



2018 Investment Symposium

Opening General Session: How Will the Demographic Numbers Affect Your Numbers?

Moderator:

Jeffrey G. Passmore, FSA, EA, FCA

Keynote Speaker:

Richard F. Hokenson, Economist

[SOA Antitrust Disclaimer](#)

[SOA Presentation Disclaimer](#)

Economic and Investment Implications of Global Demographics

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Agree/Disagree?

“Our teeming population is the strongest evidence our numbers are burdensome to the world, which can hardly support us from its natural elements. Our wants grow more and more keen and our complaints more bitter in all mouths, while nature fails in affording us our usual sustenance. In every deed, pestilence and famine and wars have to be regarded as a remedy for nations as the means of pruning the luxuriance of the human race.”

Tertullian, *Treatise of the Soul*

“The most important benefit of population size and growth is the increase it brings to the stock of useful knowledge. Minds matter economically as much as, or more than, hands or mouths.”

Julian Simon

“Today we measure progress by measures such as GDP and its derivative, TFP. These were designed for steel-and-wheat economies.”

Joel Mokyr

DID YOU KNOW?

Plenty of open space: Half the world's population lives in the yellow, the other half lives in the black.



Source: metrocosm.com/world-population-split-in-half-map

Dow Jones-AIG Commodity Index Adjusted for Inflation, 1934 to 2013



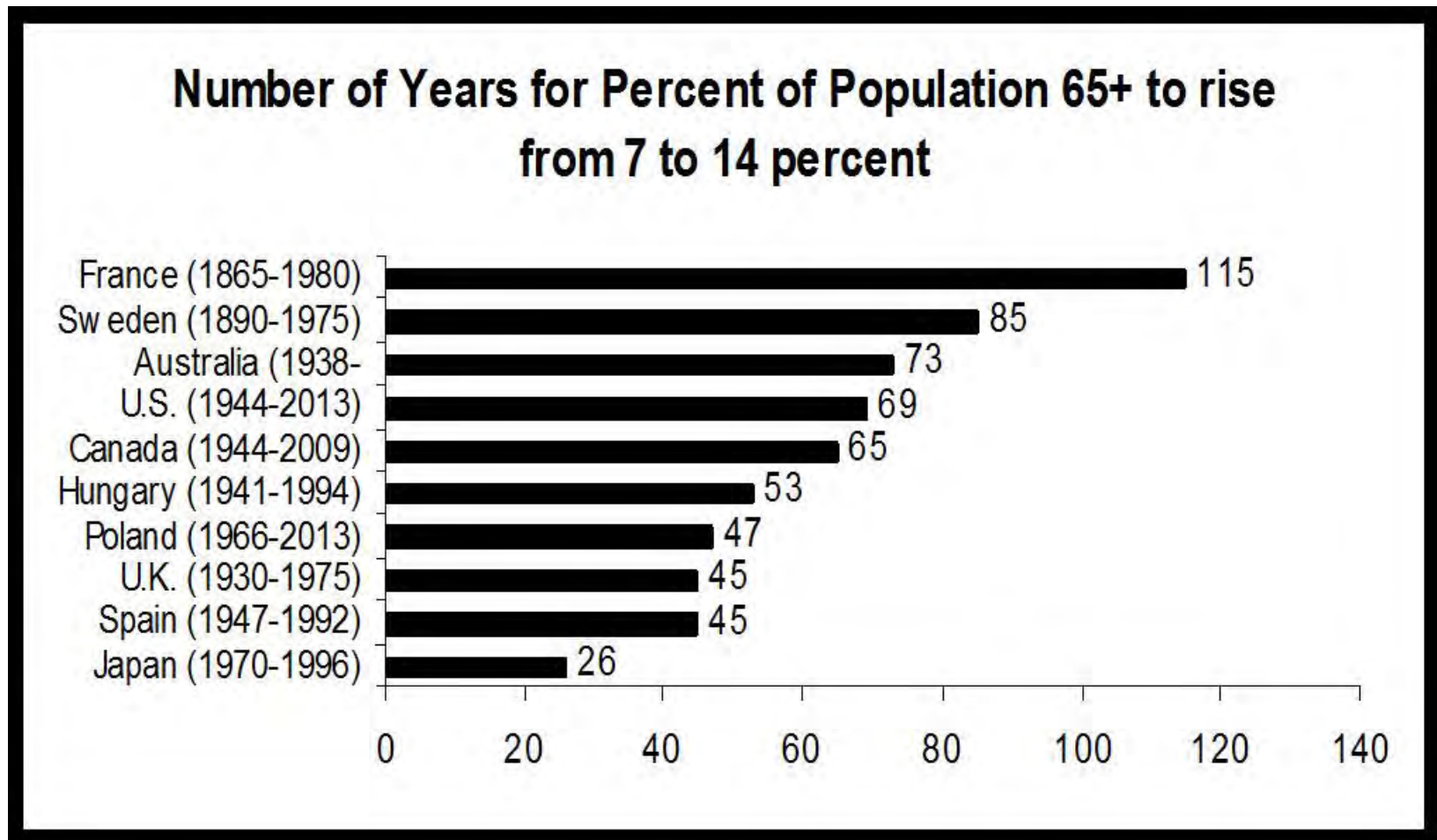
The Global Mega-Trends

- More than 50% of the world is now Urbanized – will be 70% by 2050.
- More than 50% of the world's population lives within 200km of a coastline.
- Of all children born in the developed world today, at least half will celebrate their 100th Birthday.
- Nearly half of the world lives in countries with birth rates that are below replacement – increased focus on immigration.
- Probability of Marriage is declining in the East and divorce rates are increasing – opposite is occurring in the USA
- It will still be the Anglo-Saxon Century

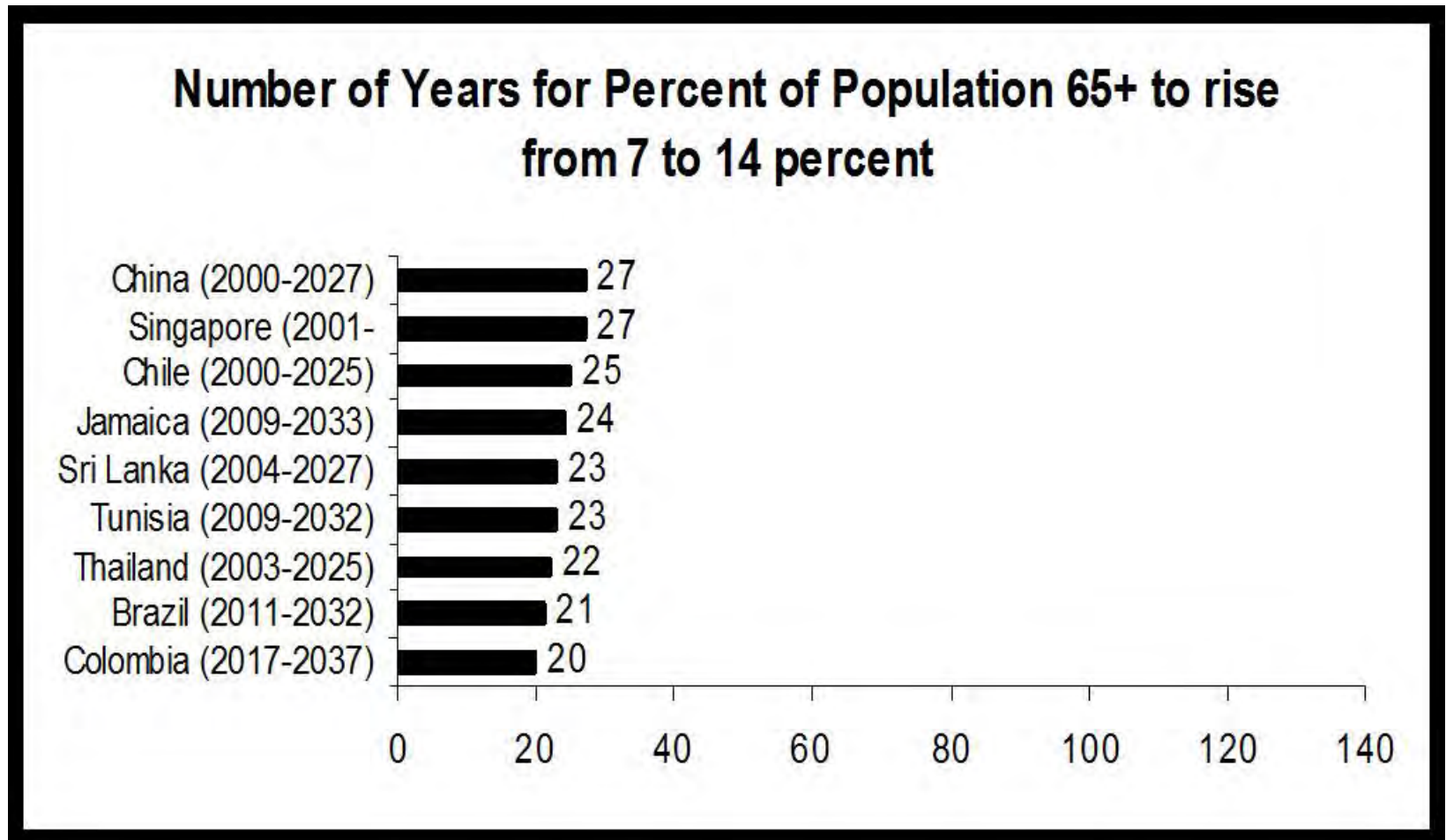
Major Investment Themes

- Race to Zero Interest Rates
- Central Banks are pushing on a string
- Bullish on Productivity – Bearish on inflation
- “Lowflation” -- revenue recession?
- Credit spreads should be wide
- Even stronger surge in M&A
- Shocks to the system are deflationary (negative demand shocks)
- Equity analysts also need to pay attention to the balance sheet
- Shift in consumption from goods towards experiences
- Multiple generations of retired households

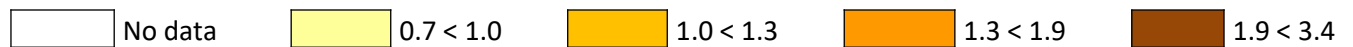
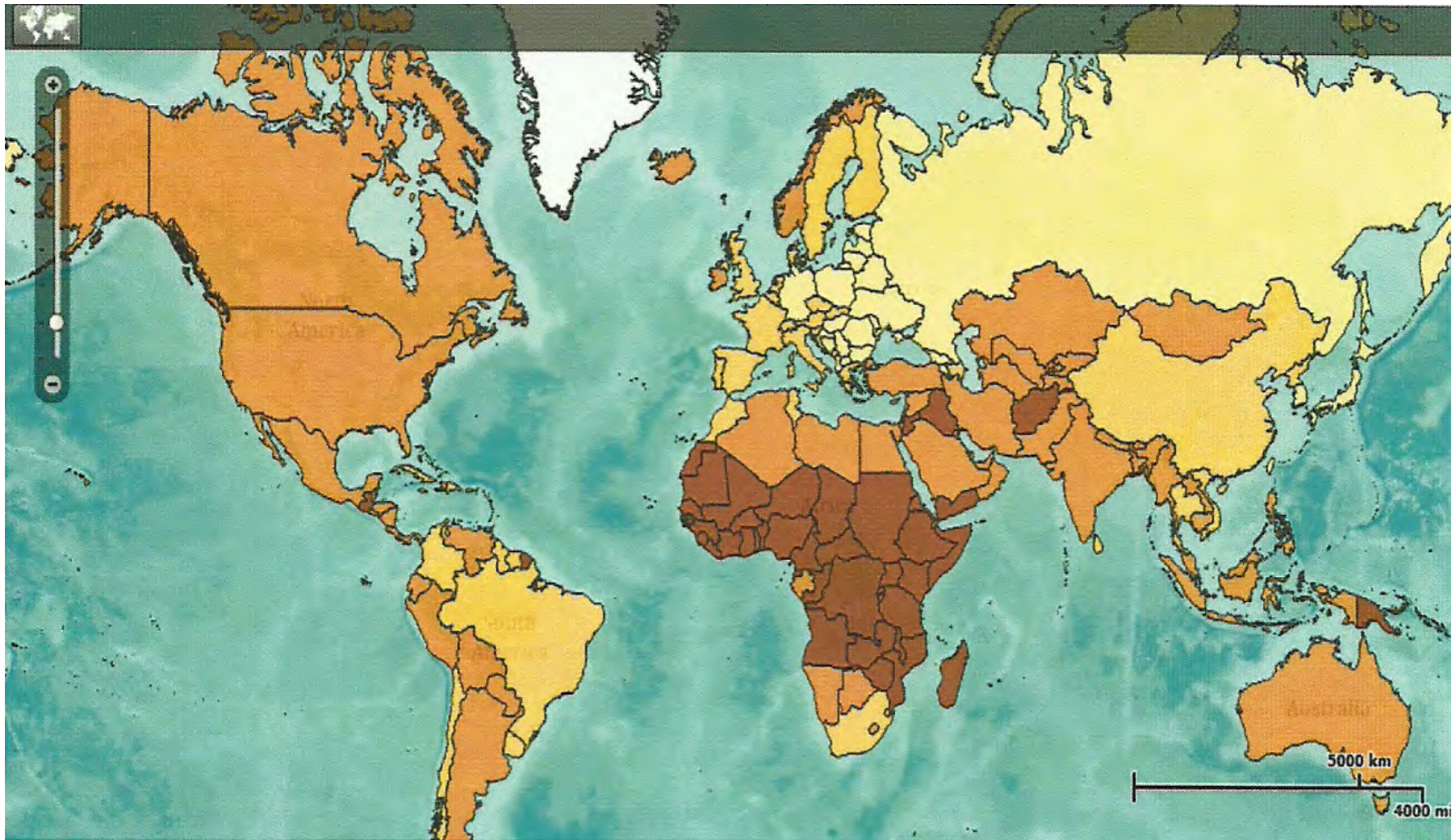
The Speed of Ageing: Developed Countries



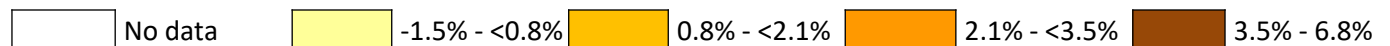
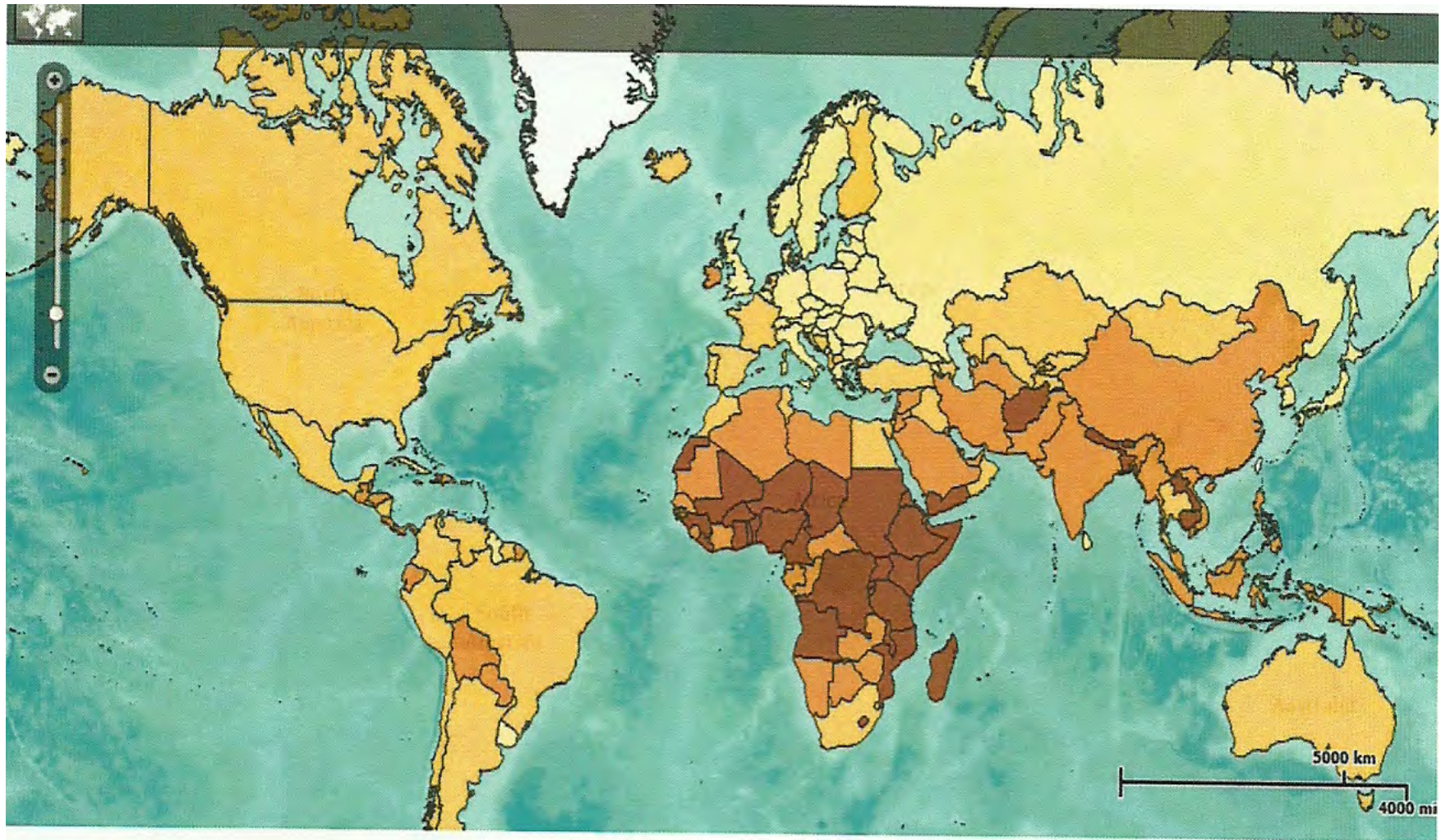
The Speed of Ageing: Developing Countries



2050 Population as a Multiple of 2010



Annual Rate of Change of Urban Population (2005-2010)



The Era of Low Interest Rates has only just begun



STILL RACING TO ZERO?

