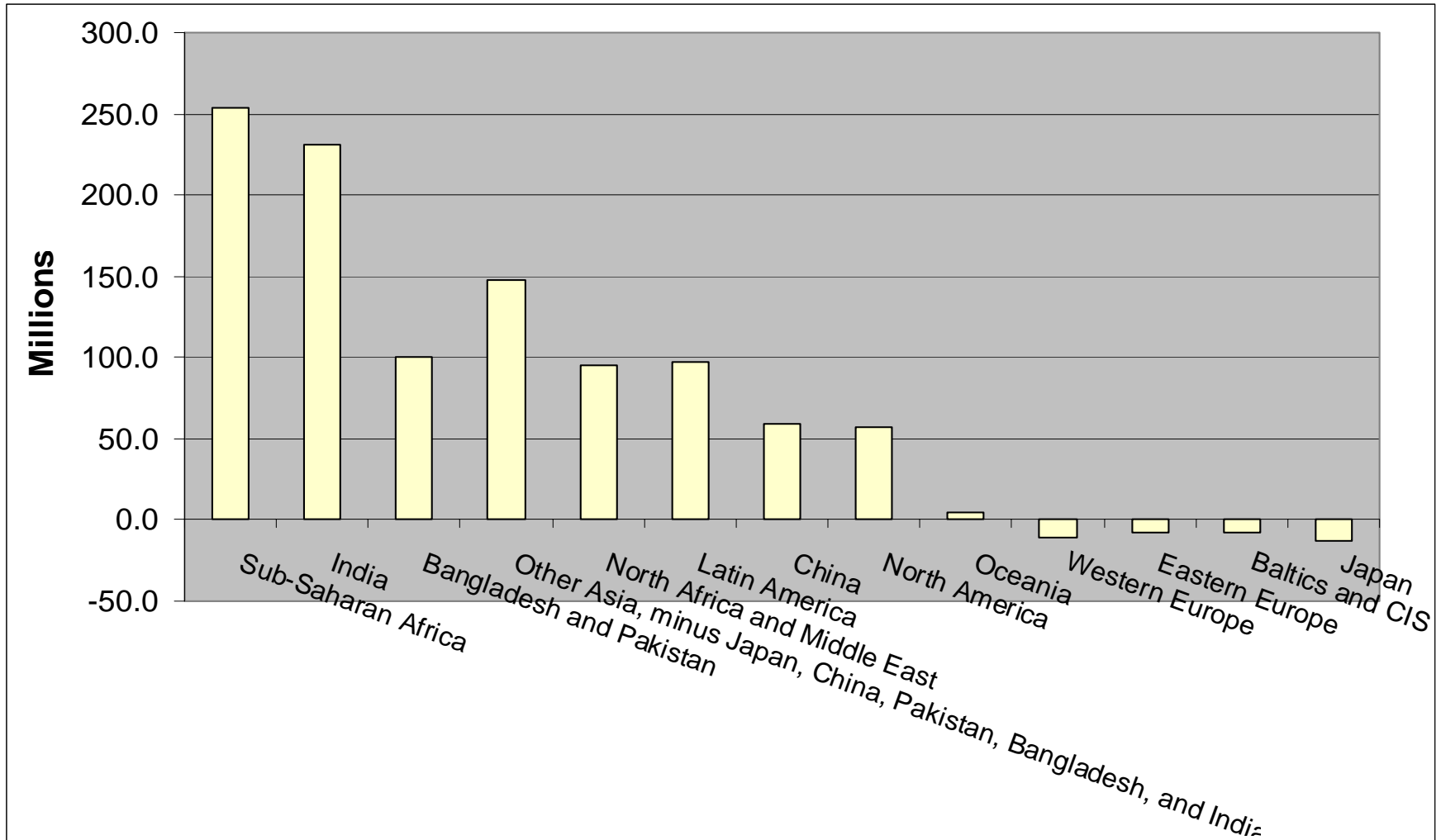
- World Overview

with breakouts for:

- China
- Russia
- India
- OECD Europe/Japan
- USA

Global Working Age (15-64) Population Growth: Absolute Change 2005-2025 (projected)

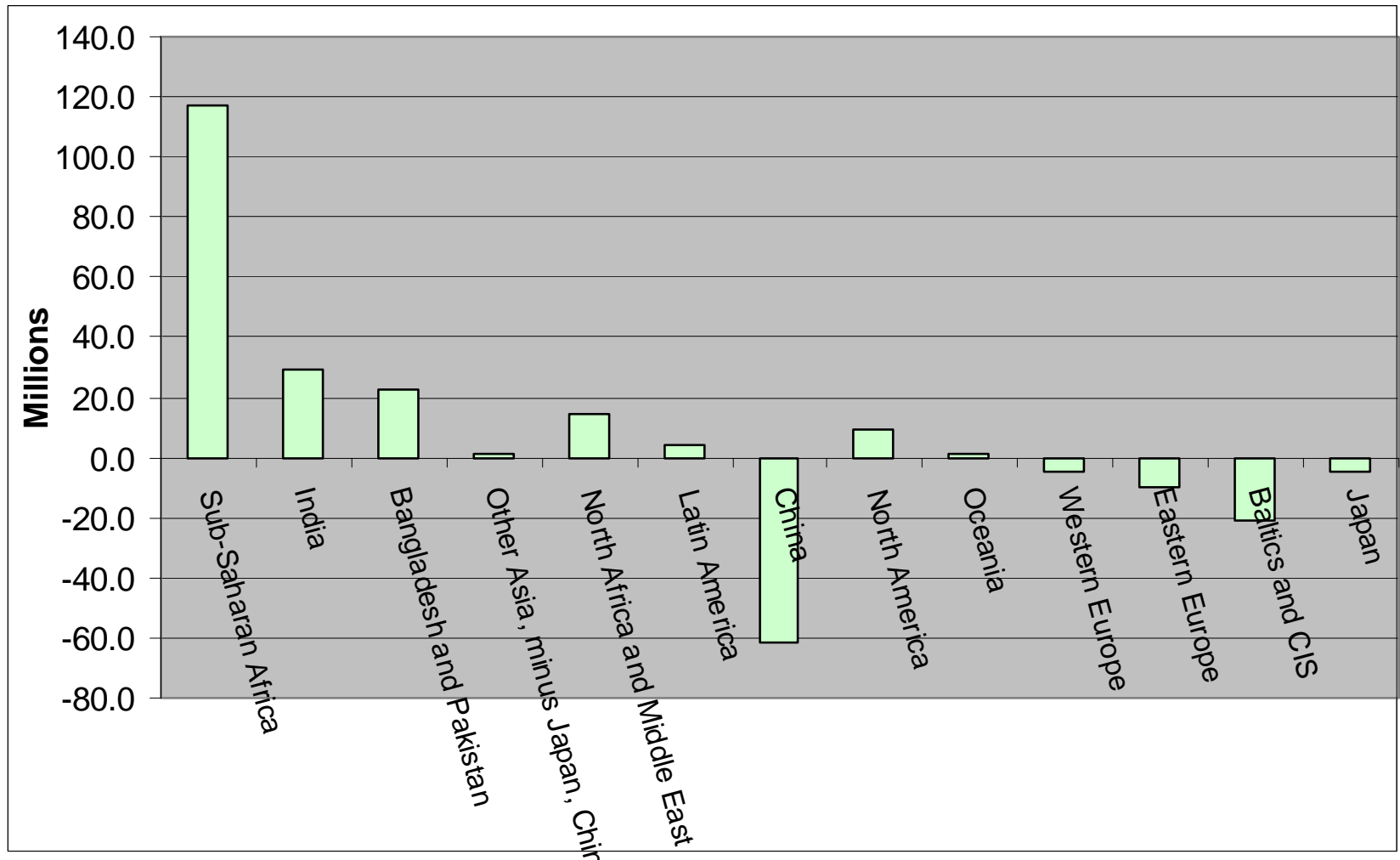
World Total: 969.8 million



Source: US Census Bureau International Database. Available online at <http://www.census.gov/ipc/www/idbnew.html>

Global Growth, Younger Working Ages (15-29) – Absolute Change 2005-2025 (projected)

