# How Global Aging will Transform the Economy, Society, and Geopolitical Landscape of the 21st Century

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# Part I
# The Demographic Transformation

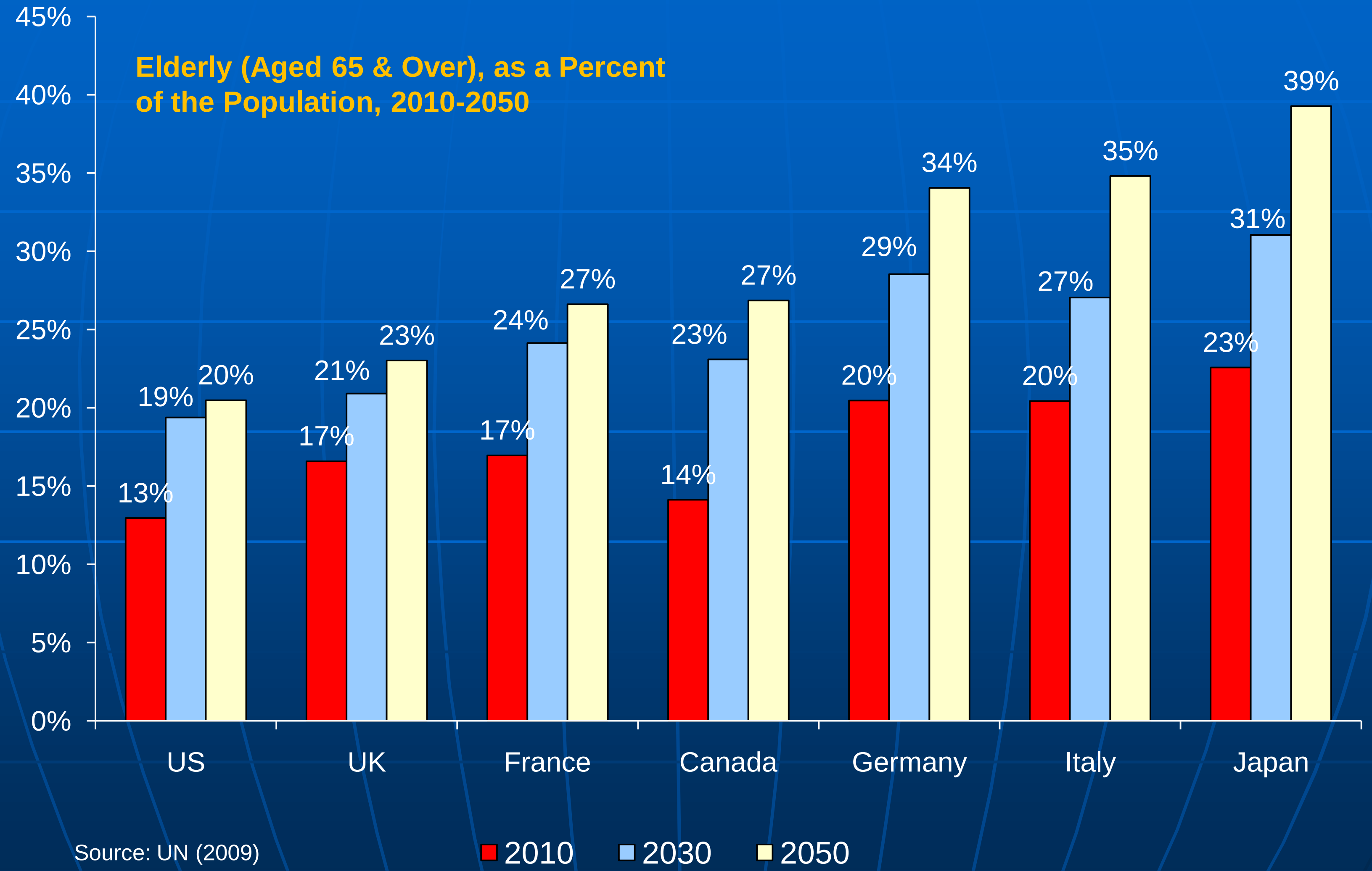
# Behind the developed-world age wave: Falling fertility and rising longevity.