"The world we are in now is structurally disinflationary," says demographics expert Richard Hokenson

By Nathan Joyce, CFA

Recent inflation fears are overblown, says Richard Hokenson, managing director of Global Demographics at ISI Group. The demographic effects of aging populations will keep inflation in check, even as central banks continue monetary interventions. In a follow-up to his 2011 interview with *CFA Institute Magazine*, the former chief economist at Donaldson, Lufkin & Jenrette talks about why the race to a "caustic" kind of deflation is still going strong and how demographic factors are driving many of the key economic and market trends in the world, from low yields to policies for importing labor through immigration to a fundamental macroeconomic problem in Japan that the Bank of Japan can't solve.

Since our last conversation, we've seen continued central bank activity and renewed fears of inflation. What's your view?
The general view is that money creation taking place in the US, Europe, and Asia will create an inflation problem around the world. But people keep pushing out their predictions as to when inflation will appear. First, it was supposed to be 2011. Well, it wasn't 2011. Then, it was supposed to be 2012. Well, it wasn't 2012. Then, it's supposed to be 2013. Doesn't look like it will be 2013 either. Now, it's 2014 or 2015. People just keep pushing it out.

Central banks and governments would like to reflate, obviously, because they have a lot of debt. Debt becomes cheaper if you can reflate (reflation is the ability to produce and sustain a higher rate of inflation). I can understand the

temptation of central banks and governments. The issue is whether the dominant factor is money supply or money demand. My argument is that it's money demand, which means you can print money—and velocity still collapses. Velocity has been declining for 13 years. The Federal Reserve can print, the European Central Bank can print, the Bank of Japan can print, but it doesn't end up causing price inflation. A recent paper by the IMF ["Shock from Graying: Is the Demographic Shift Weakening Monetary Policy Effectiveness?"] supports this view.

What about the bump in rates we're seeing now?

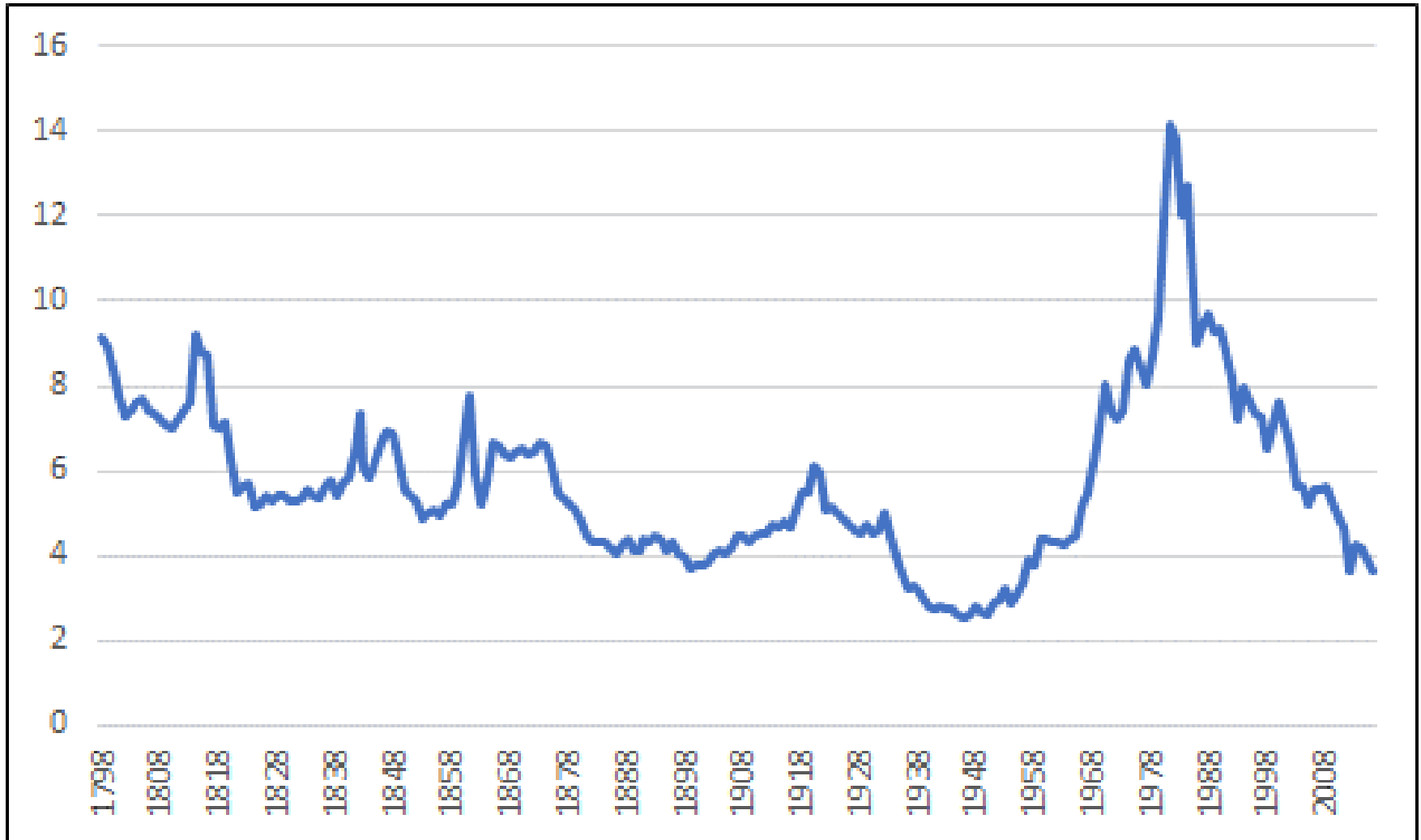
What we're going through now with the 10-year [Treasury bond] is a cyclical spike in relationship to issues of quantitative easing and taper and all that. In reality, what we have is like what we had in 1994 and 1998—the fear of inflation. The key point is that inflation never came. There was always the fear of inflation, but the actual inflation never arrived. What is behind the most recent upswing in long-term interest rates is that the economy looks stronger. The Fed didn't seem like it was going to do much, so interest rates spiked up pretty sharply.

Your argument is that rates move in response to demographics.

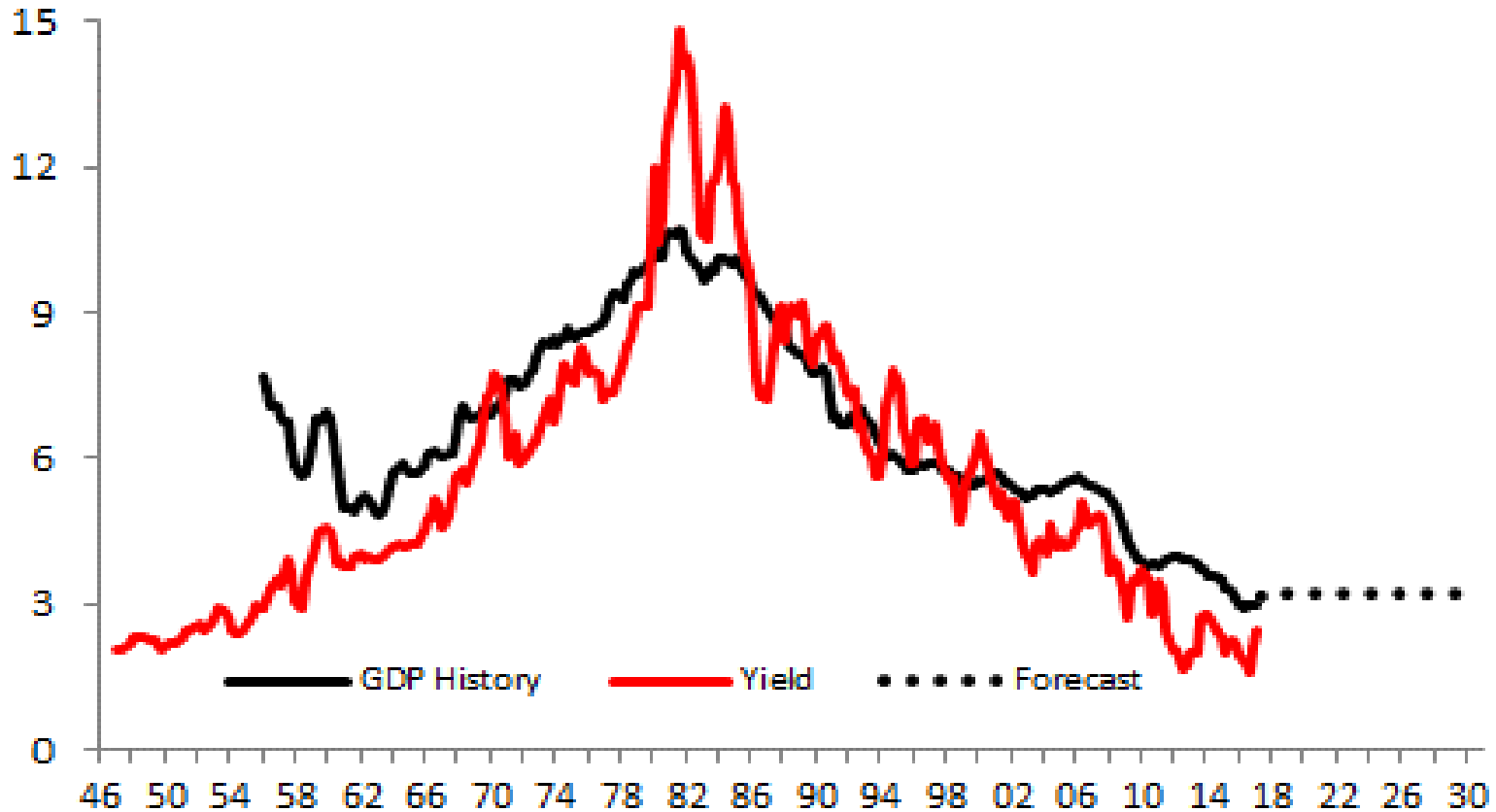
Yes, aging populations crush inflation. Population growth rates peaked almost 30 years ago and have been slowing ever since. The response in the global environment is further reductions in the rate of inflation.

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U.S. Long-Term Interest Rates Since 1798

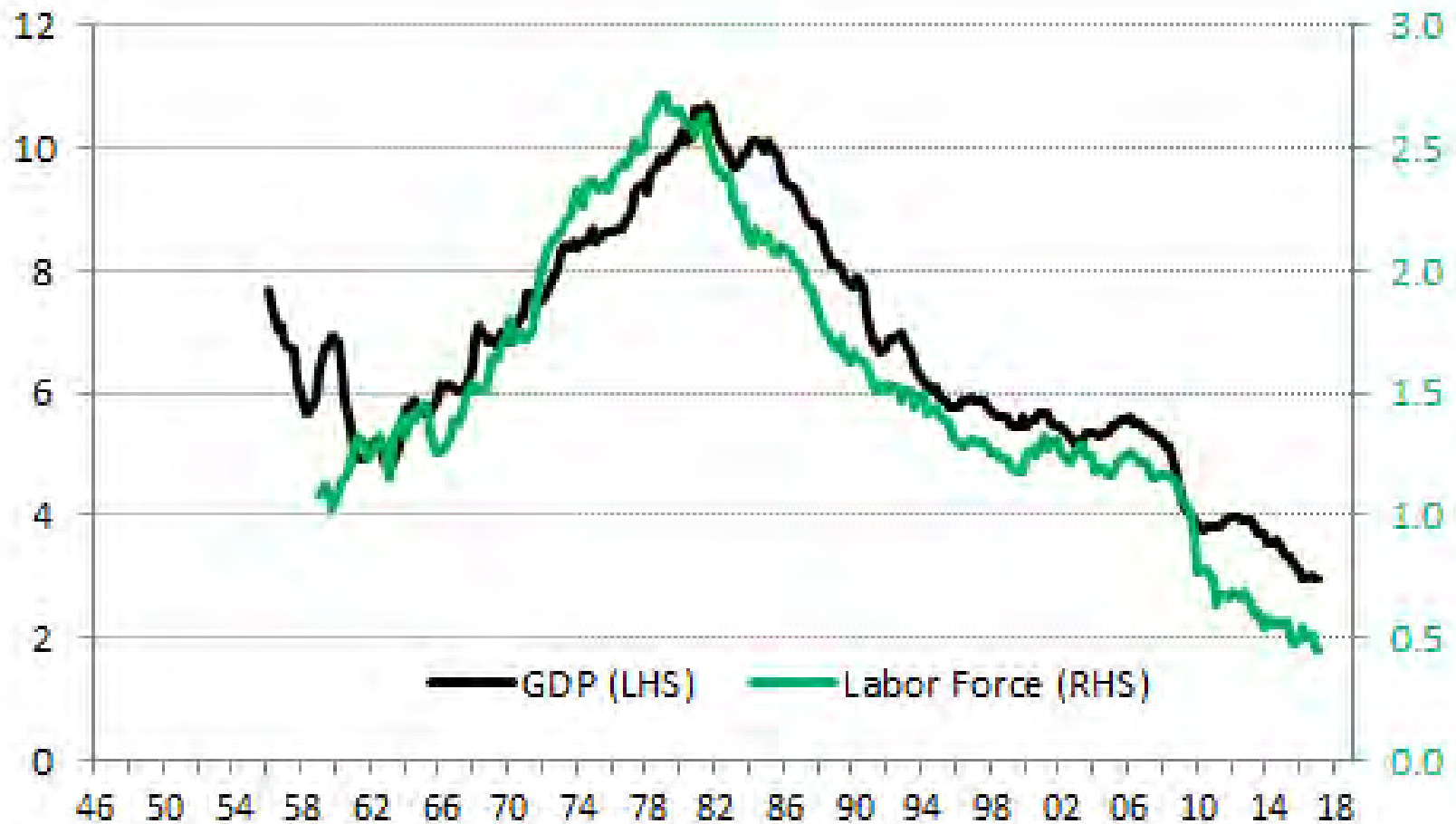


Nominal Yield on Long-Term Treasuries versus Smoothed Growth in Nominal GDP



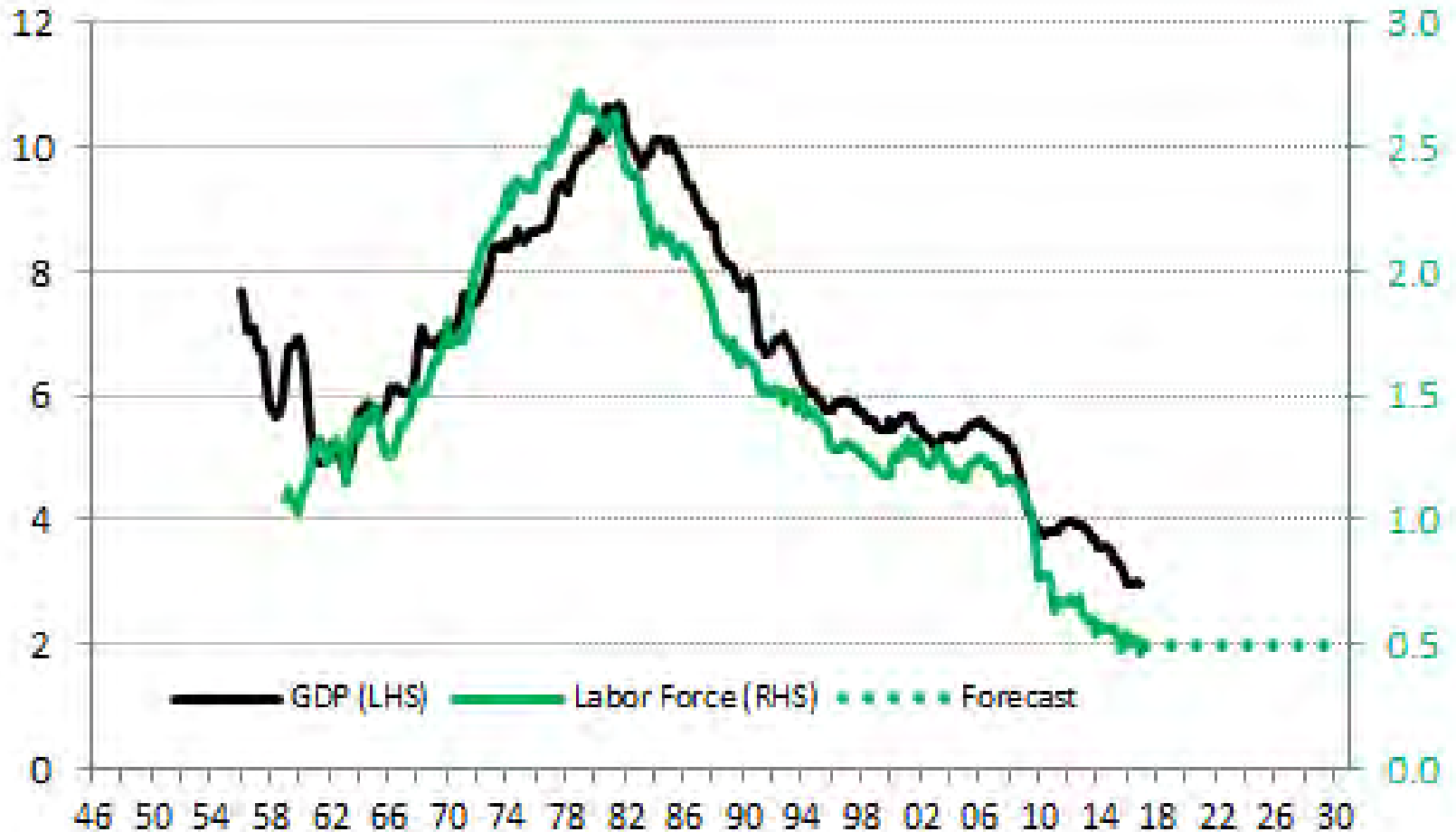
Sources: BEA; FRB;; Hokenson & Company.