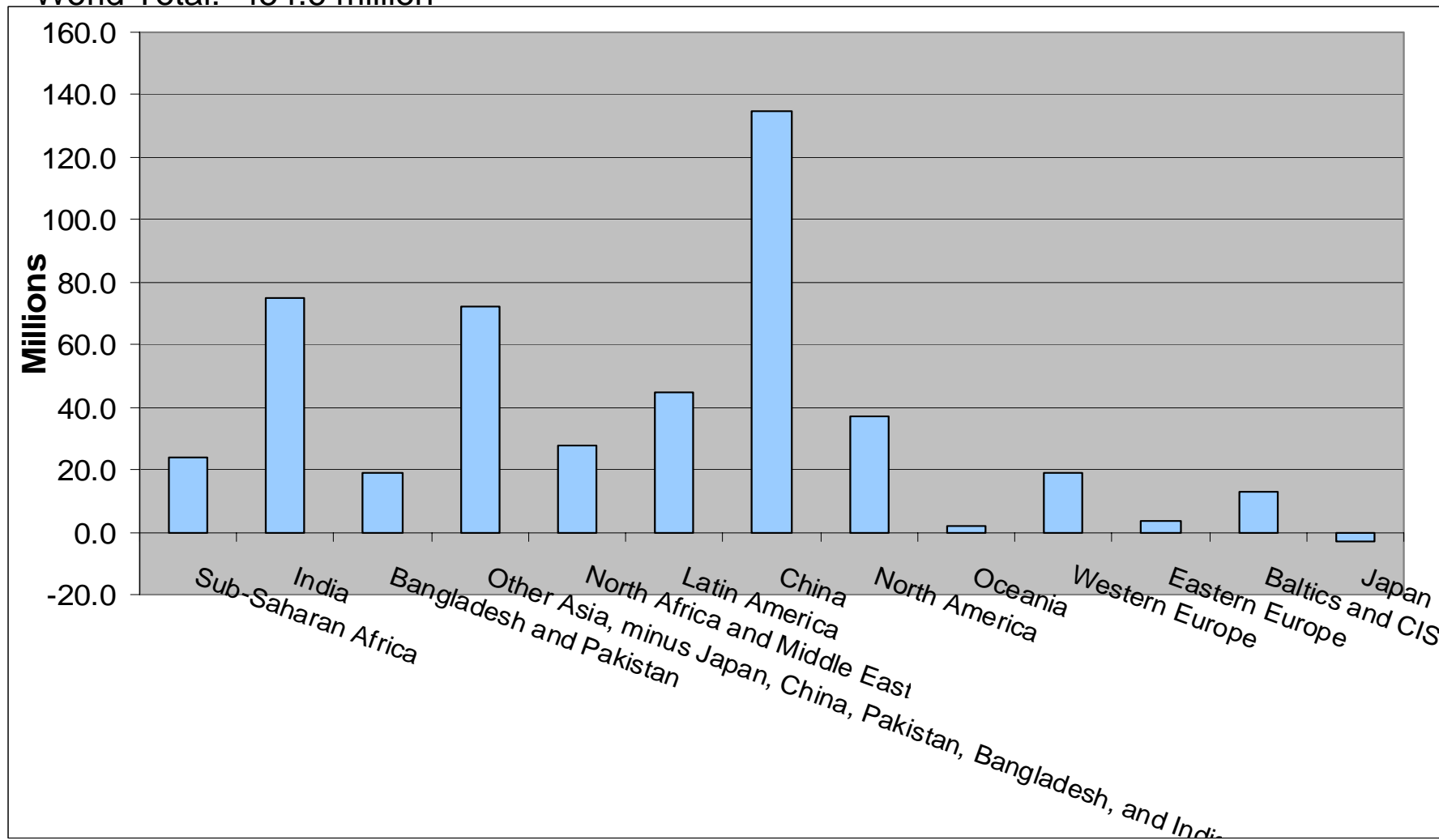
World Total: 89.5 million



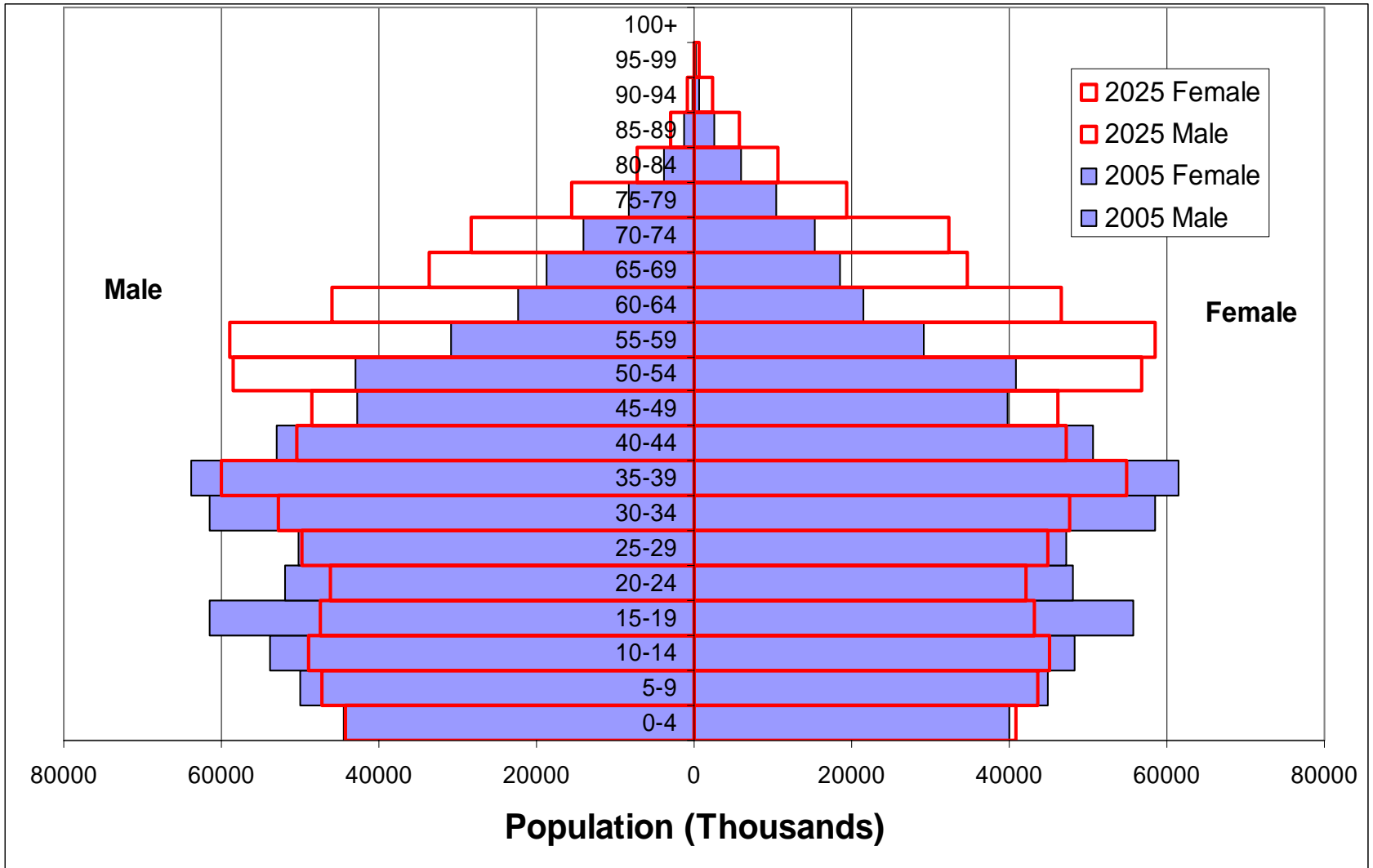
Source: US Census Bureau International Database. Available online at <http://www.census.gov/ipc/www/idbnew.html>

Global Growth, Older Working Age (55-69) Population – Absolute Change 2005-2025 (projected)

World Total: 454.6 million



Estimated and Projected Population Structure of China: 2005 vs. 2025



Source: United Nations Population Division, World Population Prospects 2004 Revision. Available online at <http://esa.un.org/unpp/index.asp?panel=2> accessed 4/3/05 and 2/27/06.

Conditions for China's Older (65+) Workers Today

Compared to China's Overall Labor Force,
Today's Elderly Workers are:

- Six times as likely to be illiterate or semi-literate
- Almost 50% more likely to have only primary schooling
- Only a tenth as likely to have a high school or college diploma
- Much more likely (87% vs. 66%) to be in agricultural sector work
- In sum, much more limited earning opportunities—and much greater dependence upon physical labor

Sources: China Ministry of Labor and Social Security, China Labour Statistical Yearbook 2003, Tables 1-43, 1-51, China National Bureau of Statistics, Tabulation on the 2000 Population Census of the People's Republic of China, Vol. 2, Tables 4-4, 4-4c.

Proportion of Population with Low Educational Attainment: By Age Cohort as of 2000 (60+ Population of 2025)

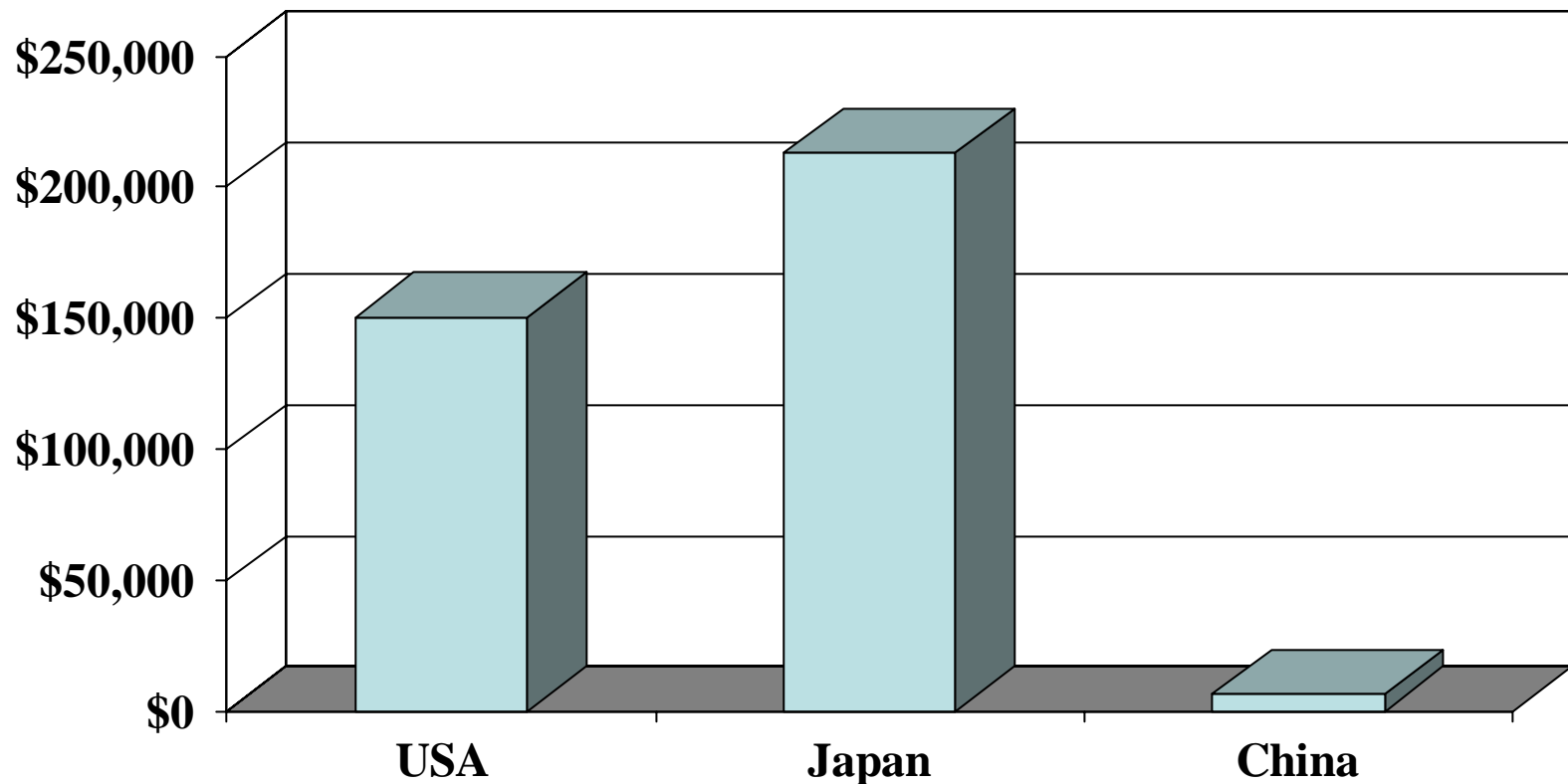
Age (years)	USA	Japan	China
35-39	15.8	5.9	29.1
40-44	14.6	7.9	32.5
45-49	13.6	14.9	49.0
50-54	14.6	21.3	64.9
55-60	18.9	31.3	72.0
64-64	23.9	38.9	82.8
65-69	27.9	44.6	91.3 ¹
70-74	32.7	47.7	--

¹=65+

Note: “Low Educational Attainment” defined as less than high school diploma for Japan and USA; for China, primary school or less.

Sources: Kurt J. Baurman and Nikki L. Graf, “Educational Attainment, 2000” *Census 2000 Brief*, August 2003, p. 5
<http://www.census.gov/prod/2003pubs/c2kbr-24.pdf>; Japan Statistical Yearbook 2004, Table 2-13,
<http://www.stat.go.jp/english/data/nenkan/zuhyou/y0213000>; China Labour Statistics yearbook 2003, Table 1-43.

Indicators of the Mechanization of Work: Estimated Non-Residential Capital Stock Per Member of the Labor Force (1998 Dollars)



Note: Non-Residential Capital Stock Estimates are PPP-adjusted.

Sources: Derived from Charles Wolf, et. Al., Long-Term Economic and Military Trends, 1994-2015 (Santa Monica, CA: RAND 1995); Charles Wolf et. Al. , Asian Security Trends and Their Security Implications (Santa Monica, CA: RAND, 2000); Statistical Abstract of the United States 2002, Table 561; Japan Statistical Yearbook 2004, Table 16-2; China Labour Statistical Yearbook 2003, Table 1-5.

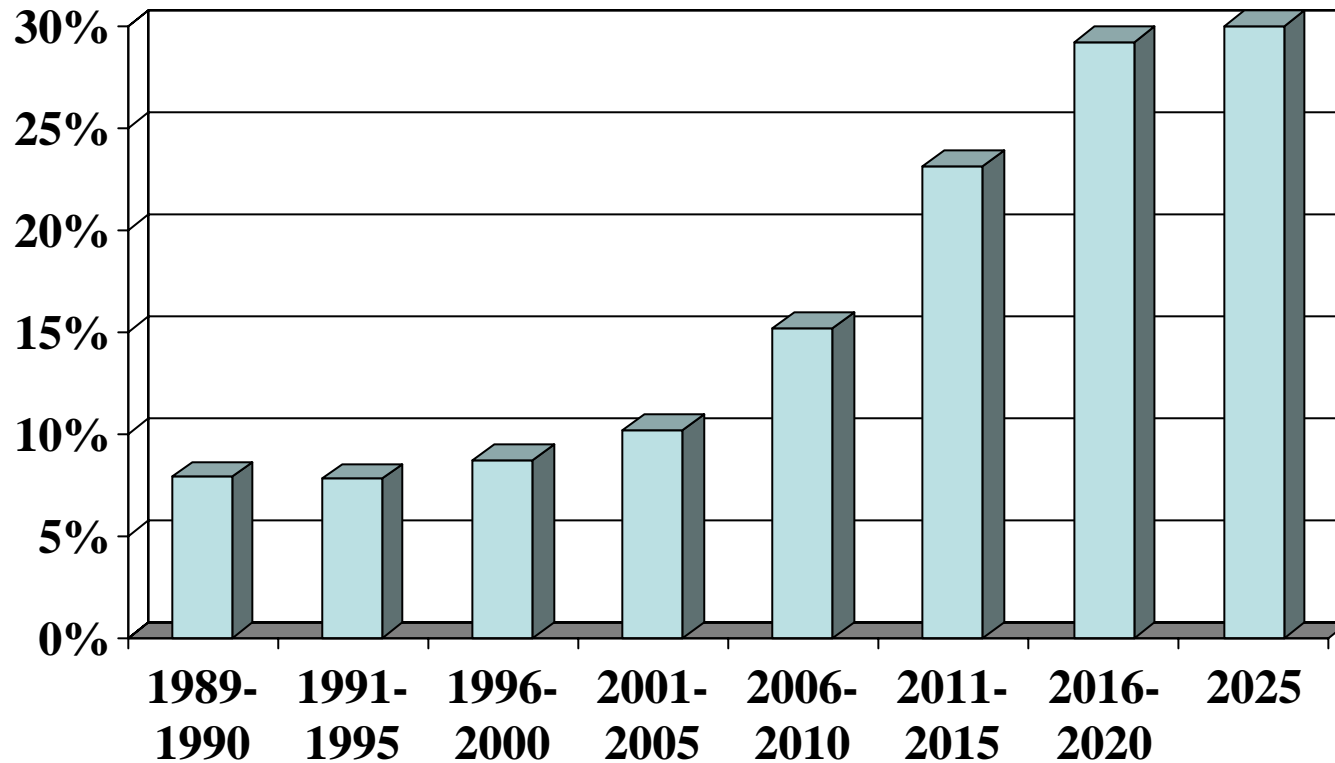
Coverage and Actuarial Balances of Current Public Pension System: USA, Japan, China (percent)

	Coverage	Net Present Value Unfunded /GDP
USA 2004	87 ¹	32
Japan 2001	c. 100 ²	60-70 ³
China 2003	c.16	125-150

Notes: 1. Proportion of fully insured persons 20+ in OASDI, 2003. 2. Mandatory participation of persons 20+ in basic plan. 3. Estimates for burden post-2000 round of reforms.