## Total Fertility Rate and Life Expectancy: G-7 Countries

| | Total Fertility Rate | | | Life Expectancy at Birth | | |
|---|---|---|---|---|---|---|
| | 1960-65 | 1980-85 | 2005-10 | 1960-65 | 1980-85 | 2005-10 |
| Canada | 3.7 | 1.6 | 1.6 | 71.4 | 75.9 | 80.7 |
| France | 2.9 | 1.9 | 1.9 | 70.7 | 74.7 | 81.2 |
| Germany | 2.5 | 1.5 | 1.3 | 70.3 | 73.8 | 79.9 |
| Italy | 2.5 | 1.5 | 1.4 | 69.6 | 74.7 | 81.2 |
| Japan | 2.0 | 1.8 | 1.3 | 68.9 | 76.9 | 82.7 |
| UK | 2.8 | 1.8 | 1.8 | 70.8 | 74.0 | 79.4 |
| US | 3.3 | 1.8 | 2.1 | 70.0 | 74.3 | 79.2 |

Source: UN (2009)

# The developed countries are entering an unprecedented era of "hyperaging."




Source: UN (2009)

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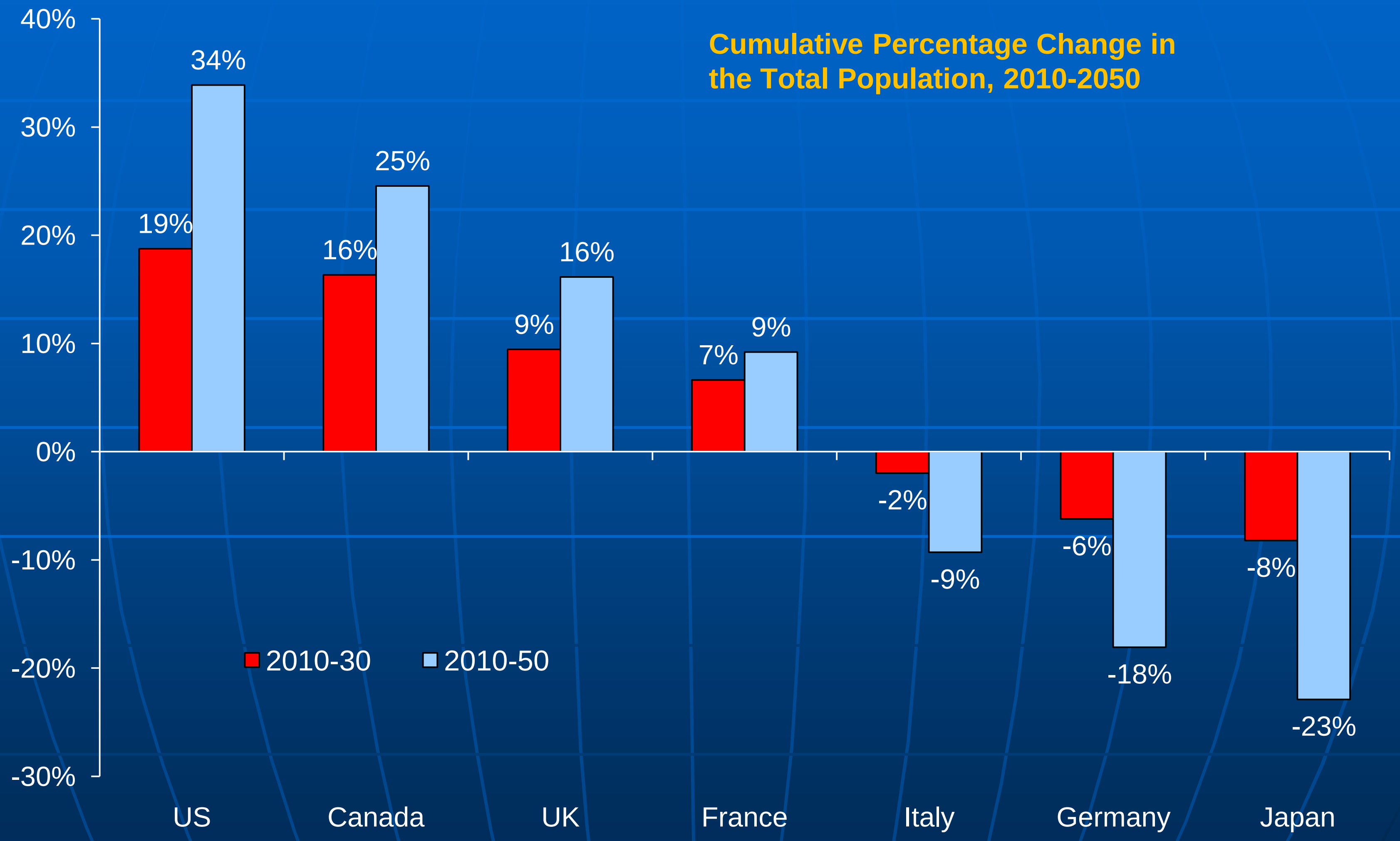
# Along with aging populations, most developed countries will have stagnant or contracting ones.