U.S.: Smoothed Growth in Nominal GDP and Labor Force



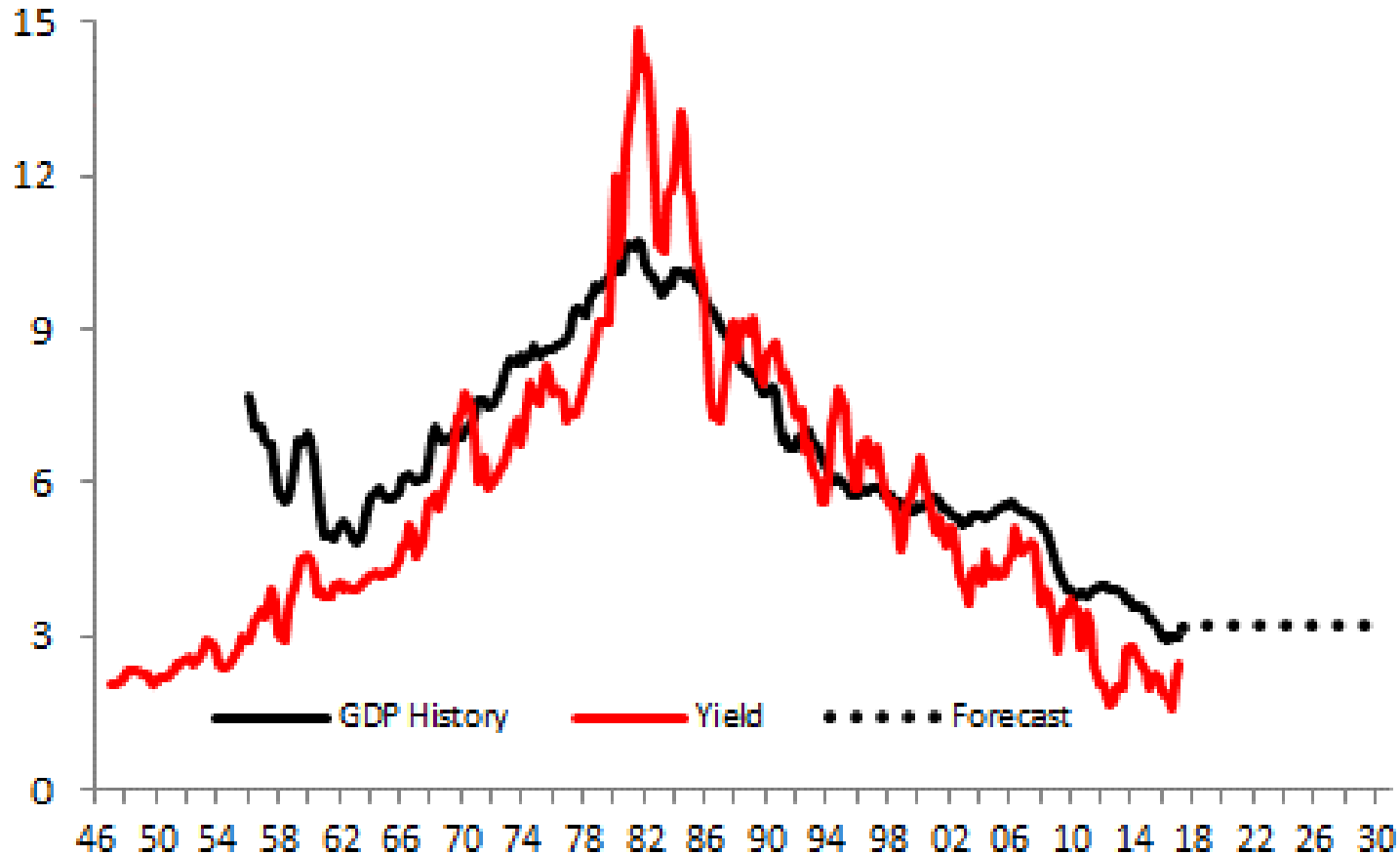
Sources: BEA; BLS; Hokenson & Company.

U.S.: Smoothed Growth in Nominal GDP and Forecasted Labor Force



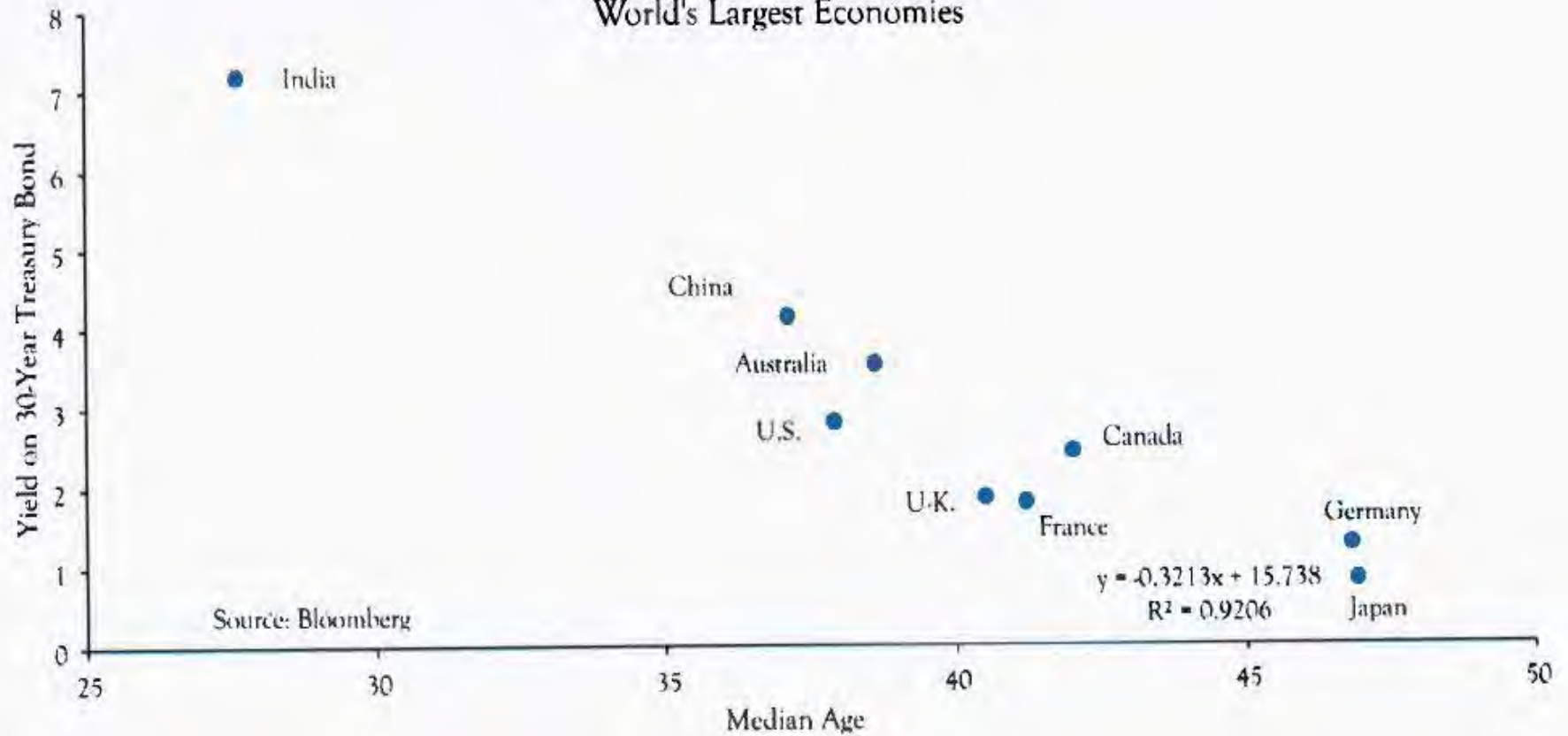
Sources: BEA; BLS; Hokenson & Company.

Nominal Yield on Long-Term Treasuries versus Historical and Forecasted Growth in Nominal GDP



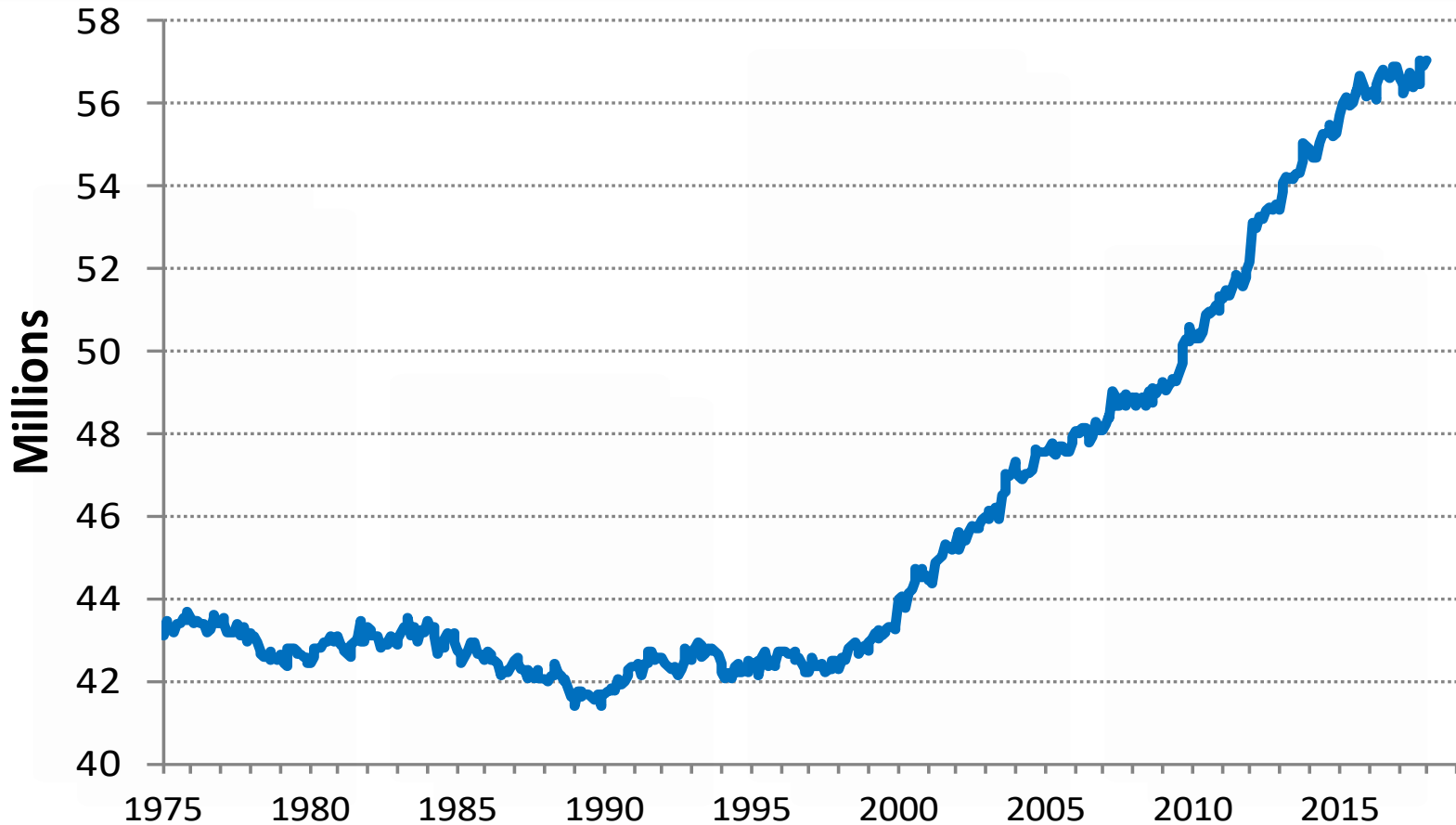
Sources: BEA; FRB;; Hokenson & Company.