Sources: China: Loraine A. West and Daniel Goodkind, "Population Aging and Social Safety Nets in China: Factors and Trends Affecting Policy Trade-Offs." U.S. Census Bureau, International Programs Center, April 2003 (unpublished paper); Japan: Hamid Faruqee and Martin Muehleiser, "Population Aging in Japan: Demographic and Fiscal Sustainability," IMF Working Paper WP/01/40, April 2001, <http://www.imf.org/external/pubs/ft/wp/2001/wp0140.pdf> USA: Derived from U.S. Social Security Administration, [Annual Statistical Supplement 2003](http://www.ssa.gov/policy/docs/statcomps/supplement/2003/4c.pdf) (March 2004), Table 4.c5, <http://www.ssa.gov/policy/docs/statcomps/supplement/2003/4c.pdf> 2004 OASDI Trustees Report (March 24, 2004), Table VI.F5 and Chapter II.D, <http://www.ssa.gov/OACT/TR/TR04/>

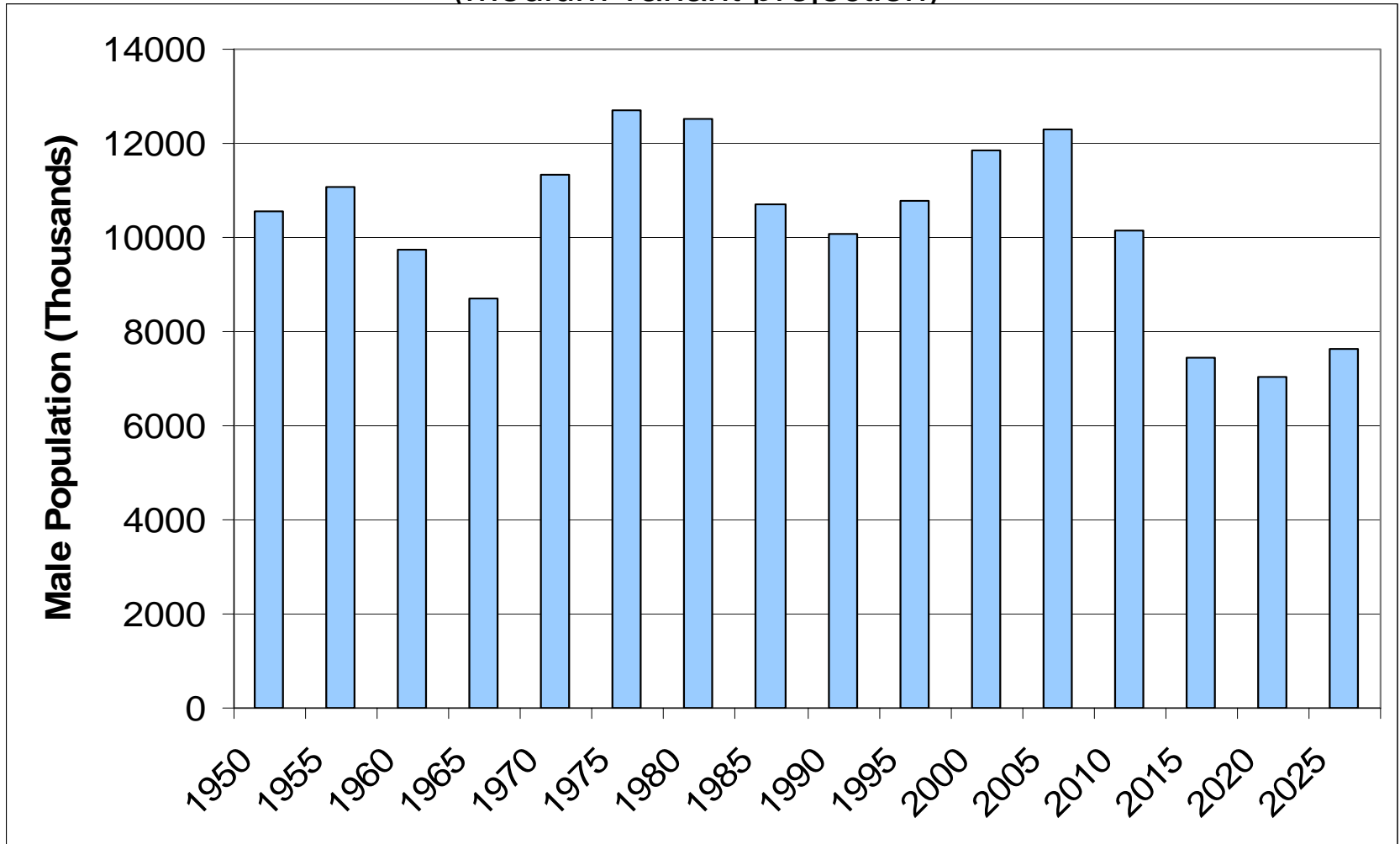
Percentage of Age-60 Chinese Women with No Born Sons by Year of Her 60th Birthday: Illustrative Calculation



Notes: Calculations are illustrative, based upon simplifying assumptions: 1. Reported parity distributions in 1990 census are accurate; 2. SRB as in previous graphic; 3. SRB not parity-specific; 4. Childbearing completed by age 35 for the 2025 cohort of 60-year old women; 5) Posits the following distribution of childbearing for the 2025 cohort of 60-year-old women: no children, 3%; one child, 25%; two children, 65%; three or more children, 7%.

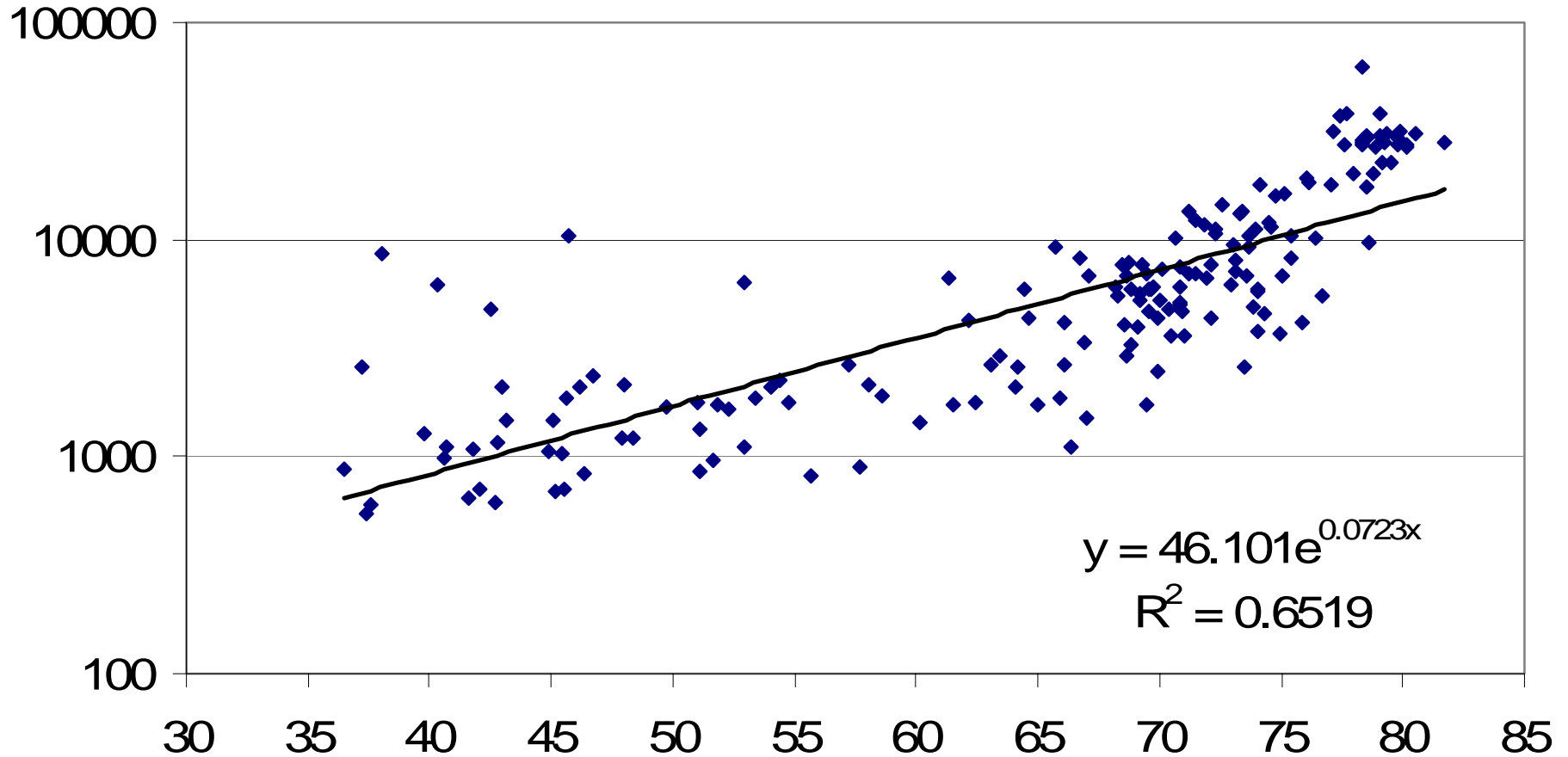
Sources: Derived from Feeney et. al. 1993, op cit; China National Bureau of Statistics 2002, op cit.

Russian Federation: Male Population Age 15-24, 1950-2025 (medium variant projection)

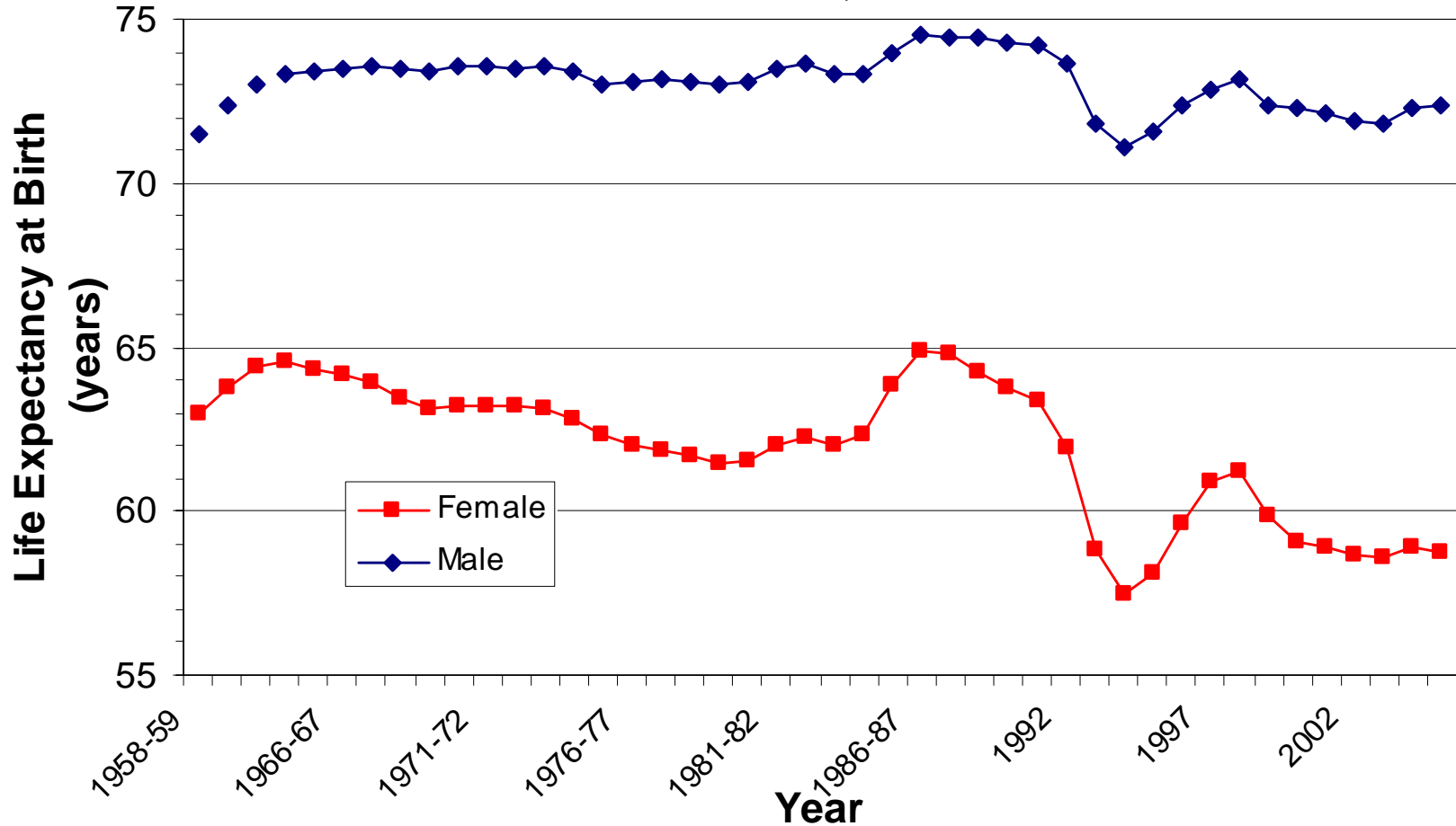


Source: United Nations Population Division, World Population Prospects: The 2004 Revision.