Source: UN (2009)

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# The developing world is still much younger, but it too is in the midst of the "demographic transition."

## Demographic Indicators for the Developing World

| | Fertility Rate | | Life Expectancy | | Median Age | | | Elderly Share | | | Total Pop. Change |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1975 | 2010 | 1975 | 2010 | 2010 | 2030 | 2050 | 2010 | 2030 | 2050 | 2010-50 |
| **Developing World** | 5.1 | 2.7 | 57.2 | 67.0 | 27.5 | 31.6 | 34.6 | 6.2% | 9.8% | 13.7% | 48.7% |
| **Sub-Saharan Africa** | 6.7 | 5.2 | 45.5 | 51.7 | 18.5 | 20.6 | 24.6 | 3.1% | 3.6% | 5.2% | 131.2% |
| **Muslim World** | 6.2 | 2.9 | 52.2 | 68.2 | 24.7 | 29.4 | 32.8 | 4.6% | 7.4% | 12.2% | 69.5% |
| **China & East Asia** | 4.7 | 1.7 | 63.2 | 73.2 | 34.4 | 41.6 | 46.4 | 8.4% | 16.3% | 24.2% | 1.8% |
| **India & South Asia** | 5.4 | 2.7 | 51.4 | 64.9 | 25.4 | 30.3 | 34.0 | 5.1% | 8.4% | 12.4% | 52.6% |
| **Russian Sphere** | 2.1 | 1.4 | 69.3 | 67.3 | 38.2 | 44.5 | 48.6 | 13.5% | 20.1% | 26.3% | -26.7% |
| **Eastern Europe** | 2.4 | 1.4 | 70.0 | 74.9 | 38.9 | 46.0 | 51.2 | 14.9% | 21.6% | 30.0% | -17.6% |
| **Latin America** | 5.1 | 2.3 | 61.3 | 73.5 | 27.7 | 33.5 | 37.5 | 6.9% | 11.7% | 17.4% | 38.8% |