30-Year Yield versus Median Age World's Largest Economies

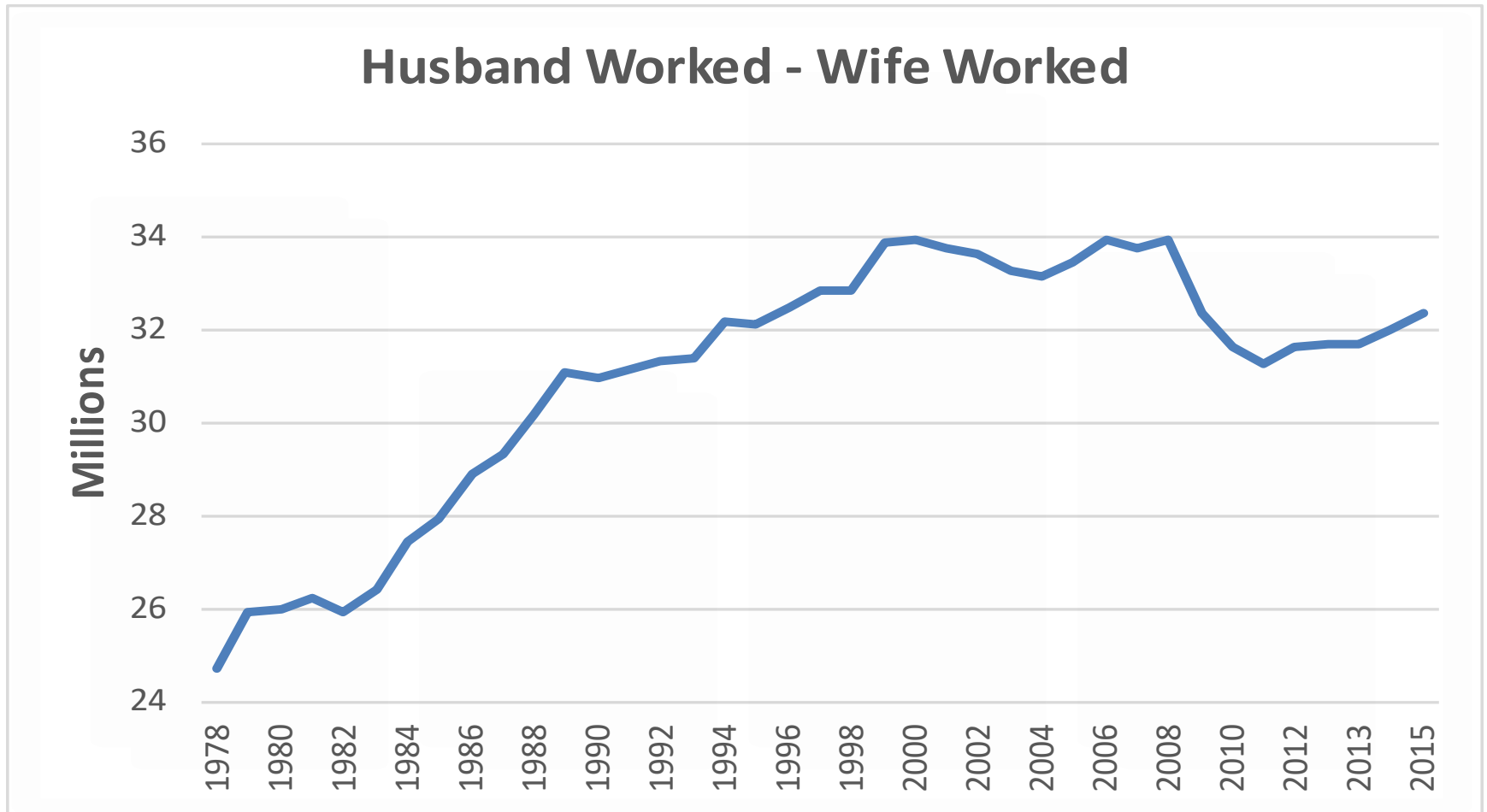


- Changes in the Financial Arrangements of Households

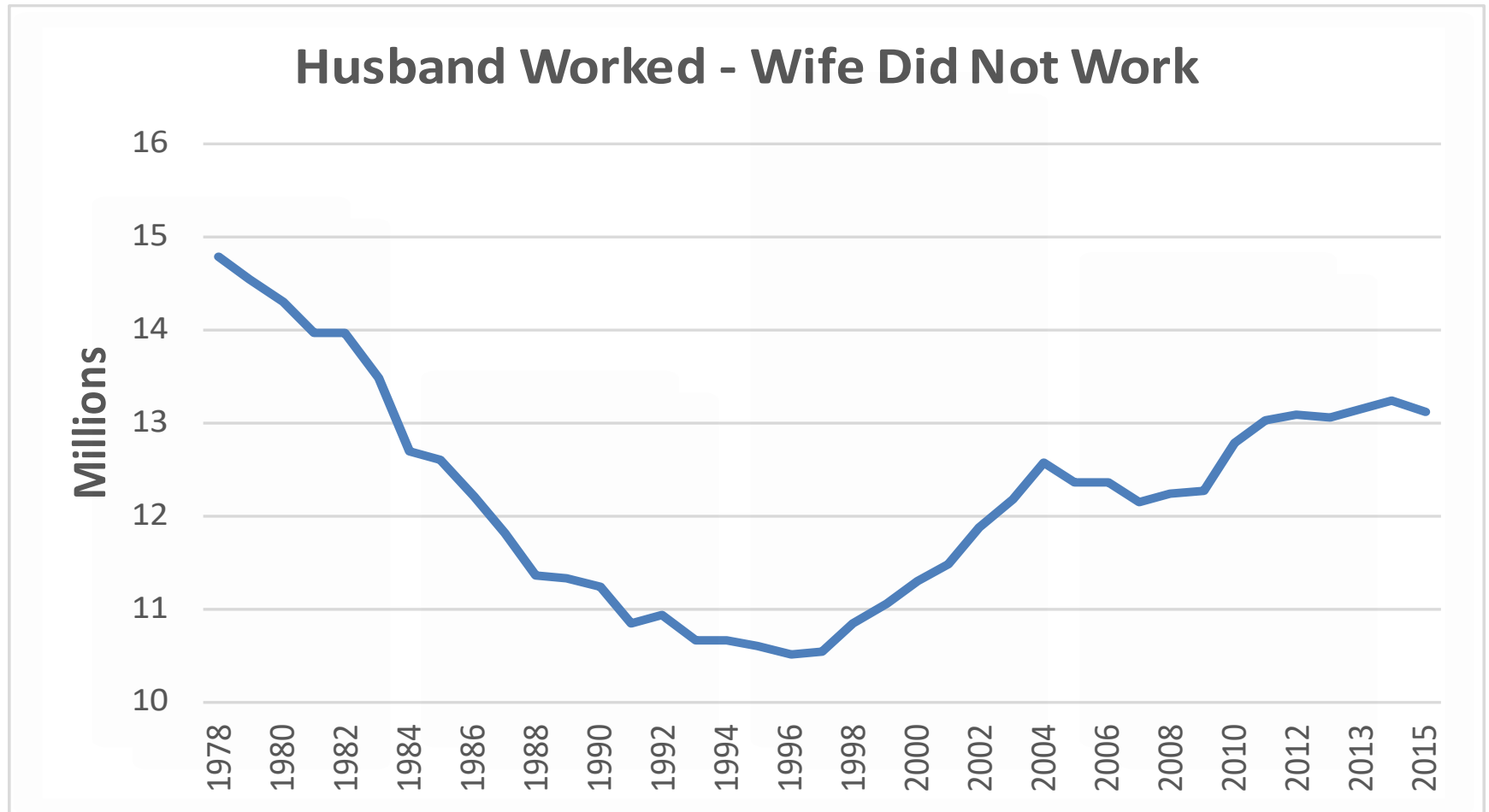
Number of Women Not in the Labor Force



U.S. Households with more MONEY than TIME



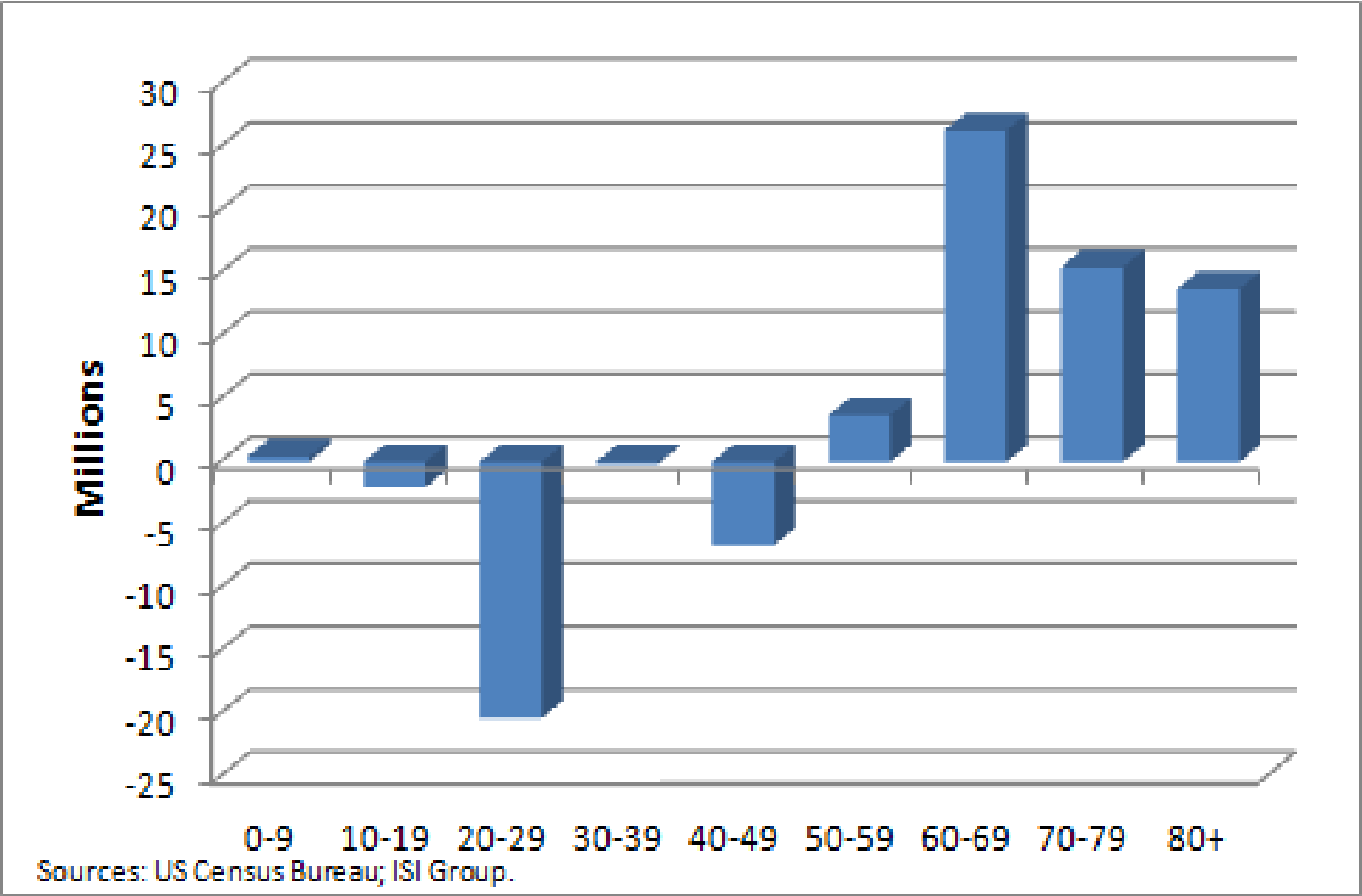
U.S. Households with more TIME than MONEY



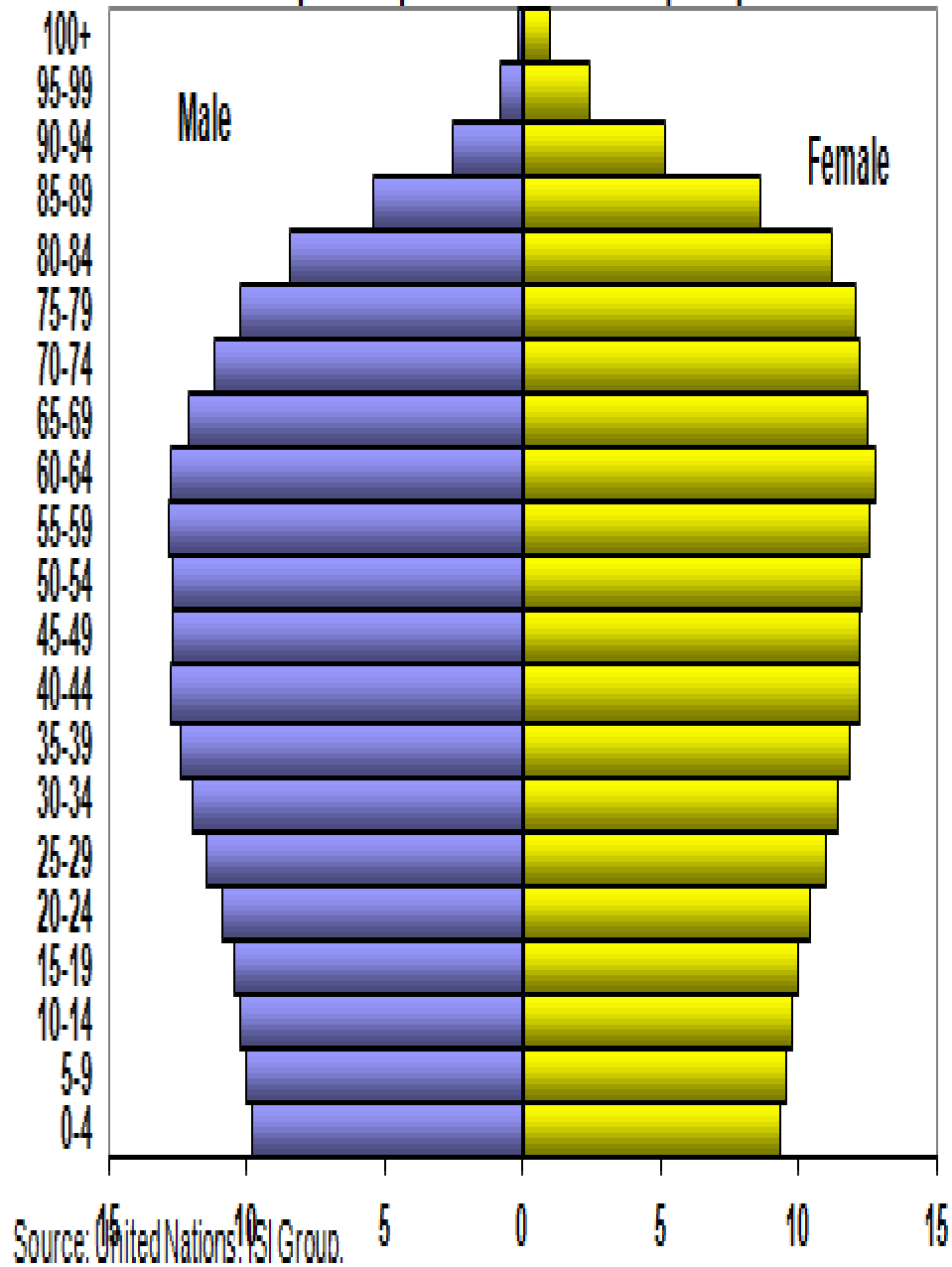
Population Trends in the Developed World

The Developed World

Population Change by Age Groups in Millions: 2010-2020

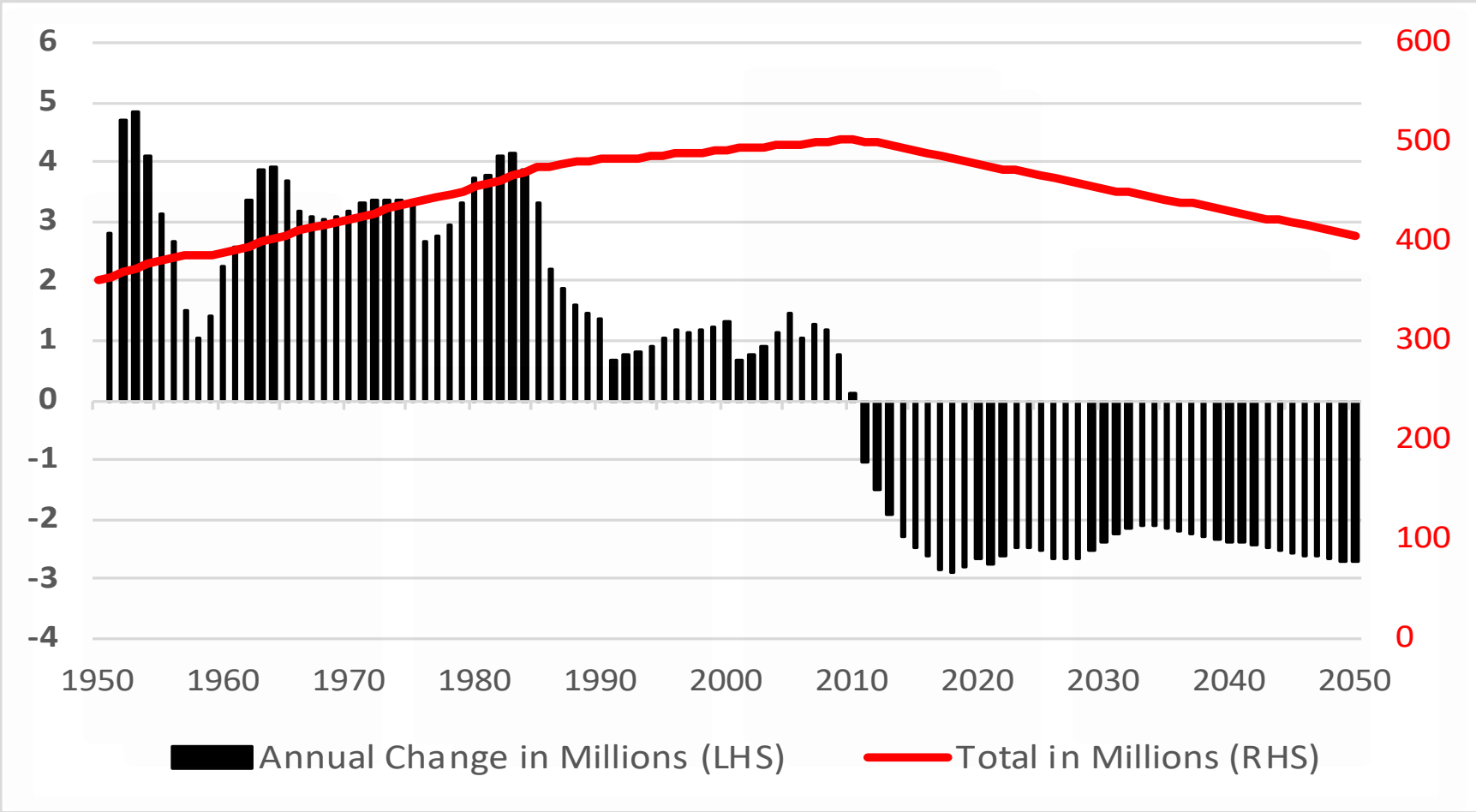


Japan: Population in Millions (2050)



Source: United Nations, ICI Group.