Health Equals Wealth: Worldwide LE vs. PPP Per Capita GDP, 2003

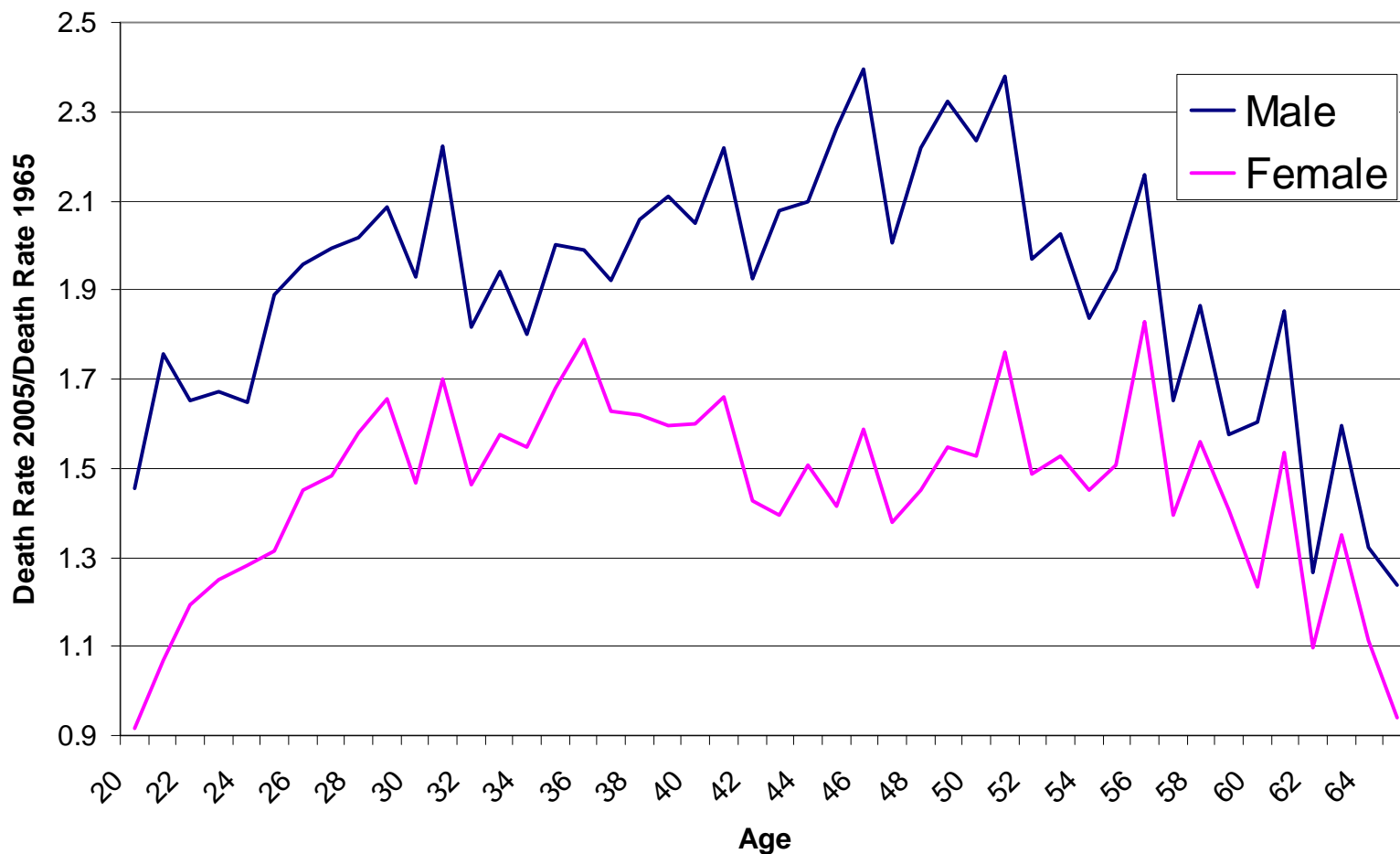


Life Expectancy at Birth: Russian Federation, 1958-59-2005



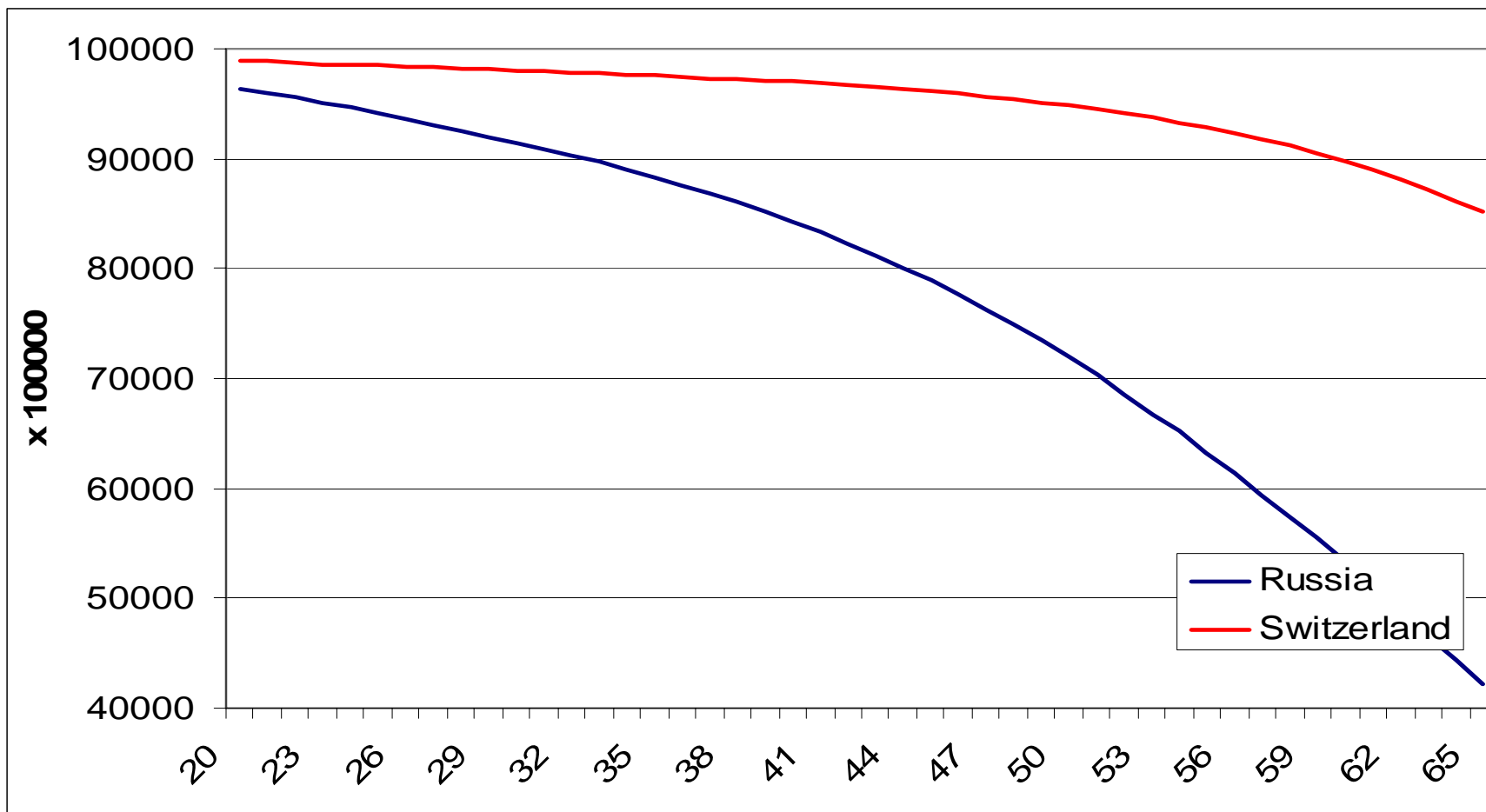
Sources: The Demographic Yearbook of Russia: 2005 Statistical Handbook, State Committee of the Russian Federation on Statistics (Goskomstat of Russia), Moscow, 2005, Table 2.6; Population of Russia: 1897-1997, State Committee of the Russian Federation on Statistics (Goskomstat of Russia), Moscow, 1998, Table 24. Human Mortality Database. University of California, Berkeley and Max Planck Institute for Demographic Research. Available at www.mortality.org, accessed on October 23, 2006.

Death Rate Ratio, Ages 20-65: Russia, 2005 vs. 1965



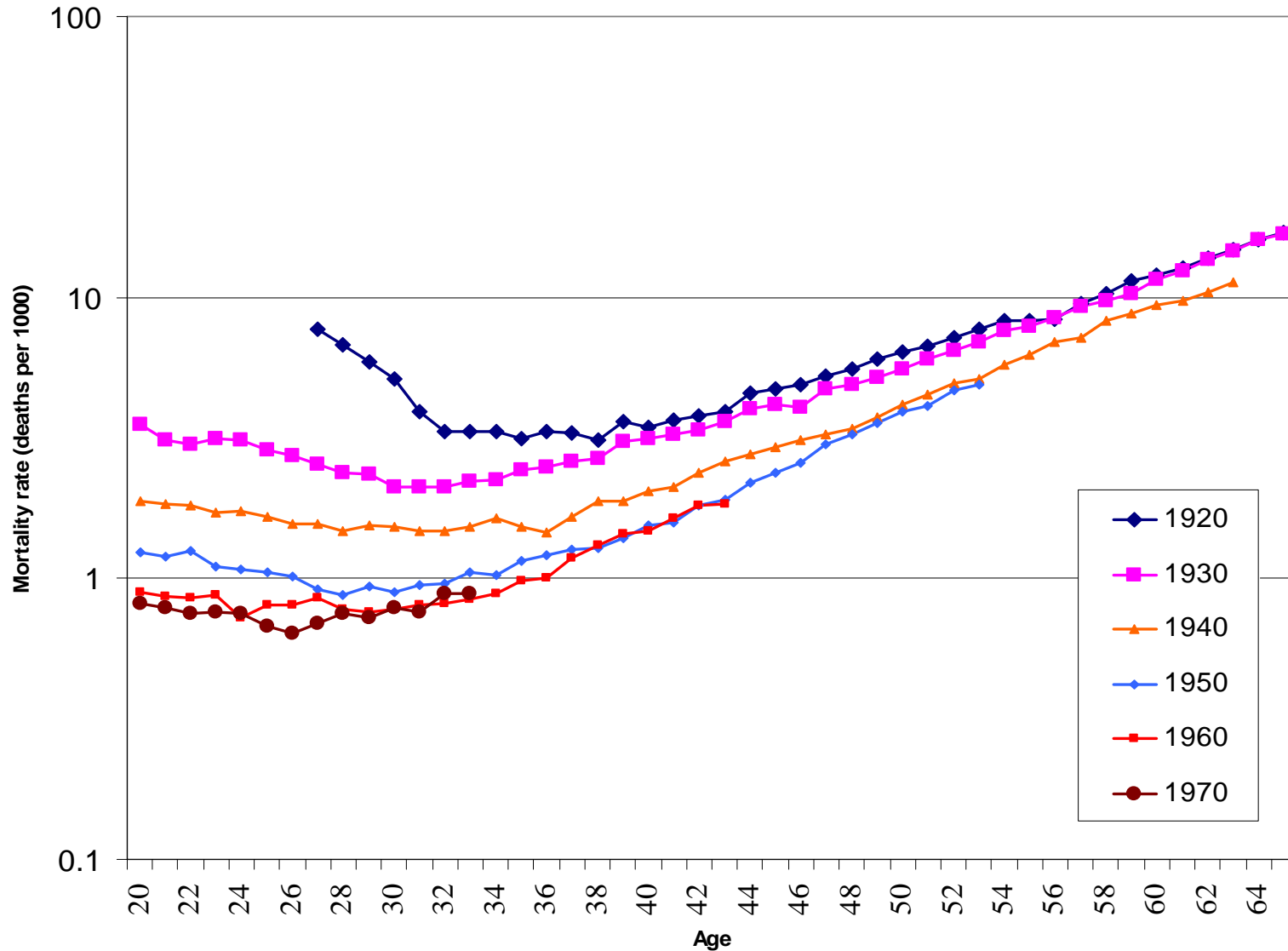
Source: Human Mortality Database. University of California, Berkeley and Max Planck Institute for Demographic Research. Available at www.mortality.org, accessed 10/17/2006.