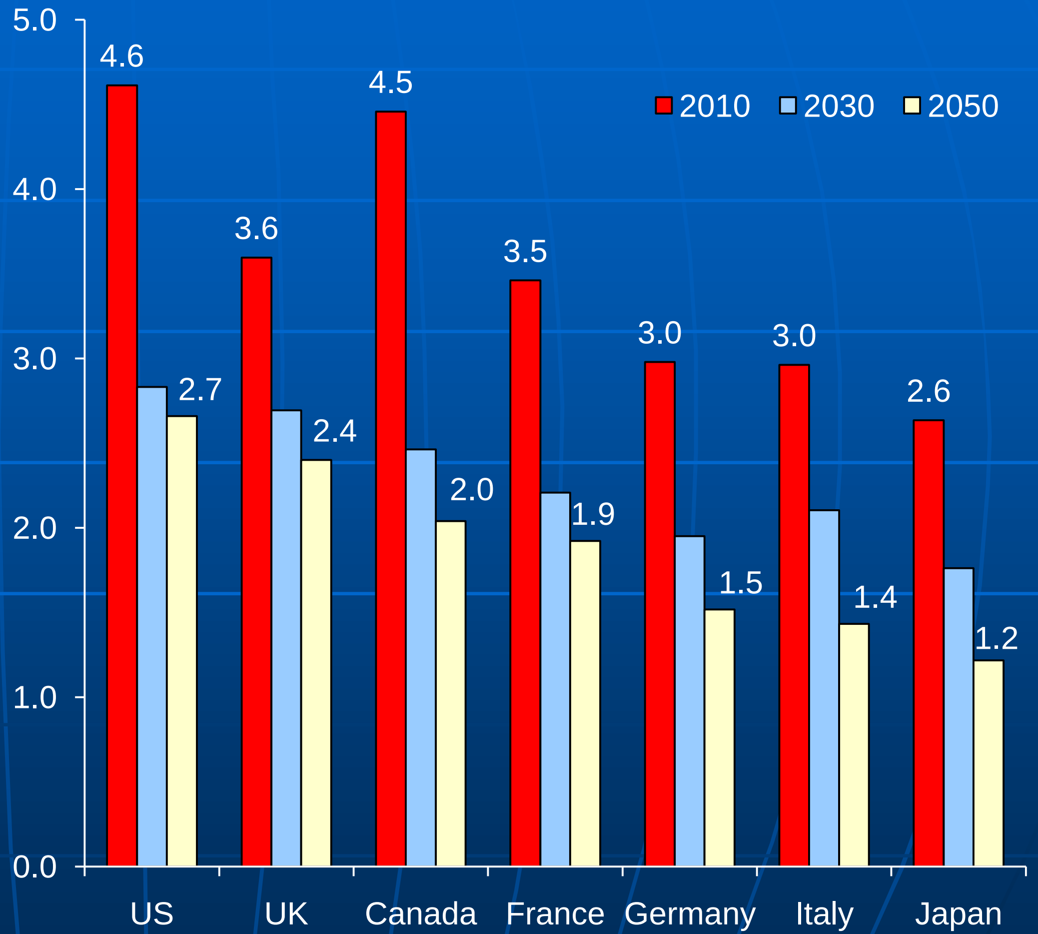
Source: UN (2009)

# Part II
# The Fiscal Challenge

# Fiscal Challenge

- Falling fertility and rising longevity translate directly into a falling support ratio of workers to retirees.
- A falling support ratio in turn translates into a rising cost rate for PAYGO retirement systems.

**Number of Working-Age Adults (Aged 20-64) per Elder (Aged 65 & Over), 2010-2050**




Source: UN (2009)