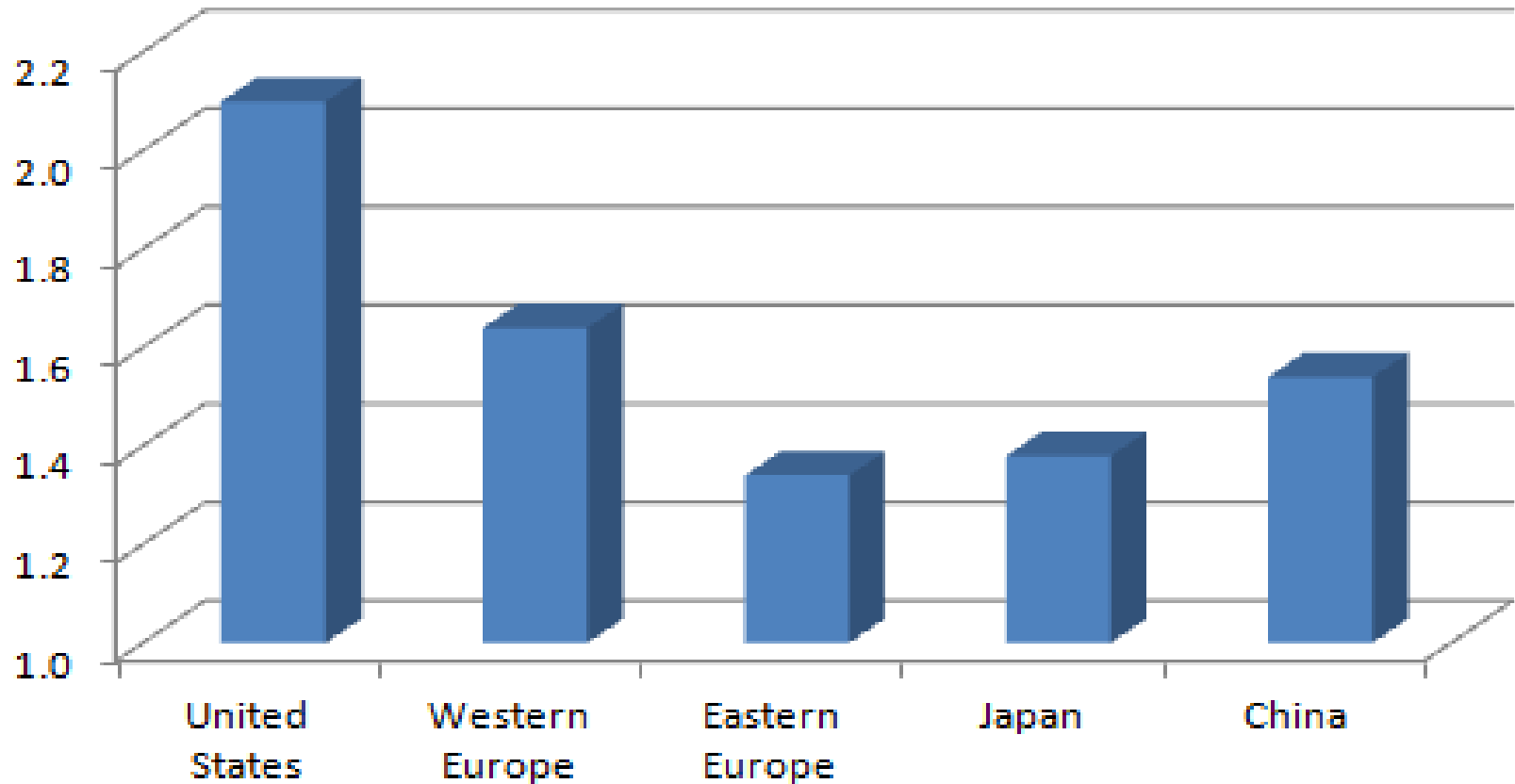
Europe: Working Age Population



The American Exception

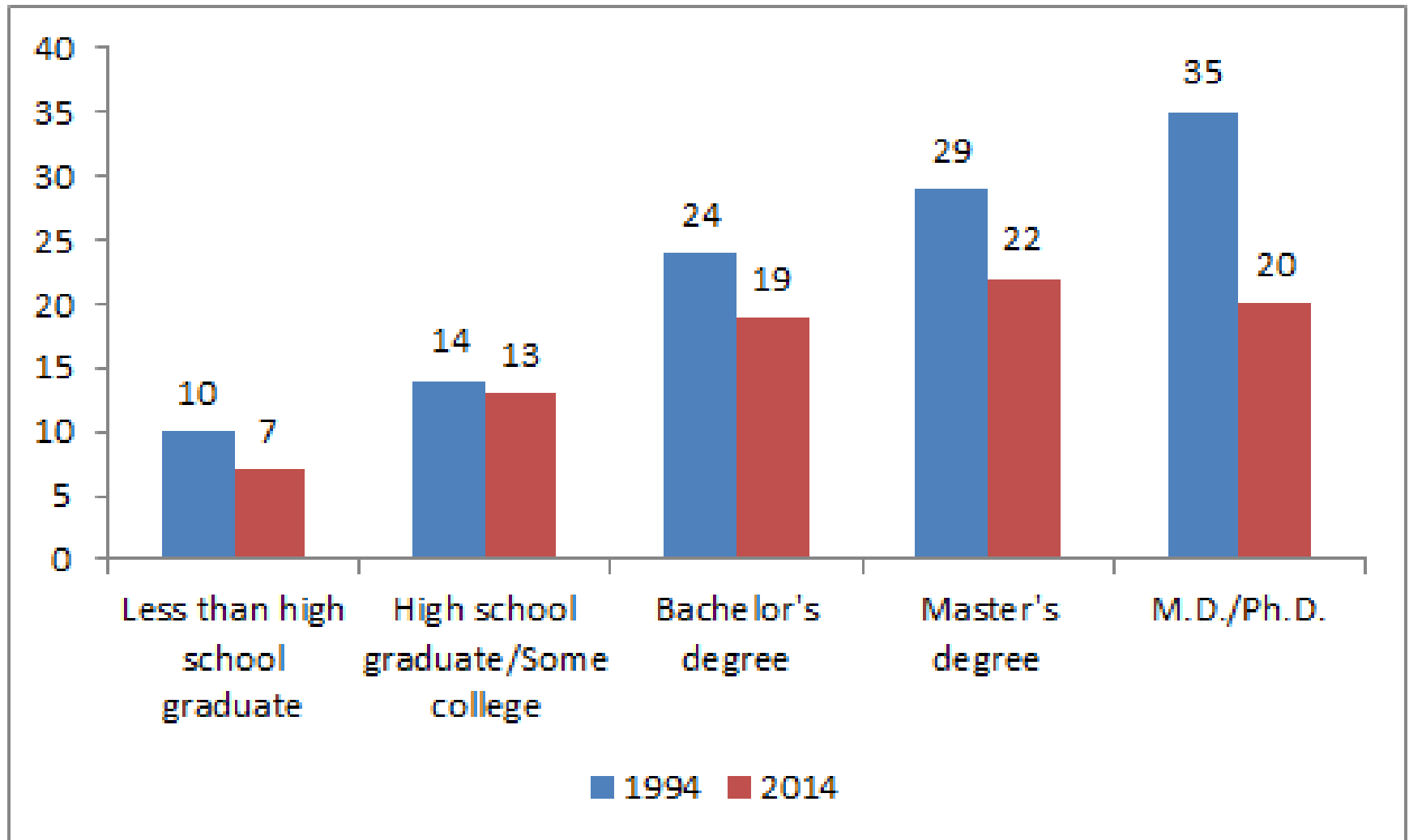


Total Fertility Rate for Selected Regions and Countries: 2015

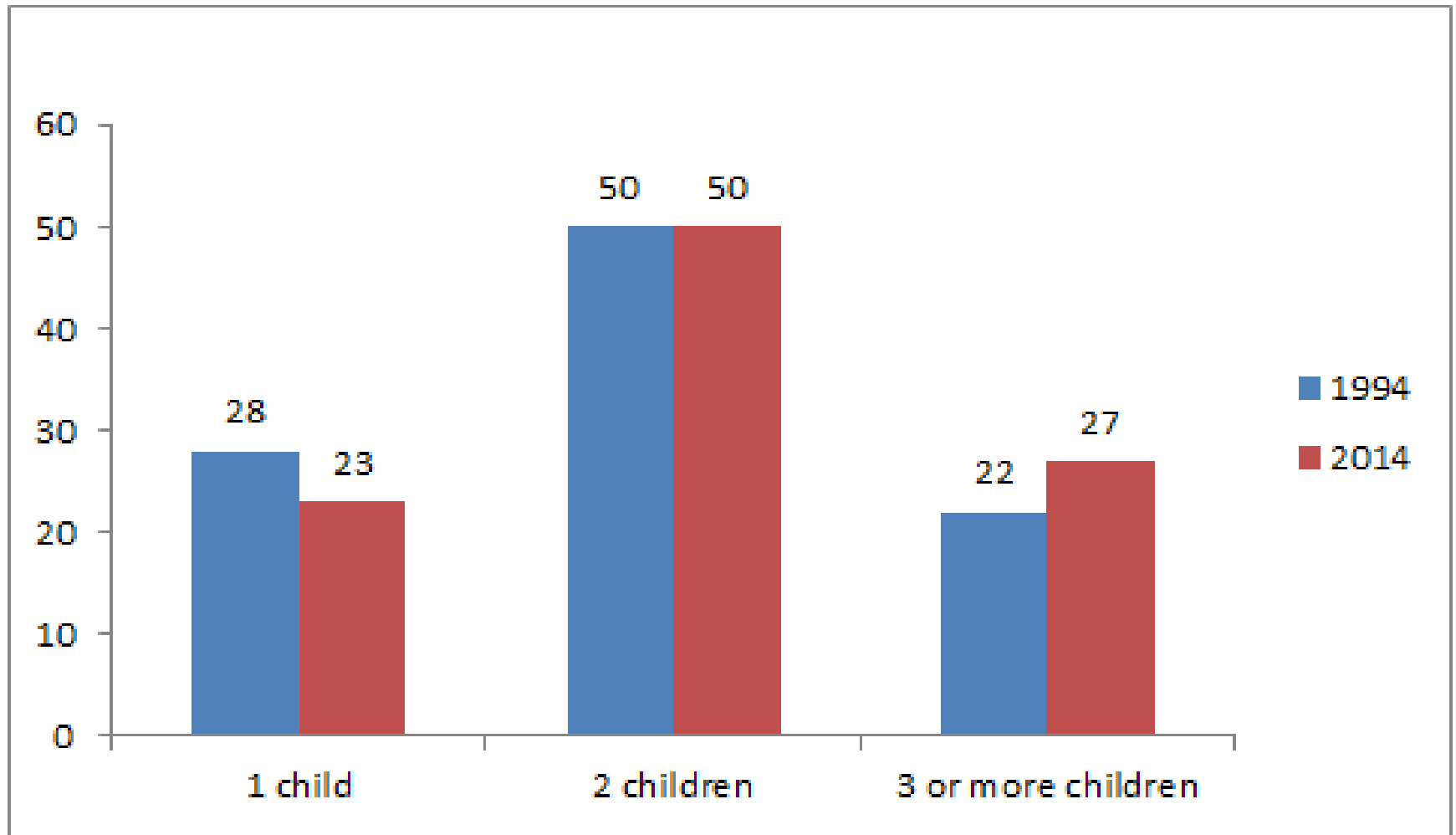


Sources: United Nations; ISI.

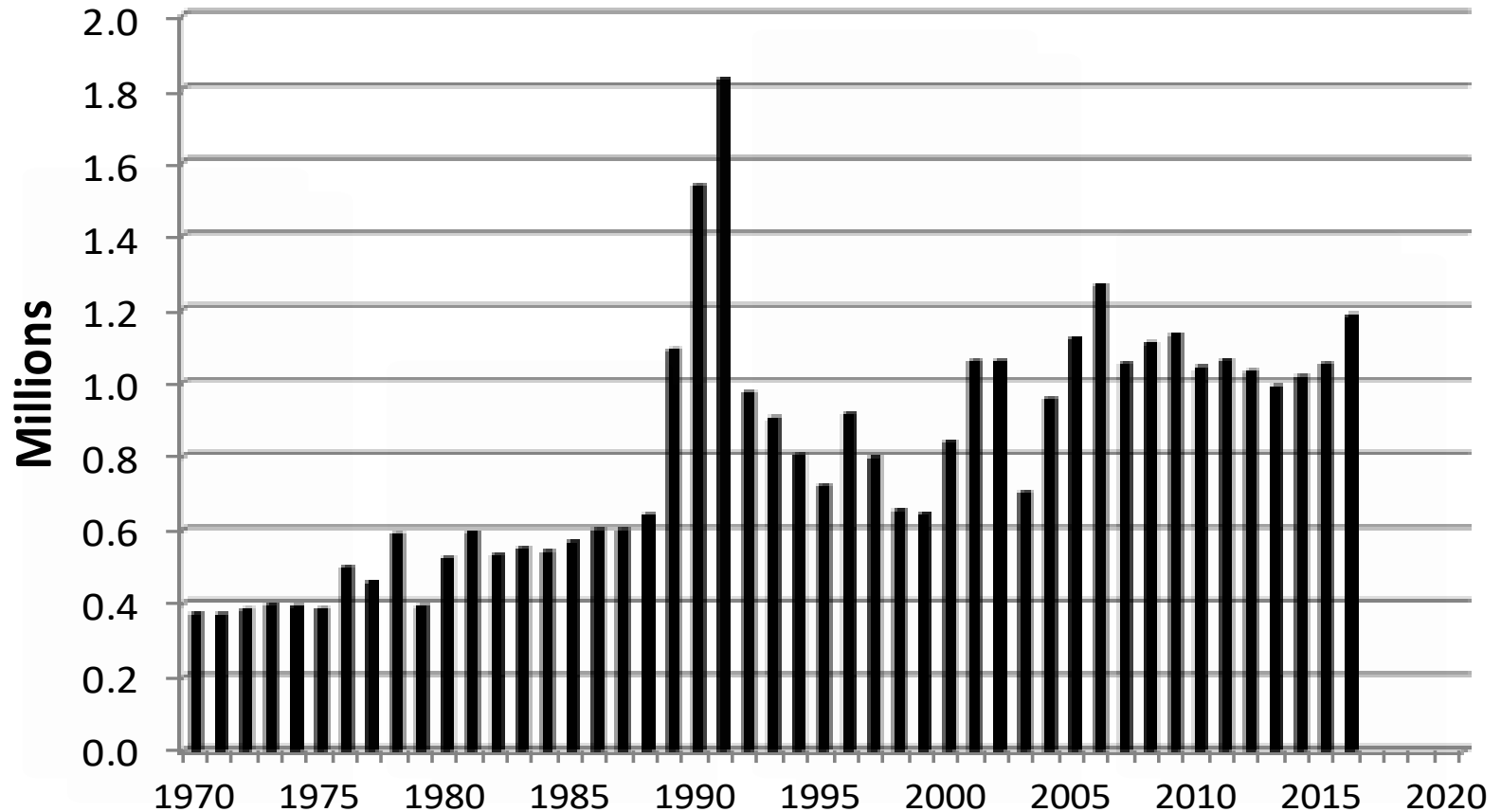
Percent of Women Aged 40-44 Who are Childless by Educational Attainment of Mother



Family Size of Mothers Aged 40-44 with an Postgraduate Degree



Legal Immigration

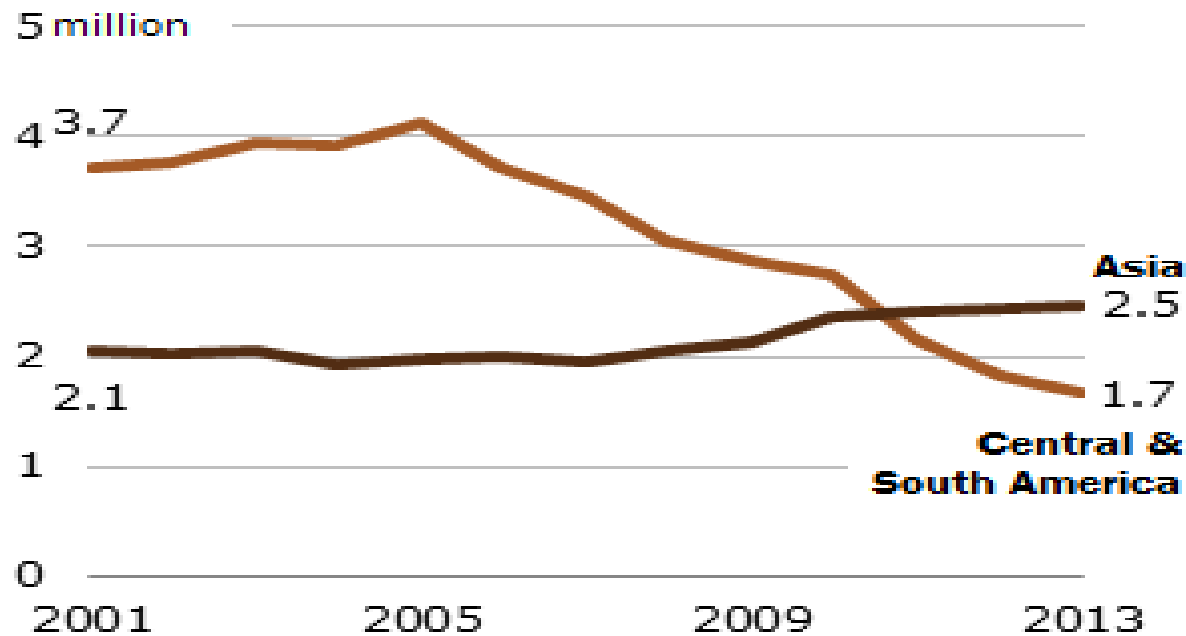


Sources: INS.

FIGURE 3.2

Asia Largest Source of Recent Arrivals

Immigrants arriving in the past 5 years

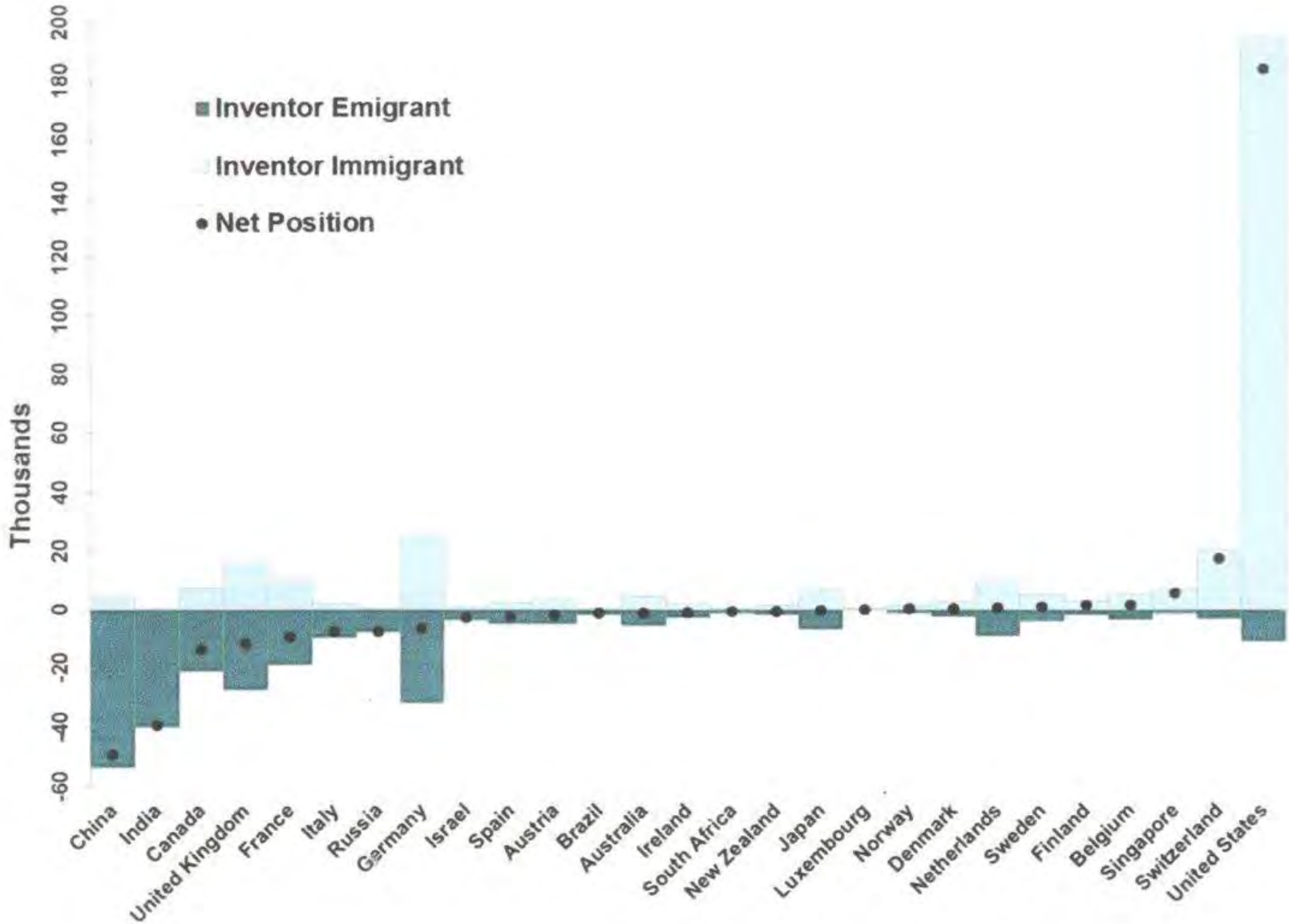


Note: The arrivals from Central and South America include those from Mexico. Figures for 2001 to 2005 are based on the household population and do not include arrivals residing in group quarters.