Male Survival Schedule, Ages 20-65: RF vs. Switzerland, 2001



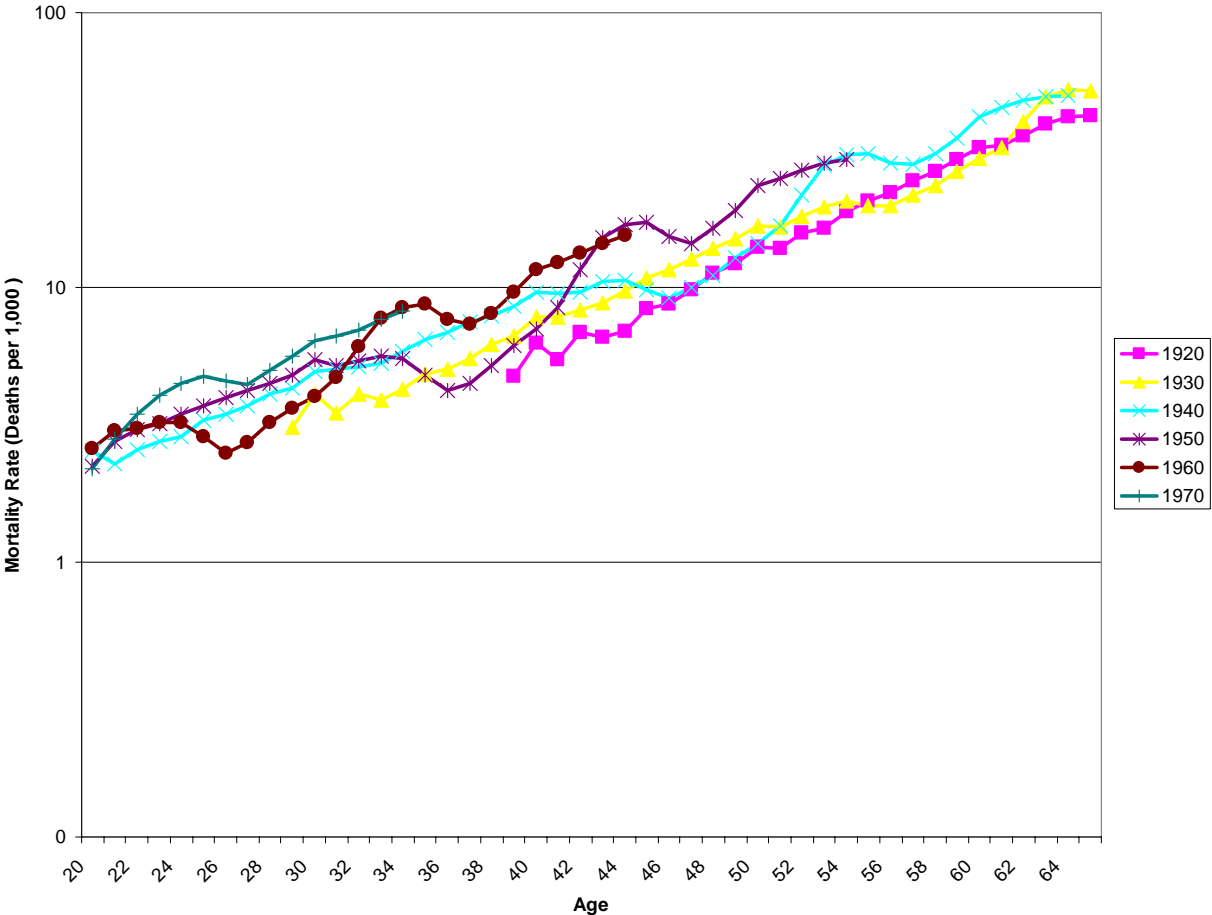
Human Mortality Database. University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany). Available at www.mortality.org or www.humanmortality.de (data downloaded on 2/27/06)

Male Mortality in Japan by Birth Cohort, 1920-1970



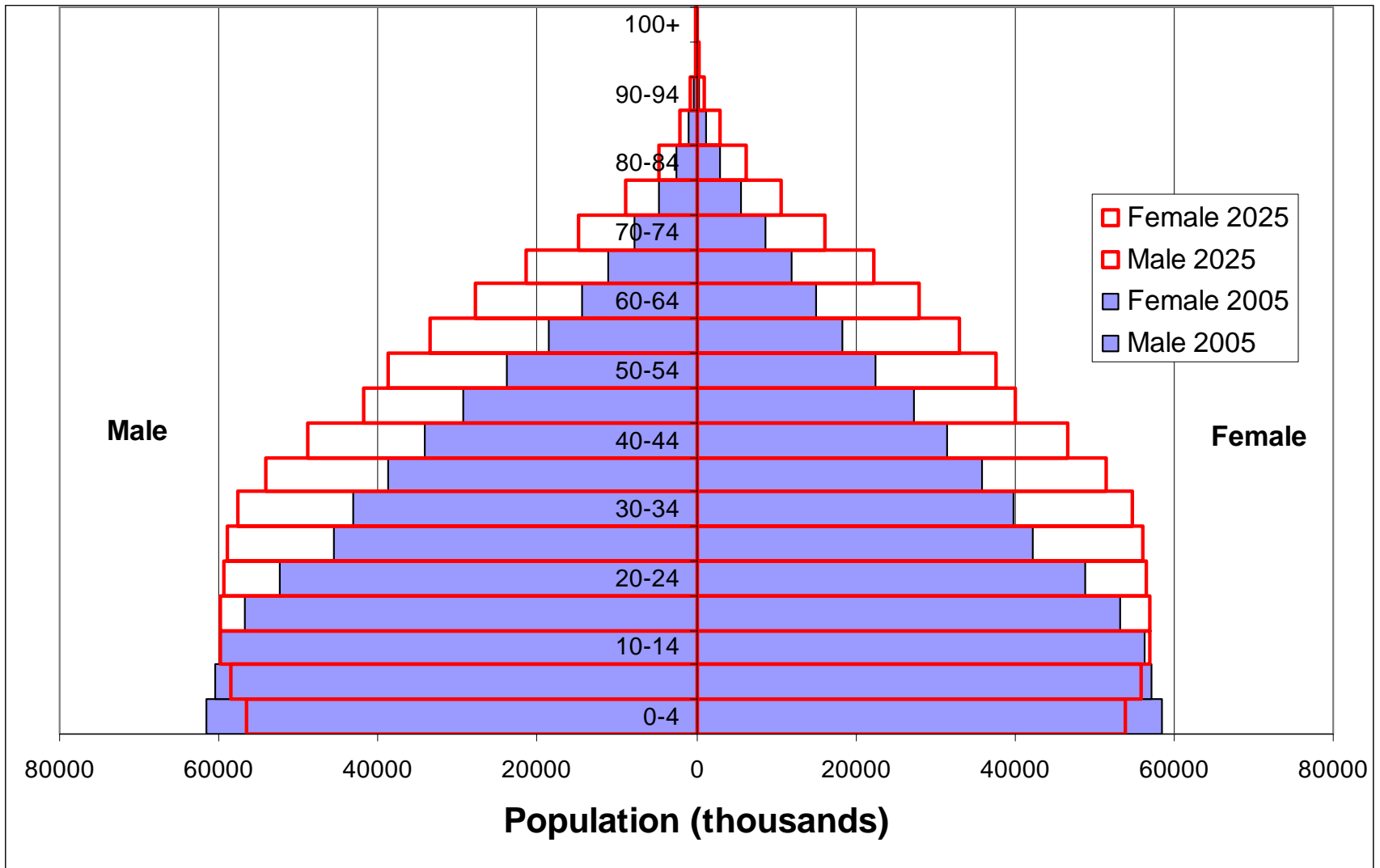
Source: Human Mortality Database. University of California, Berkeley and Max Planck Institute for Demographic Research. Available at www.mortality.org, accessed on April 11, 2005

Male Mortality in Russia by Birth Cohort, 1920-1970



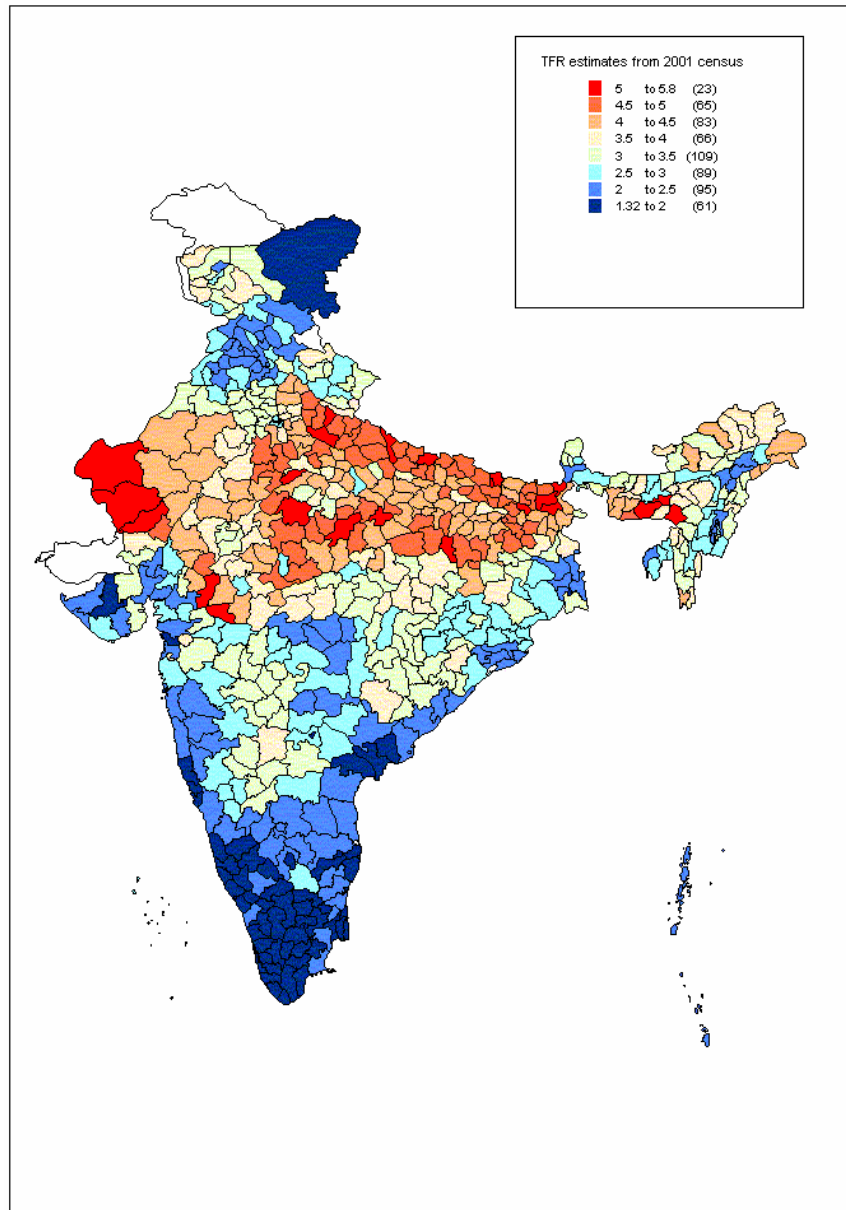
Source: Human Mortality Database. University of California, Berkeley and Max Planck Institute for Demographic Research. Available at www.mortality.org; accessed June 8, 2006.

Estimated and Projected Population Structure of India: 2005 vs. 2025



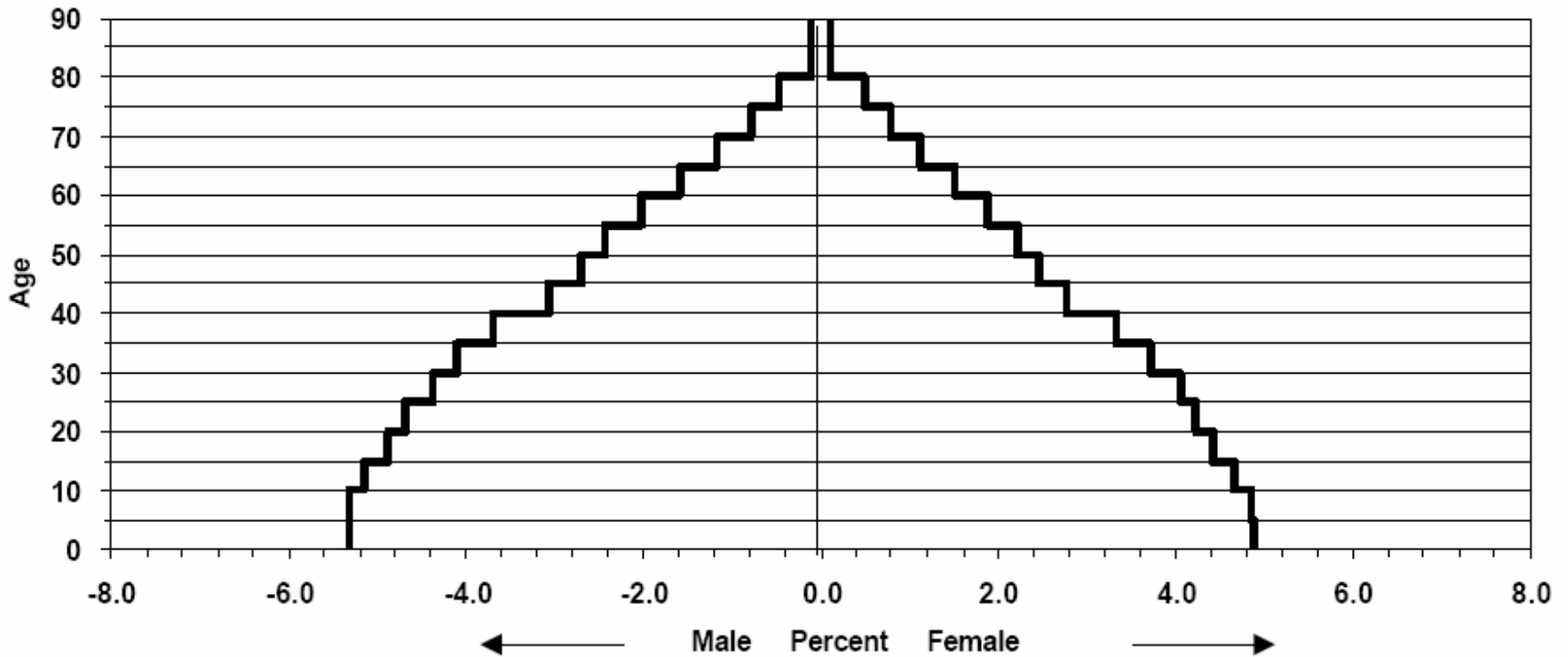
Source: United Nations Population Division, World Population Prospects 2004 Revision. Available online at <http://esa.un.org/unpp/index.asp?panel=2> accessed 4/3/05 and 2/27/06.