# Fiscal Challenge

## CSIS "Current Deal" Projection:
## Government Old-Age Benefits, as a Percent of GDP, 2007–2050

| | Public Pensions | | | Health Benefits | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2030 | 2050 | 2007 | 2030 | 2050 | 2007 | 2030 | 2050 |
| **Canada** | 3.9% | 7.0% | 8.4% | 3.6% | 6.1% | 8.9% | 7.5% | 13.1% | 17.3% |
| **France** | 11.2% | 17.8% | 19.6% | 4.5% | 7.8% | 10.2% | 15.6% | 25.6% | 29.8% |
| **Germany** | 10.0% | 17.0% | 20.4% | 4.1% | 6.3% | 8.5% | 14.1% | 23.3% | 28.9% |
| **Italy** | 12.3% | 18.9% | 24.6% | 3.4% | 5.5% | 7.5% | 15.7% | 24.4% | 32.1% |
| **Japan** | 9.1% | 13.9% | 19.3% | 4.0% | 6.0% | 8.0% | 13.2% | 19.9% | 27.3% |
| **UK** | 5.8% | 7.9% | 8.5% | 4.0% | 6.3% | 8.8% | 9.8% | 14.2% | 17.3% |
| **United States** | 4.1% | 6.6% | 7.0% | 4.2% | 8.0% | 10.2% | 8.3% | 14.6% | 17.2% |
| **Developed World** | 8.8% | 13.7% | 16.6% | 3.8% | 6.3% | 8.6% | 11.2% | 17.9% | 22.5% |

Note: Data refer to benefits to persons aged 60 and over. Pension projections assume retirement ages remain unchanged and benefits continue to replace the same share of wages they do today.
Source: *The Global Aging Preparedness Index* (CSIS, 2010)

# Fiscal Challenge

- Few countries will be able to raise taxes enough to cover more than a fraction of the age wave's cost.
- Most will have to cut benefits—but the required adjustments are large and are likely to meet growing political resistance from aging electorates.
- The alternatives: cannibalize other public spending or let fiscal deficits grow.