Source: Pew Research Center tabulations of 2001-2013 American Community Survey (IPUMS)

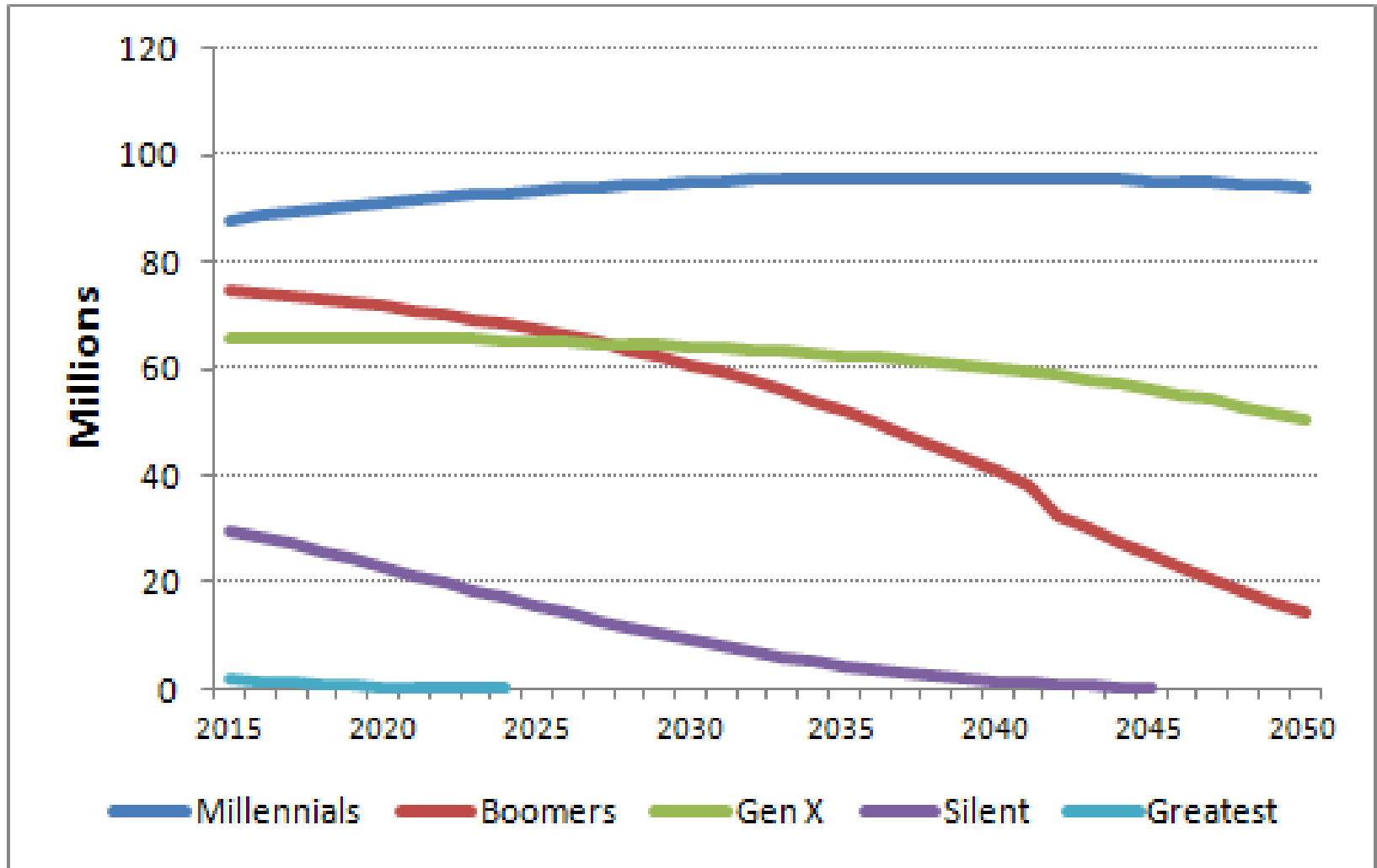
PEW RESEARCH CENTER

The US is Winning the Global War for Inventors

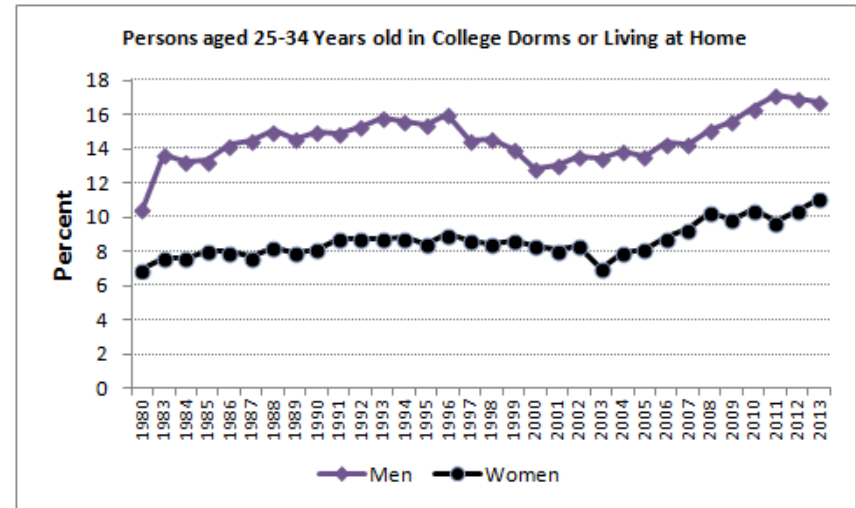
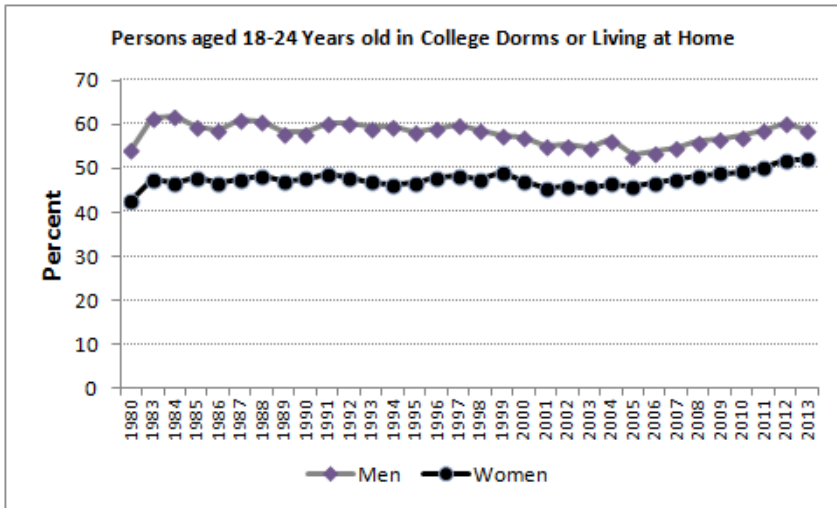


- Are Millennials a Different Generation?

Projected Population by Generation

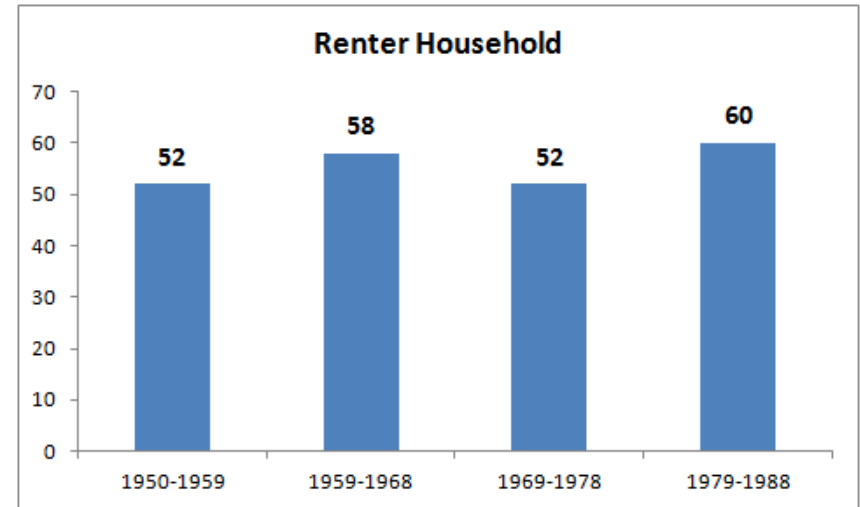
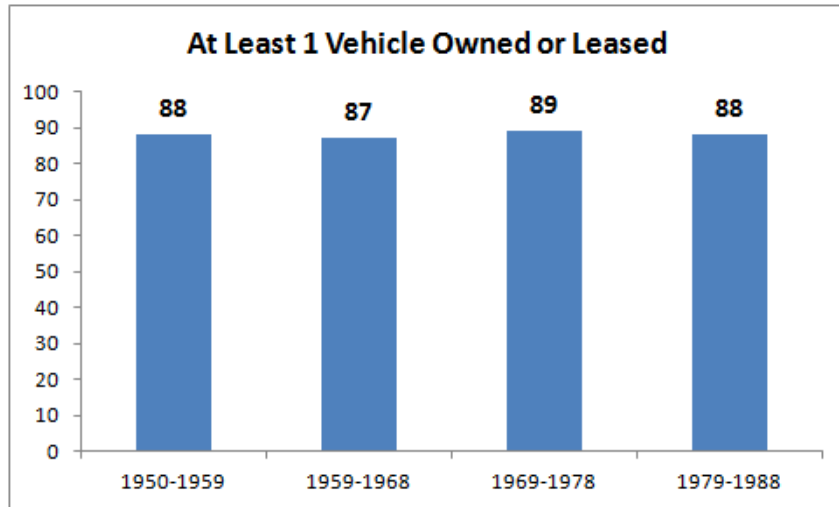


How Many Millennials Live at Home?

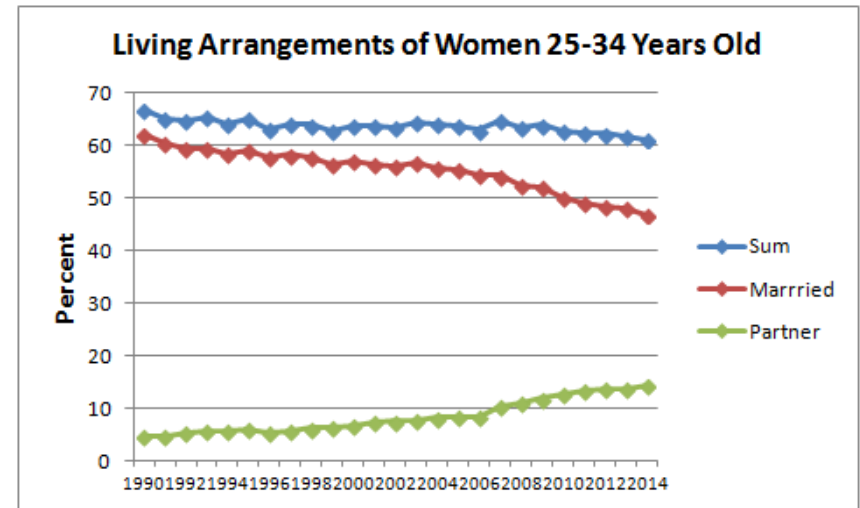
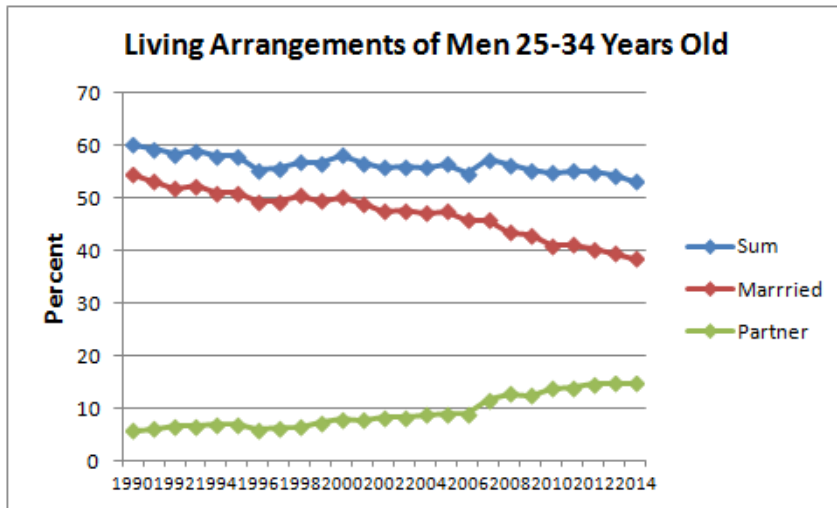


Millennials Own Cars and Will Become Homeowners

(Persons aged 25-34 by Years of Birth)

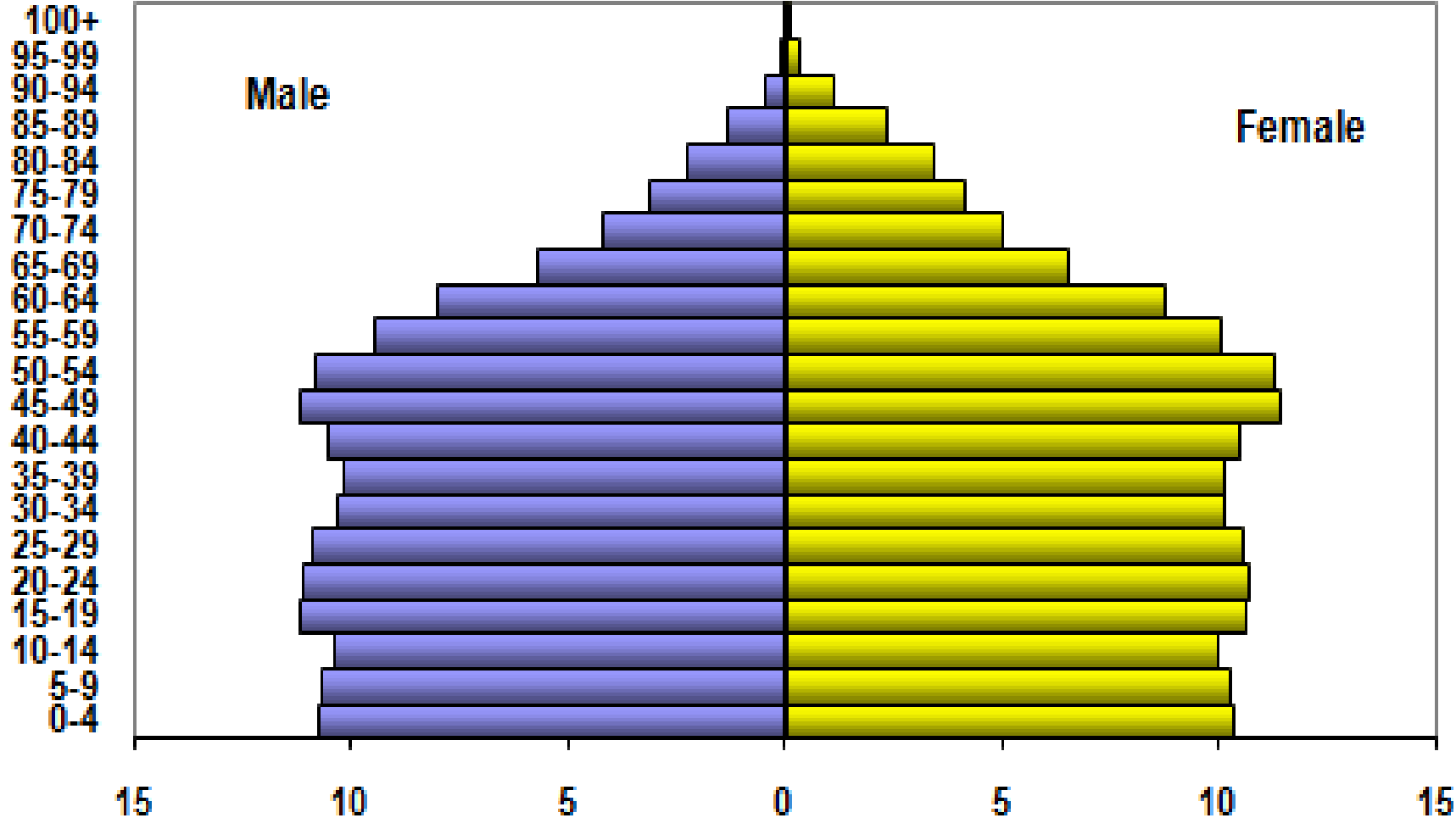


Married or Cohabiting?