Fertility Map of India: 2001



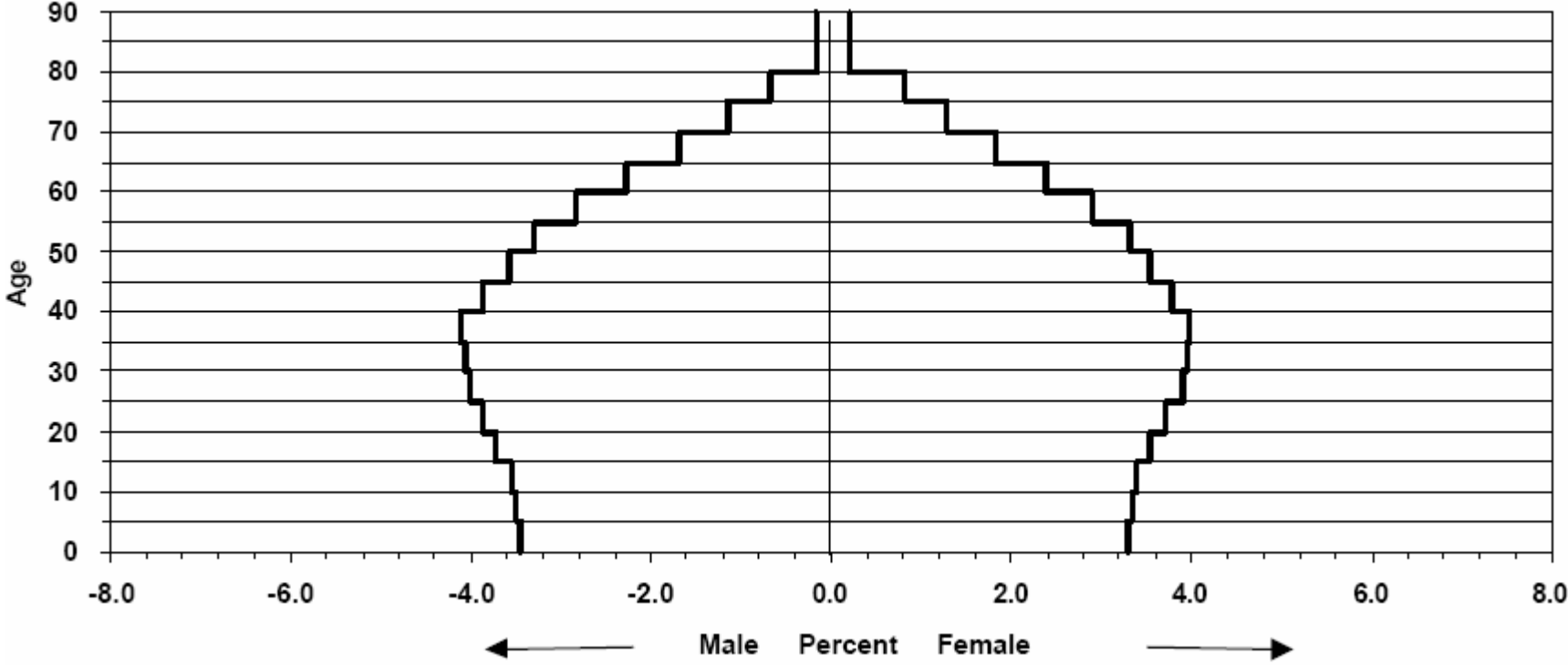
Source: Christophe Z. Guilmoto et al., South India Fertility Project, <http://www.demographie.net/sifp/maps/TFR2001.gif>

Projected Population Structure for North India, 2025 (projected)



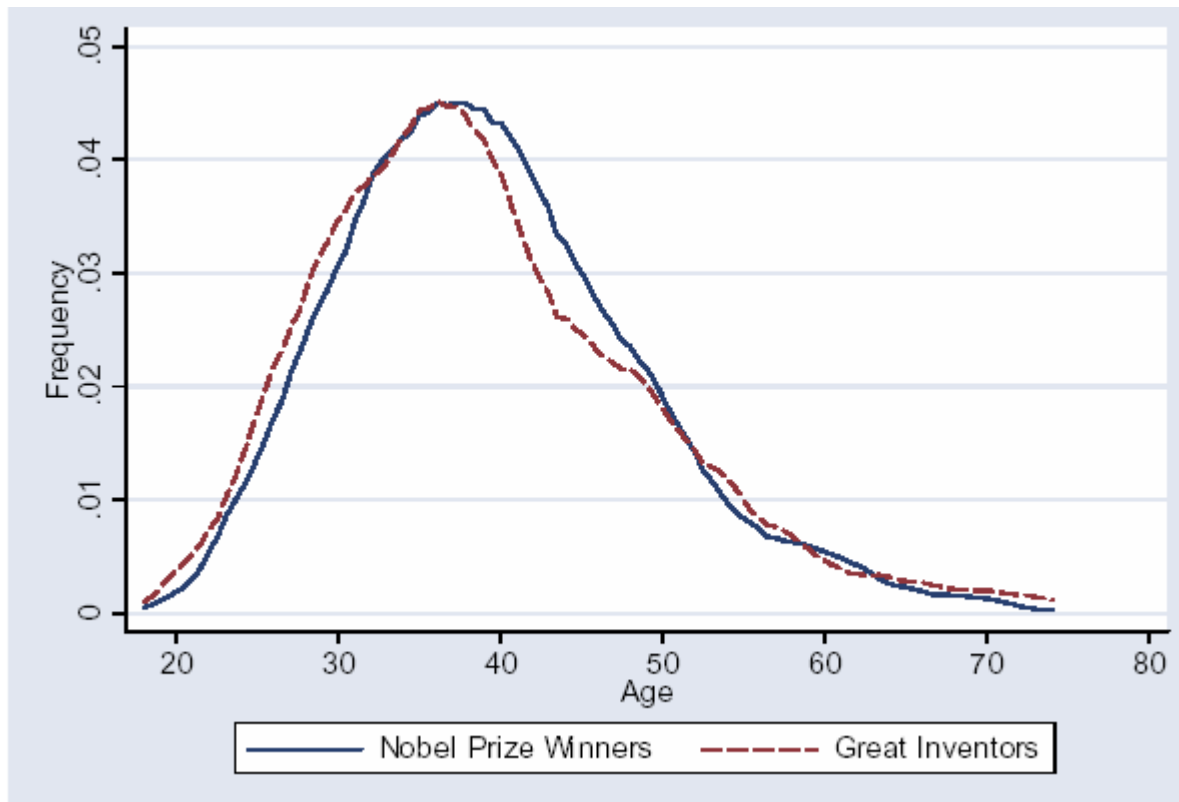
Source: Bhat, P.N. Mari, "Demographic scenario, 2025." Institute of Economic Growth, Delhi, Figure 5. Available online at <http://planningcommission.nic.in/reports/sereport/ser/vision2025/demogra.pdf> accessed May 2005.

Projected Population Structure for South India, 2025



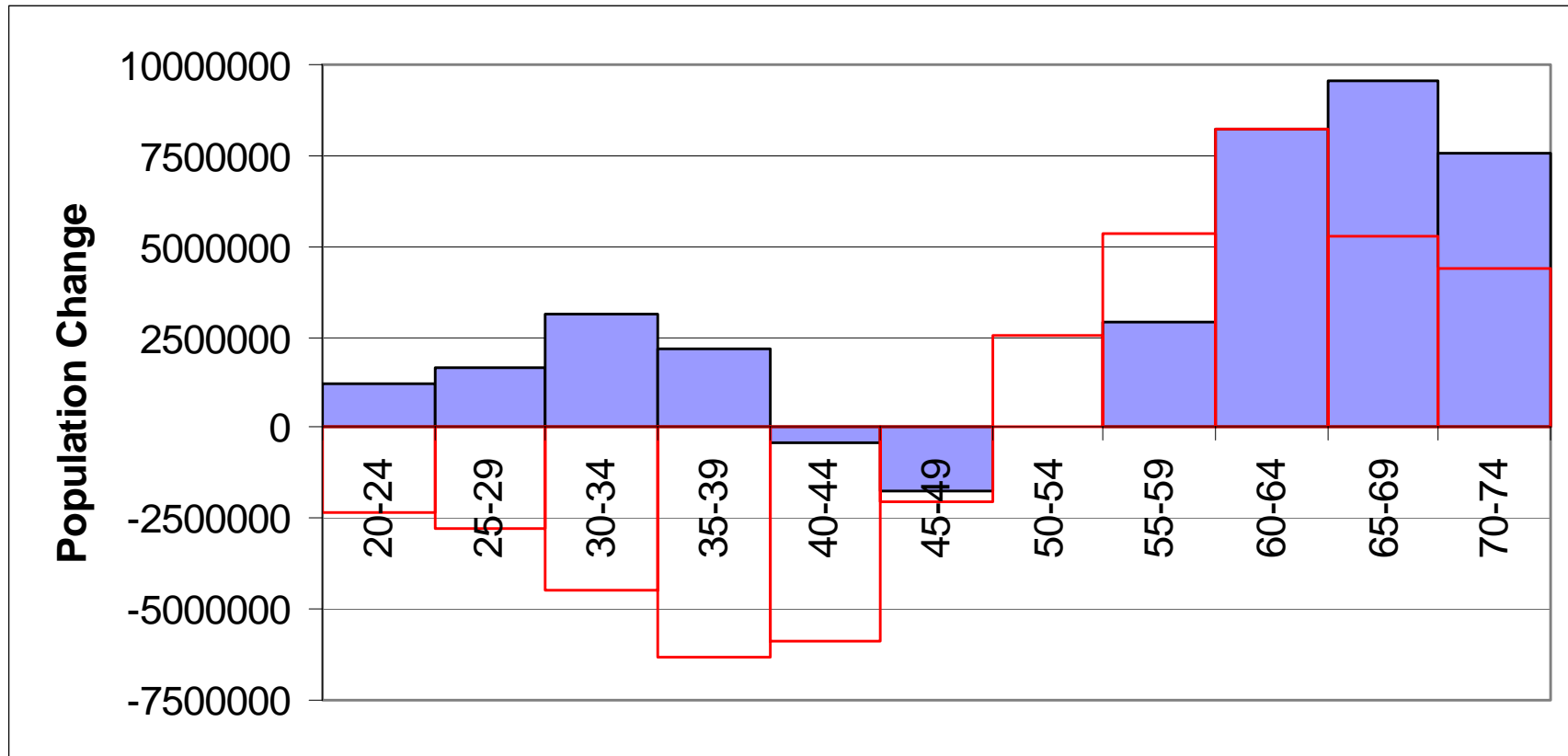
Source: Bhat, P.N. Mari, "Demographic scenario, 2025." Institute of Economic Growth, Delhi, Figure 6. Available online at <http://planningcommission.nic.in/reports/sereport/ser/vision2025/demogra.pdf> accessed May 2005.

The Age Distribution of Great Innovation



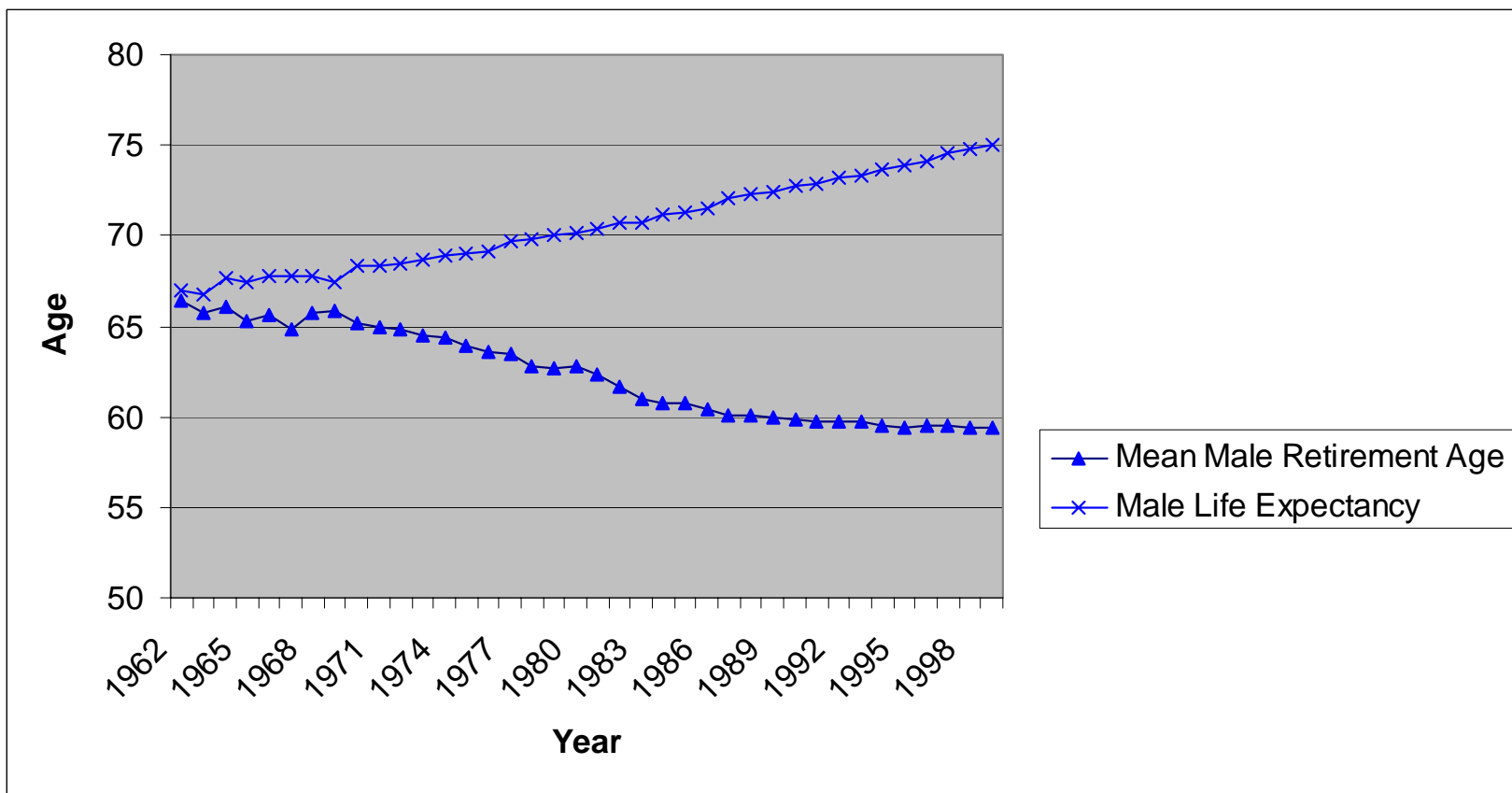
Source: Benjamin Jones. 2005. Age and Great Innovation (Working Paper 11359). Cambridge MA: National Bureau of Economic Research.