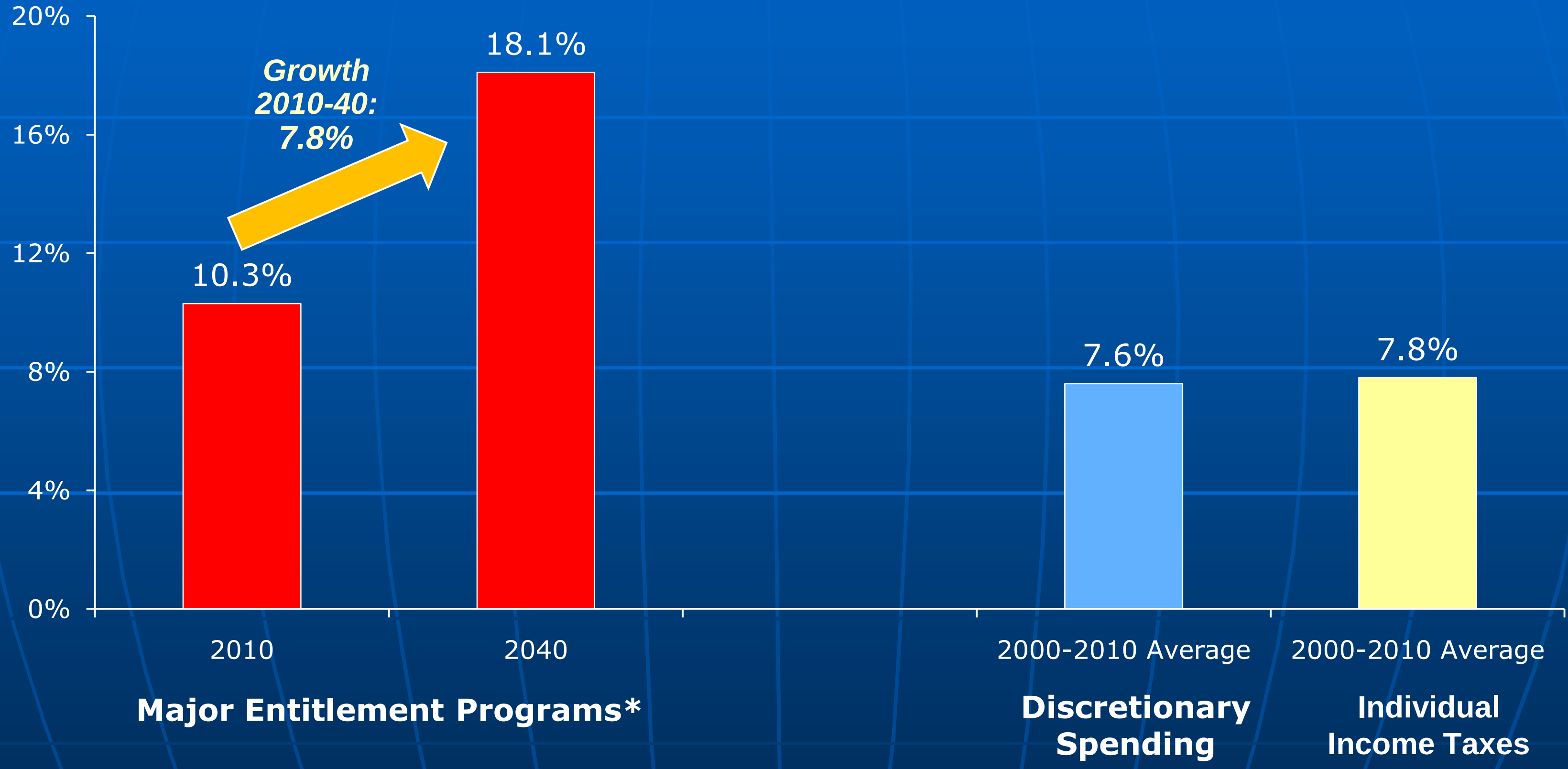
**CSIS "Current Deal Projection"***

| | Public Pension Expenditures, as a % of GDP | | Retirement Age Hike Required to Stabilize Costs | Benefit Cut Required to Stabilize Costs |
|---|---|---|---|---|
| | 2007 | 2050 | 2007-50 | 2007-50 |
| Canada** | 3.9% | 8.4% | 10 | 54% |
| France | 11.2% | 19.6% | 8 | 43% |
| Germany | 10.0% | 20.4% | 9 | 51% |
| Italy | 12.3% | 24.6% | 10 | 50% |
| Japan | 9.1% | 19.3% | 11 | 53% |
| UK | 5.8% | 8.5% | 7 | 31% |
| US | 4.1% | 7.0% | 7 | 41% |

*Data refer to benefits to persons aged 60 and over. Pension projections assume retirement ages remain unchanged and benefits continue to replace the same share of wages they do today. **Projection for Canada ignores current trust-fund build up.
Source: *The Global Aging Preparedness Index* (CSIS, 2010)

# Fiscal Challenge

**Projected Growth in Major U.S. Entitlement Programs* versus Current Discretionary Spending and Individual Income Taxes, as a Percent of GDP**




* CBO "Alternative Fiscal Scenario." Includes Social Security, Medicaid, Medicare, Exchange Subsidies, and CHIP outlays.
Source: CBO (2010)

# Part III
# The Broader Economic and Social Challenge

# Slower Economic Growth

- The slowdown in workforce growth in the developed world will translate into slower growth in GDP.
- Japan and some faster-aging European countries face a future of secular stagnation.
- Productivity and living standard growth may also slow as rates of saving and investment decline.
- Aging workforces may be less flexible, less mobile, and less entrepreneurial—putting a further drag on economic growth.
- Stagnant or contracting markets will increase the risk of "beggar-thy-neighbor" protectionism.