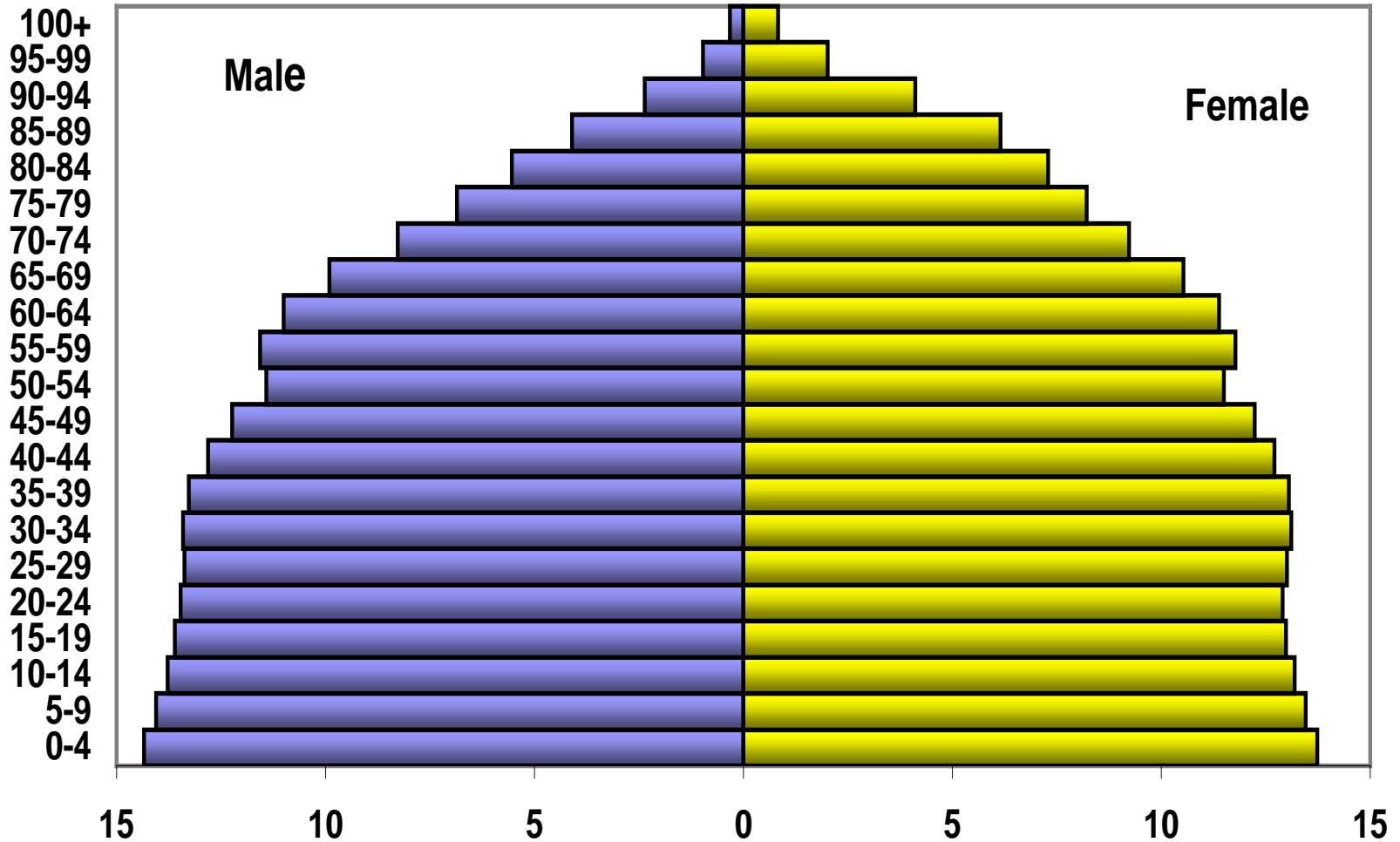
Social (In)Security?

United States: Population in Millions (2010)



Source: United Nations; Hokenson & Company.

United States: Population in Millions (2050)



Sources: United Nations; Hokenson & Company.

Developing World with a Focus on BRIC

Brazil



Russia



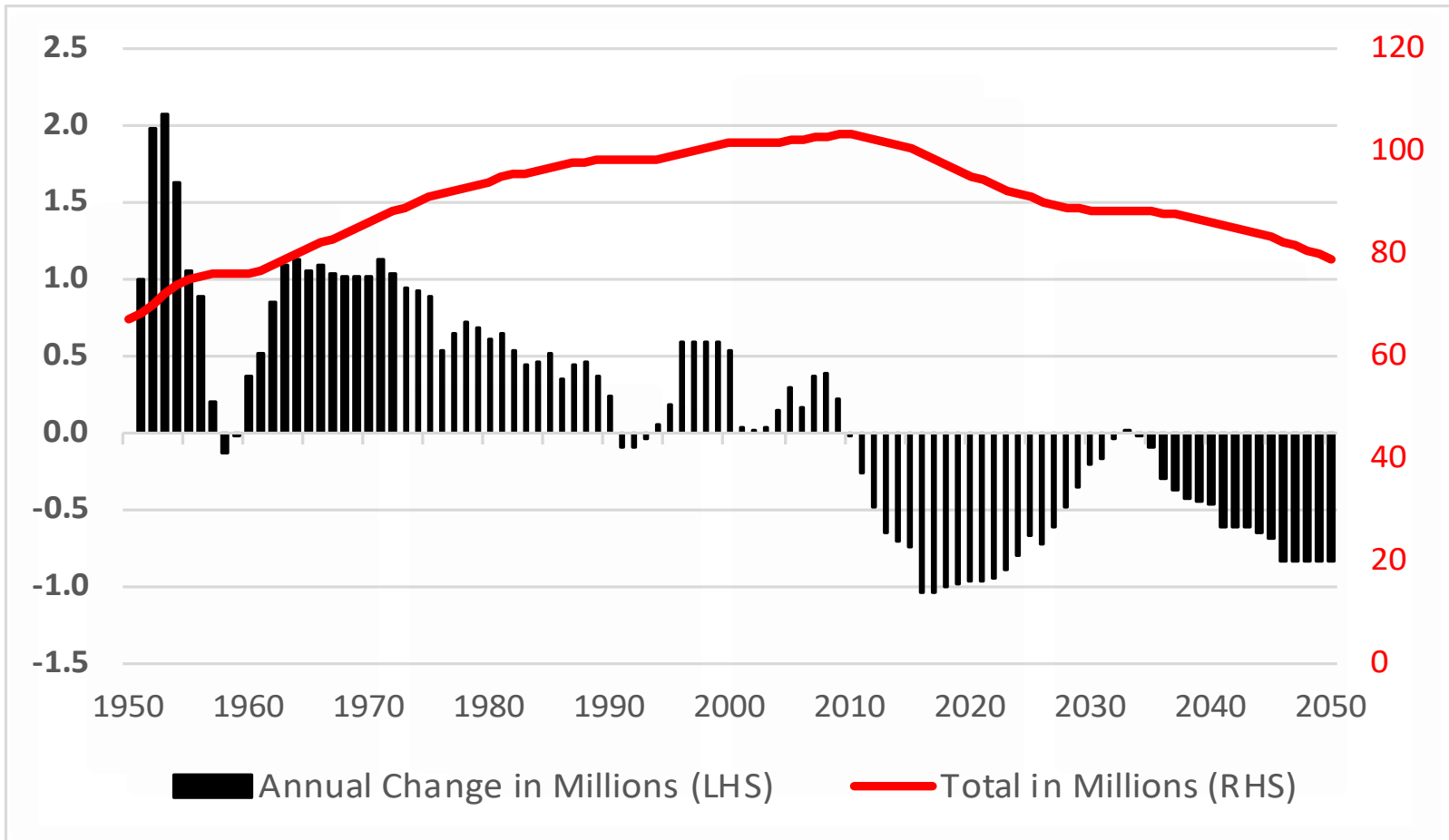
India



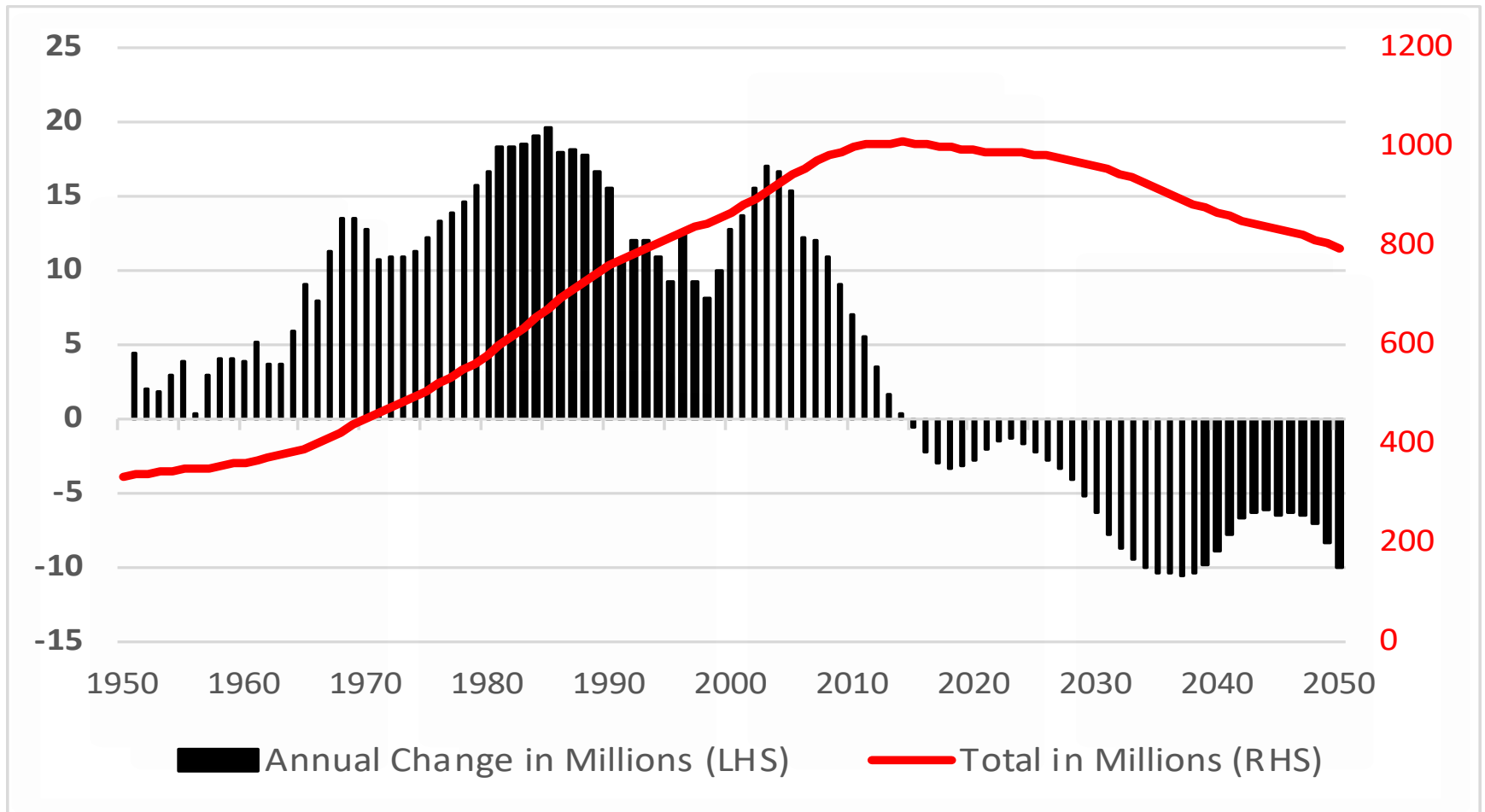
China



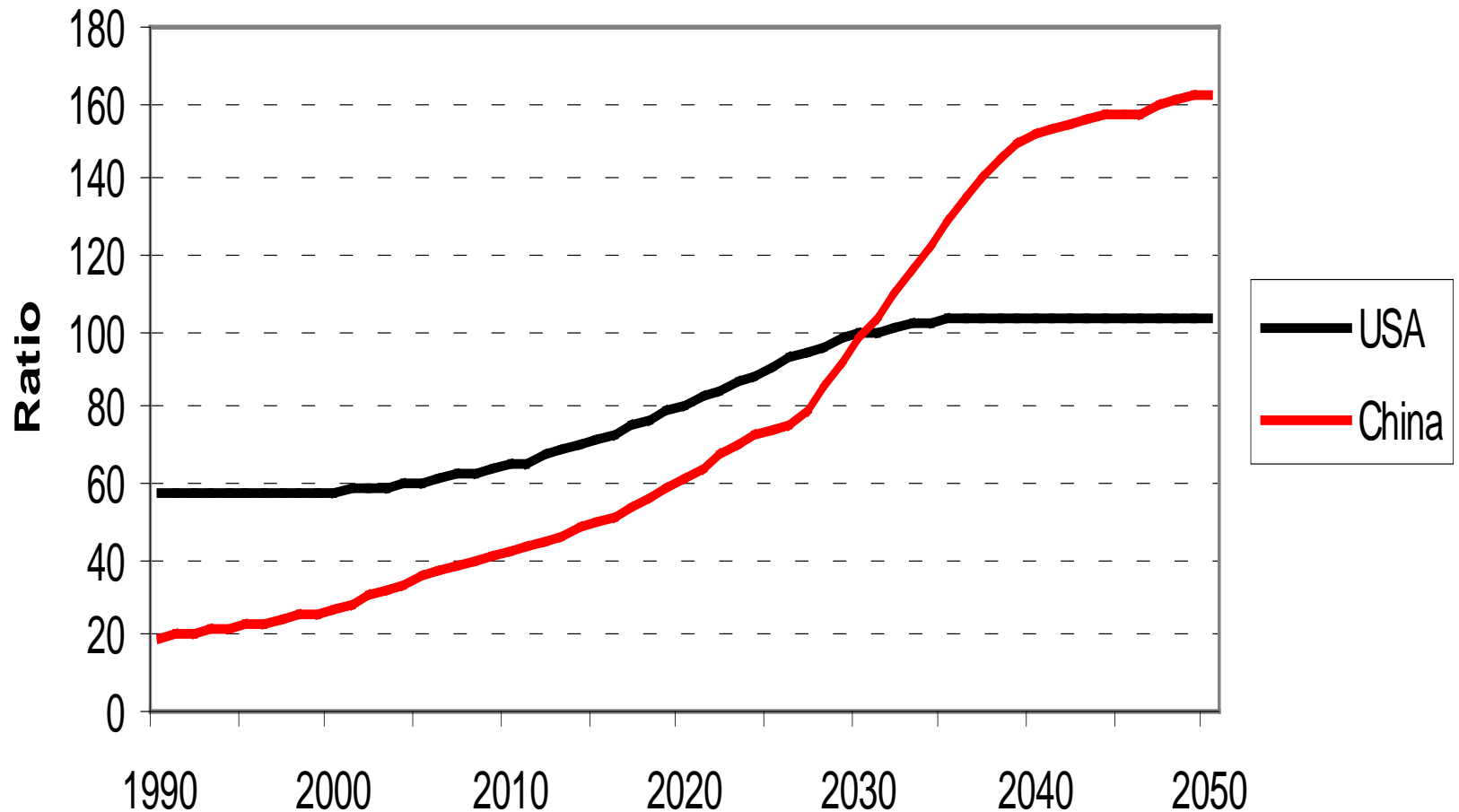
Russian Federation: Working age Population



China: Working Age Population



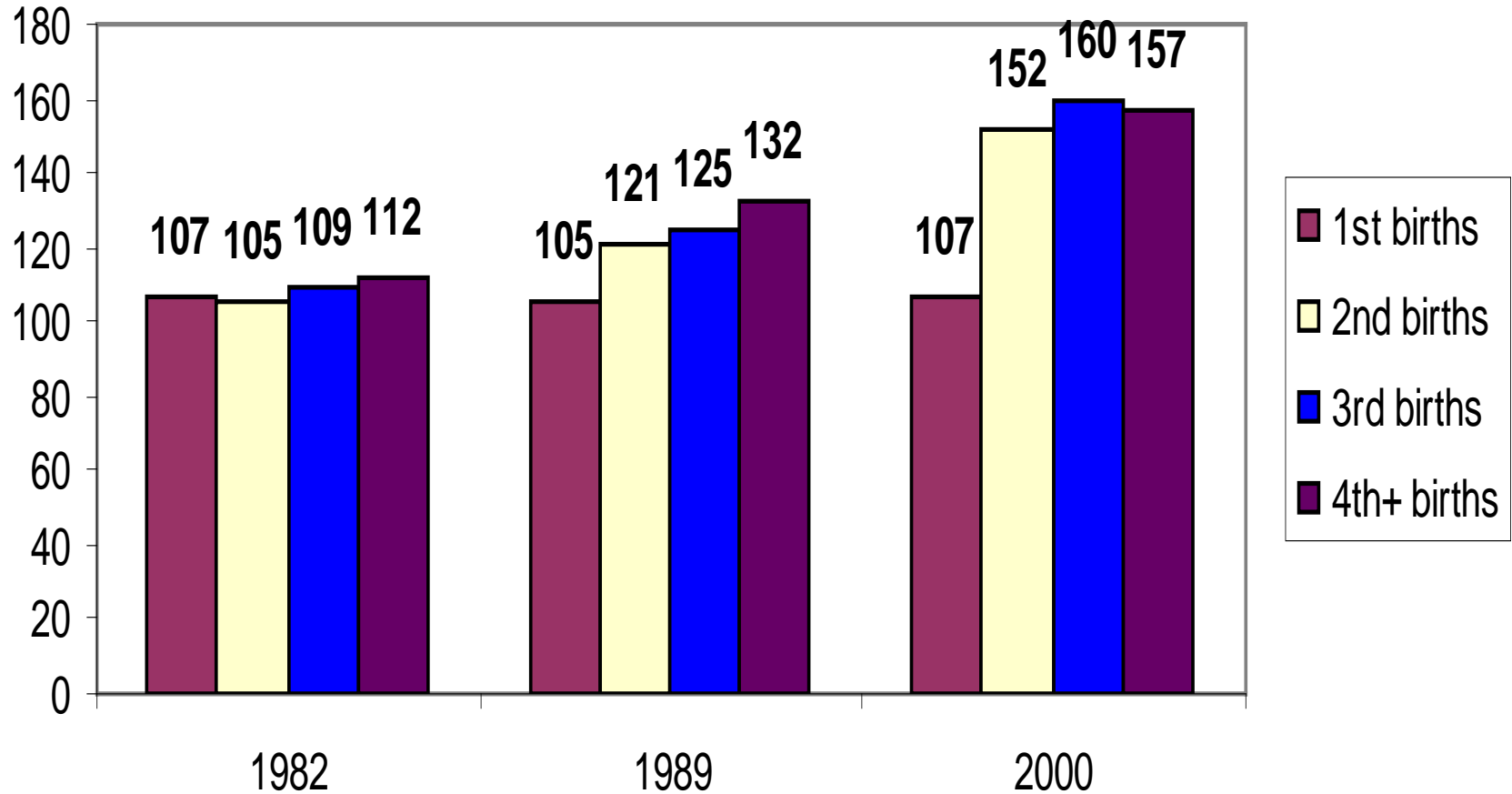
The Aging Index: China versus the US



Sources: United Nations; Hokenson & Company.