“Working Age” Population Change: Western Europe vs. USA, 2005-2025



Source: U.S. Census Bureau, International Data Base, available at <http://www.census.gov/cgi-bin/ipc/idbagg> [accessed August 3, 2006].

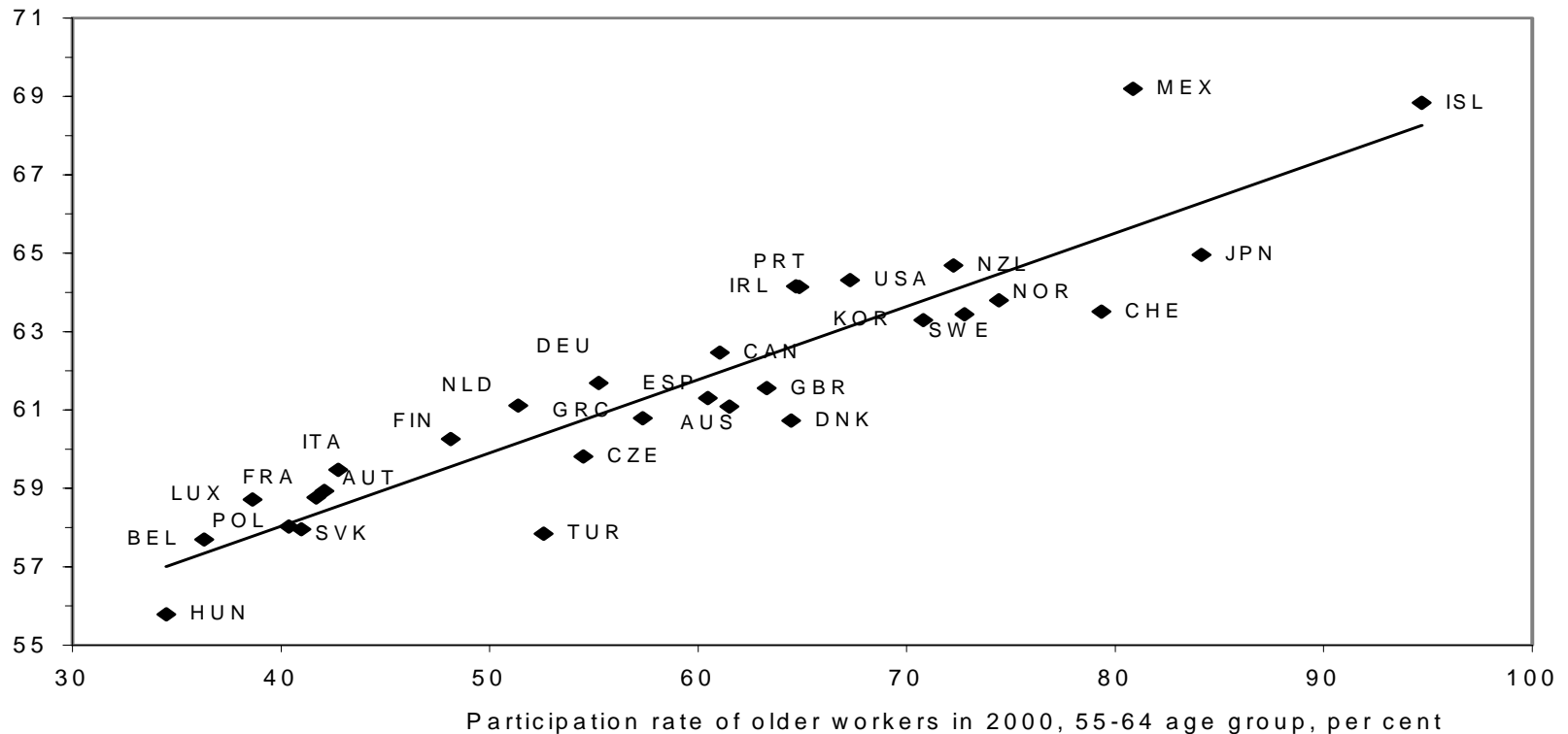
Male Retirement Age vs. Life Expectancy: France, 1962-1999



Source: Human Mortality Database. University of California, Berkeley (USA), and Max Planck Institute for Demographic Research (Germany). Available at www.mortality.org or www.humanmortality.de (data downloaded on August 3, 2006) and *Age of Withdrawal from the Labour Force in OECD Countries*, Labor Market and Social Policy Occasional Papers No. 49, by Peter Scherer. January 11, 2002

Labor Force Participation of Older Workers and Estimated Effective Retirement Age in 2000 (Males)

Effective retirement age, 2000



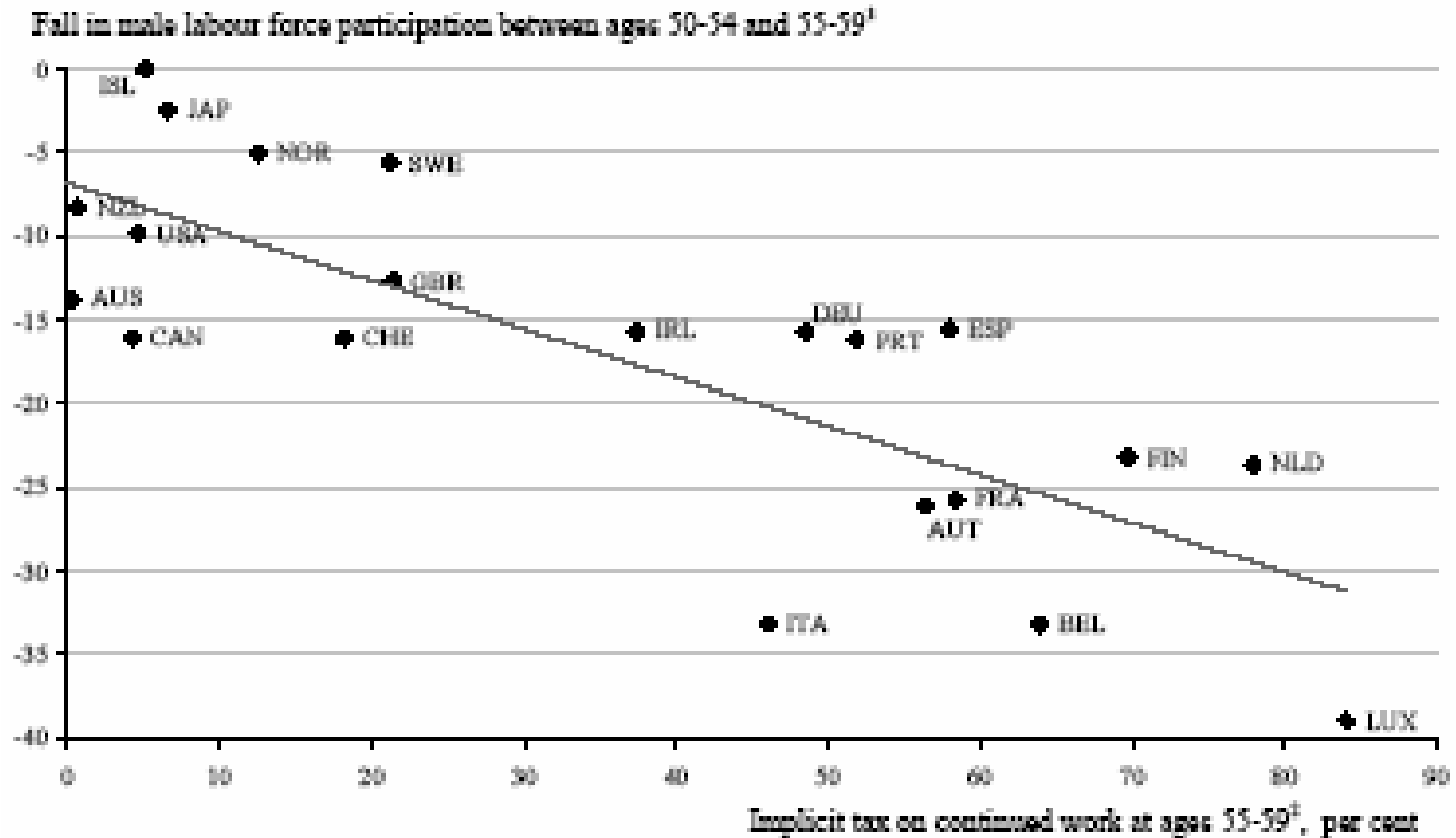
Correlation coefficient: 0.92 **

** significant at the 1% level.

Sources: Labour Force Statistics (Part III) and Burniaux *et al.* (2003).

Source: Duval, Romain. "The Retirement Effects of Old-Age Pension and Early Retirement Schemes in OECD Countries." *Organisation for Economic Co-operation and Development*. 23 November 2003.

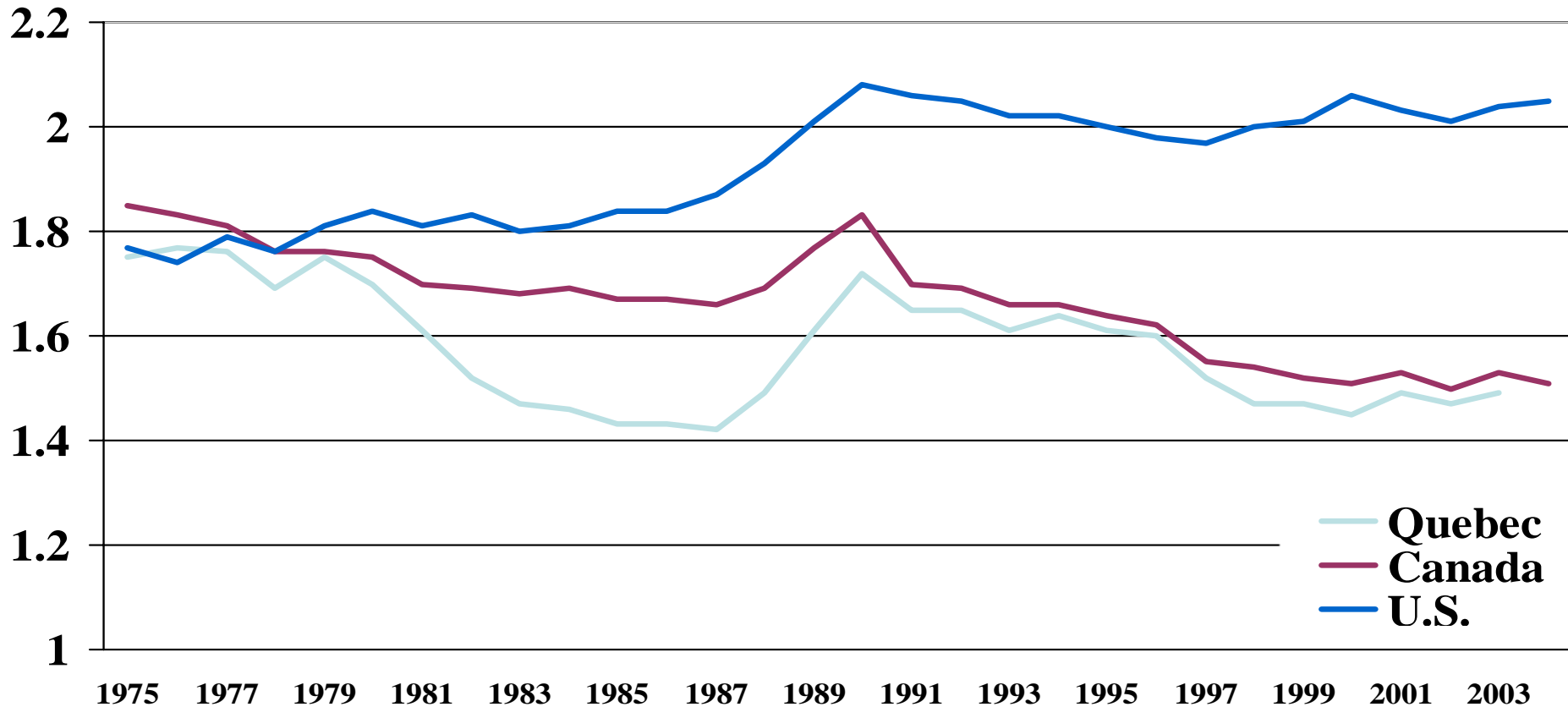
Incentives to Retire and Retirement Behavior: Selected OECD, 1967-99