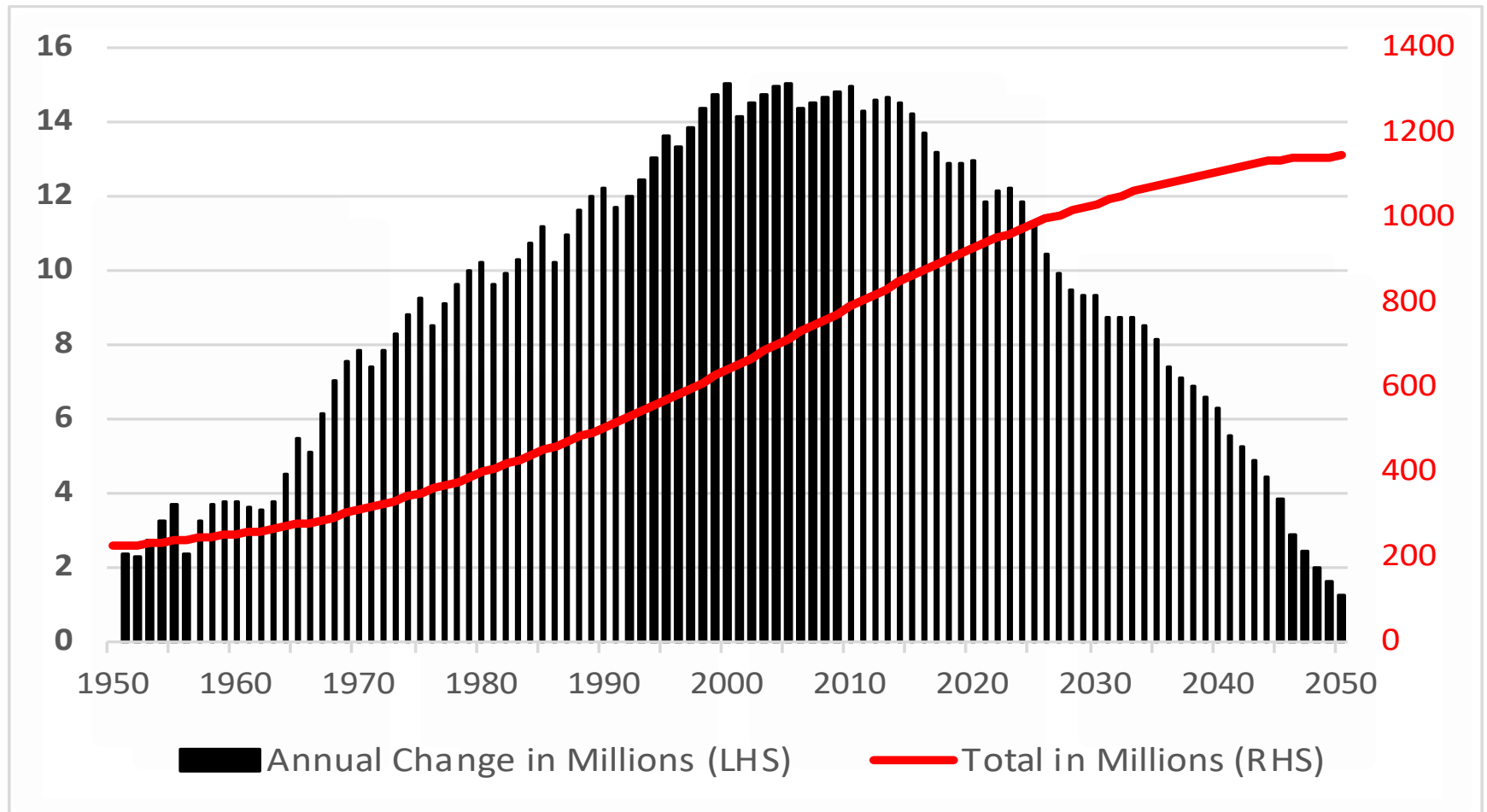
China: Six Brides for Seven Brothers

(Sex Ratio at Birth by Birth Order)

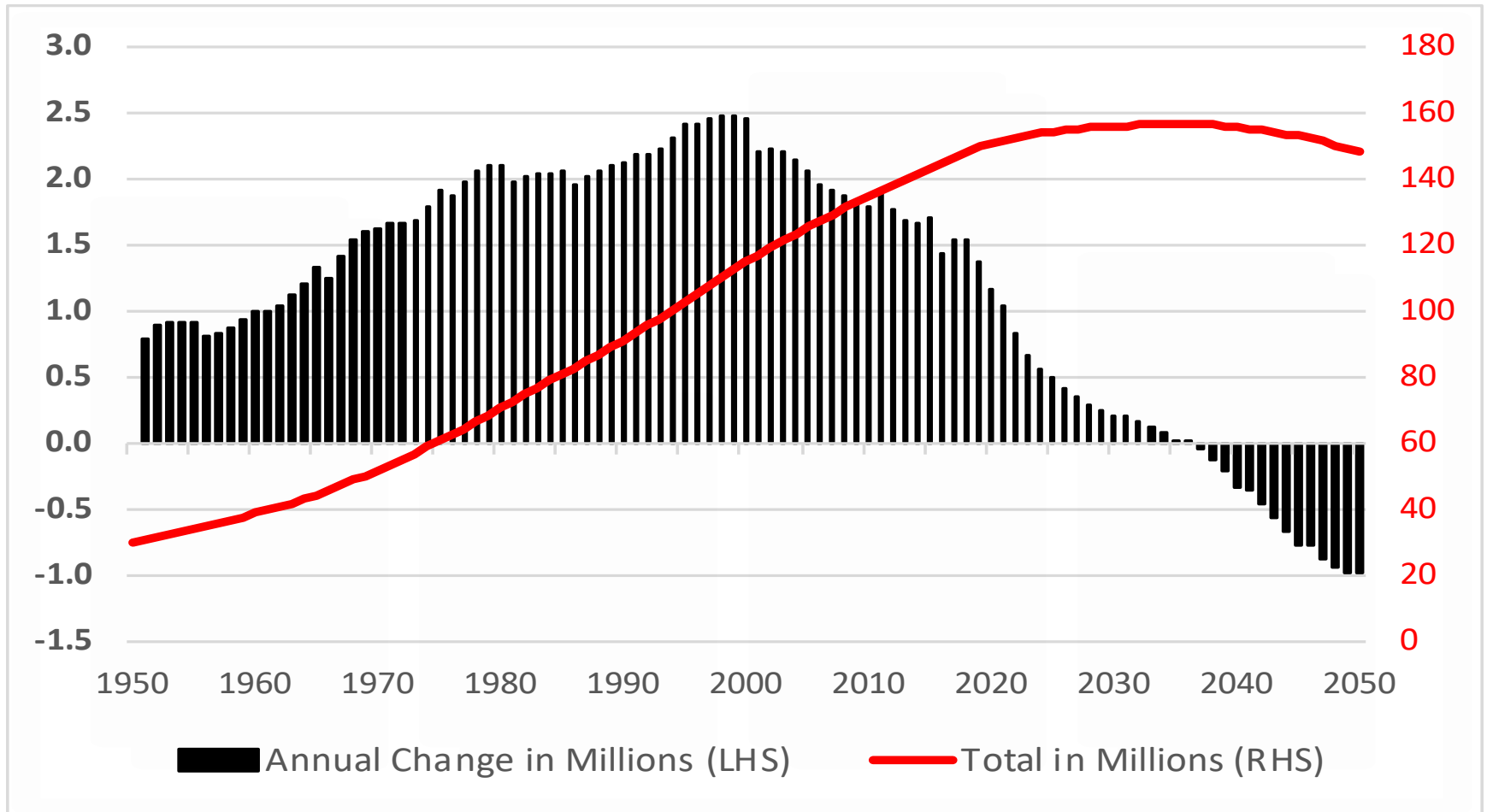


Source: China 2000 Census.

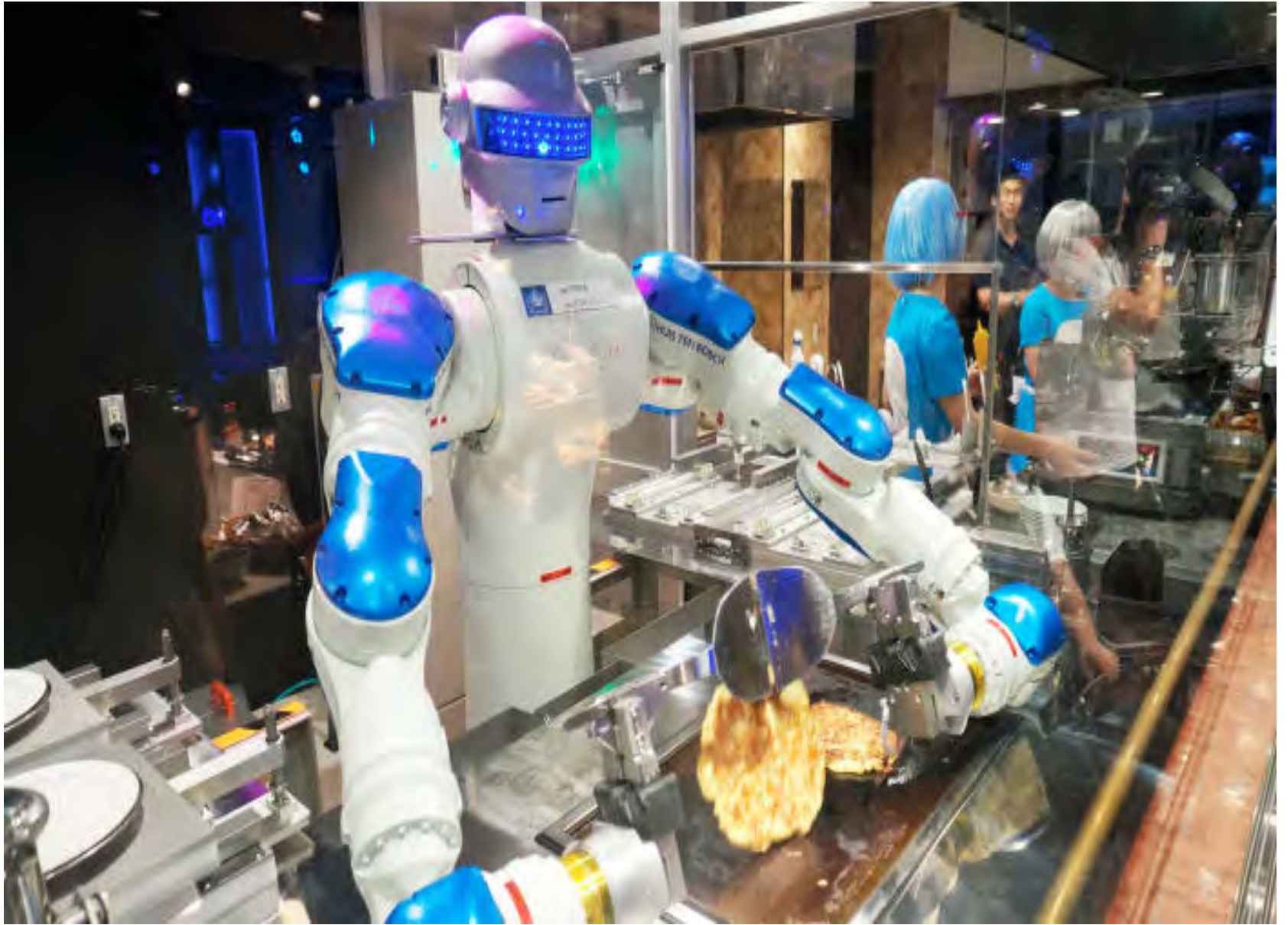
India: Working Age Population



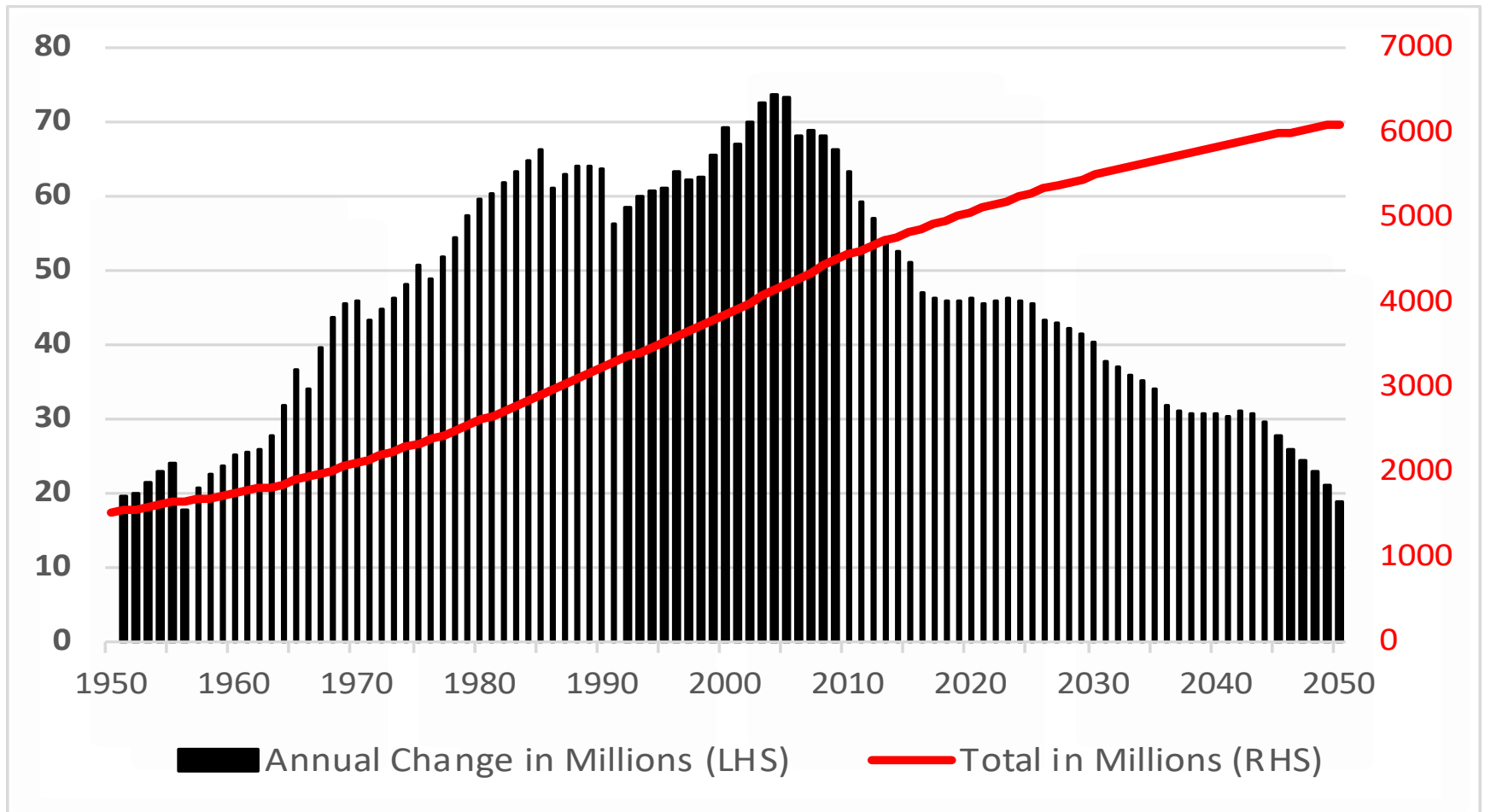
Brazil: Working Age Population



- A World Without Work
 - OR
- A World Without Workers?



World: Working Age Population



Suggested Readings and References

Simon, Julian – **The Ultimate Resource**

Easterlin, Richard - **Birth and Fortune: The Impact of Numbers on Personal Welfare**

Fisher, David Hackett - **The Great Wave: Price Revolutions and the Rhythm of History**

Friedan, Betty – **The Feminine Mystique**

Drucker, Peter – **The Age of Discontinuity**

Population and Development Review