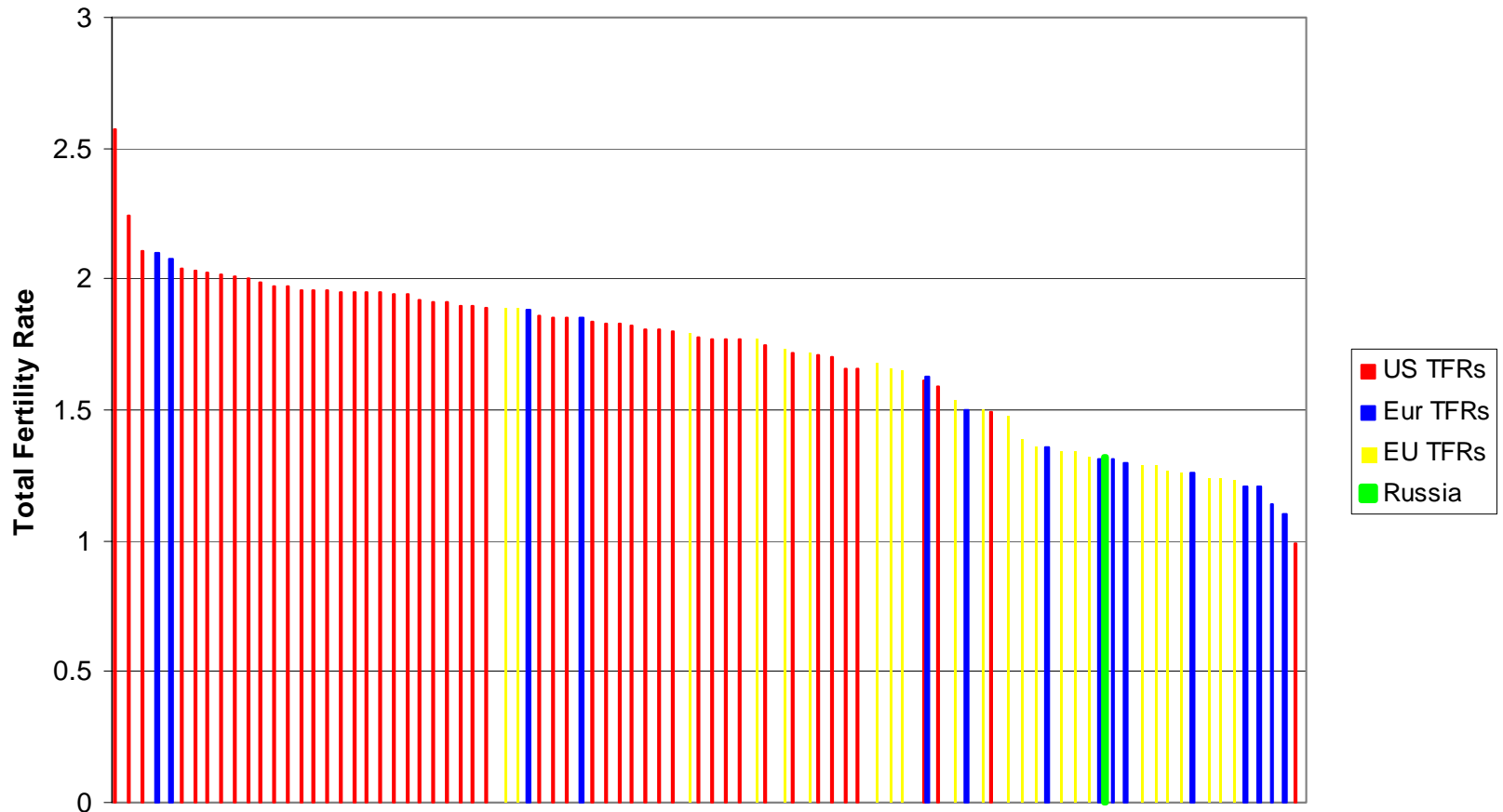
1. Difference in participation rates between the age groups 55-59 and 50-54 as a percentage of the participation rate of those aged 50-54 years.
2. The implicit tax on working an additional year is the foregone transfer/pension income plus the additional pension contributions paid minus any increase in future pensions as a result of delayed retirement, all expressed as a share of income from work. The calculations in all cases take account of the "regular" old-age pension scheme but consider somewhat different early retirement pathways depending on the country in question or, where such schemes do not apply widely, no such pathways.

Source: *Strengthening Growth and Public Finances in an Era of Demographic Change*, OECD May 13-14, 2004

US “Demographic Exceptionalism”: TFRs, Canada vs. USA, 1975-2004



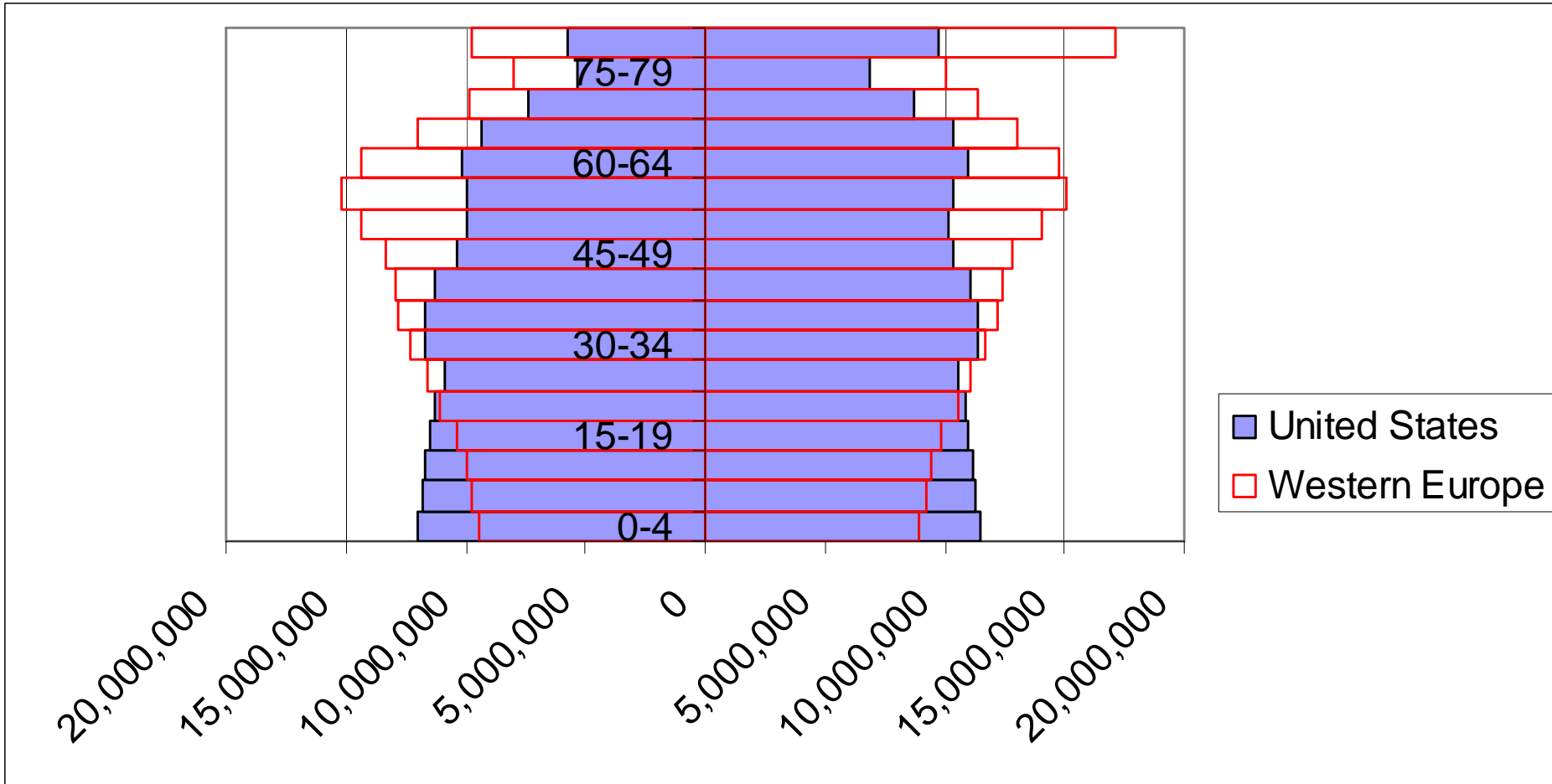
“Total Fertility Rate”: Europe vs. “Anglo” USA, 2000



Note: « Total fertility rate » = births per woman per lifetime. « Anglo » = non-Hispanic White. « Period » total fertility rates in 2000 presented for European countries and for the 50 American federal states. « EU » is pre-accession.

Sources: Institut National d'etudes demographiques, "Population en chiffres," <http://www.ined.fr/population-en-chiffres/pays-developpés/index.html>, accessed 8/4/04; National Vital Statistics Report: Vol 52, No. 19 May 10, 2004.

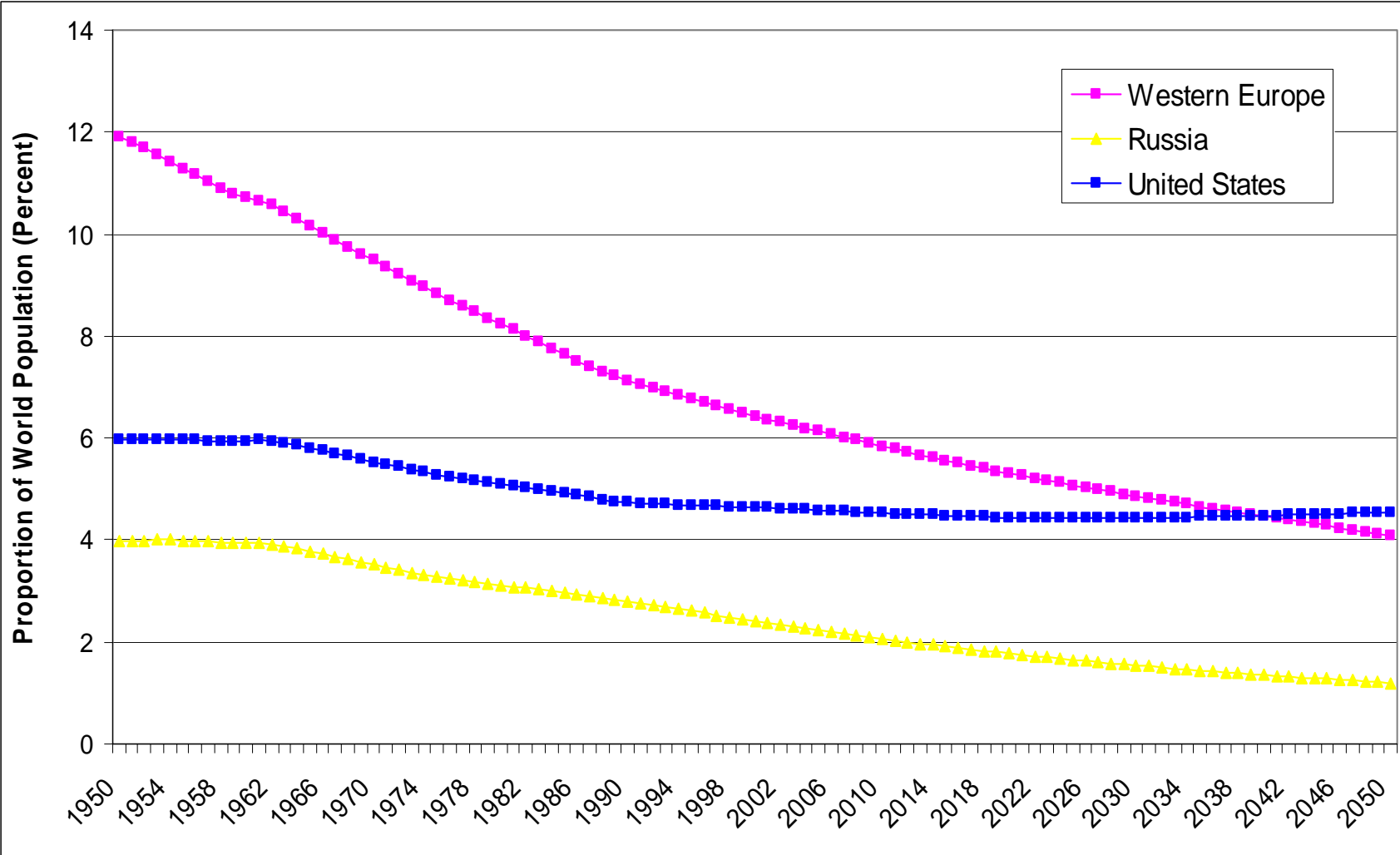
Population Structure, 2025: Western Europe vs. USA (US Census Bureau Projections)



Note: "Western Europe" is defined by the US Census Bureau to include the EU-15, Sweden, Switzerland, and adjoining or nearby smaller islands, kingdoms, and republics.

Source: U.S. Census Bureau, International Data Base, available at <http://www.census.gov/cgi-bin/ipc/idbagg> [accessed August 3, 2006].

Estimated and Projected Proportion of World Population: United States, Western Europe and Russia: 1950-2050 (projected)



Source: US Census Bureau, International Data Base, <http://www.census.gov/cgi-bin/ipc/aggggen.html>, accessed 2/27/06.