**Average Annual Growth Rate in the Working-Age Population (Aged 20-64), by Decade**

| | 1980s | 1990s | 2000s | 2010s | 2020s | 2030s | 2040s |
|---|---|---|---|---|---|---|---|
| Canada | 1.7% | 1.1% | 1.2% | 0.5% | 0.0% | 0.2% | 0.1% |
| France | 1.0% | 0.4% | 0.6% | -0.2% | -0.1% | -0.2% | 0.0% |
| Germany | 1.1% | 0.2% | -0.2% | -0.3% | -1.2% | -1.2% | -0.9% |
| Italy | 0.9% | 0.2% | 0.3% | -0.3% | -0.6% | -1.2% | -0.9% |
| Japan | 0.7% | 0.4% | -0.4% | -1.0% | -0.7% | -1.5% | -1.5% |
| UK | 0.6% | 0.4% | 0.6% | 0.3% | 0.0% | 0.1% | 0.3% |
| US | 1.4% | 1.2% | 1.1% | 0.6% | 0.3% | 0.6% | 0.6% |

Source: UN (2009)

# Emerging Capital Shortages

- The lifecycle consumption hypothesis predicts that savings rates will fall as more of the population enters its harvest years.
- Growing fiscal deficits may exacerbate the decline in private savings rates.
- The danger of a "Great Depreciation" in financial markets as postwar baby booms retire is overstated.
- Instead, aging countries are likely to become more dependent on capital imports from younger and faster-growing countries.

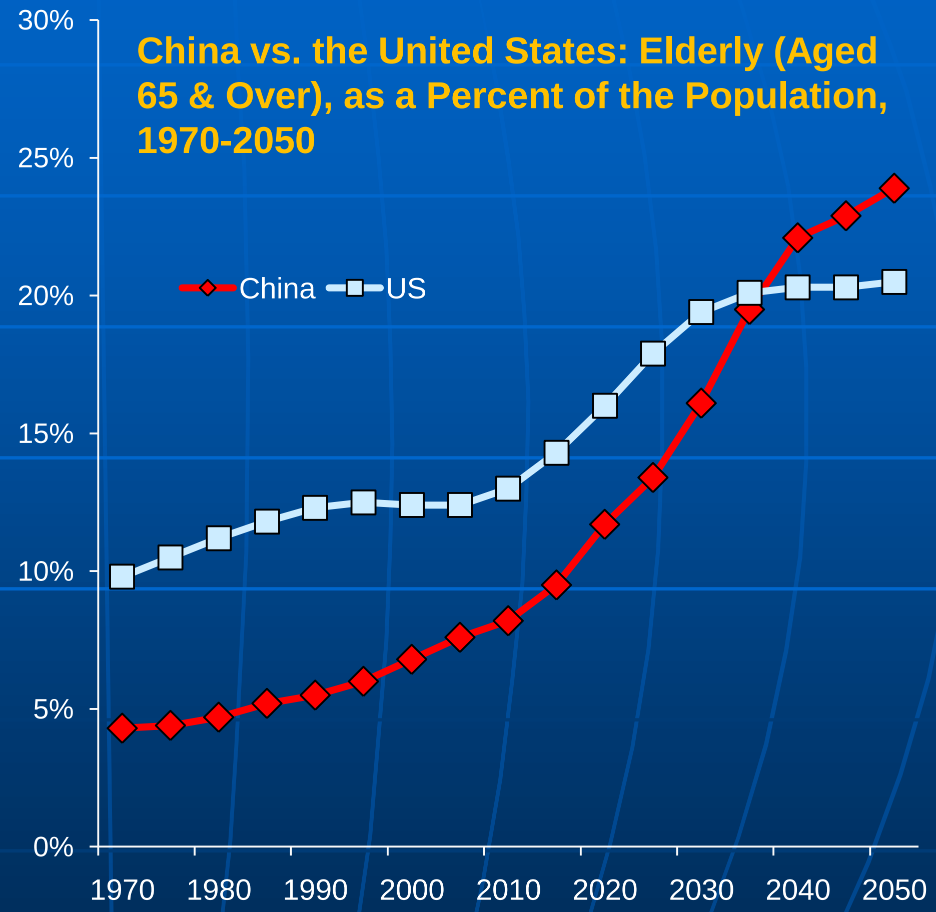
**Adults Aged 20 & Over by Age Group, as a Percent of All Adults**

| | | 2010 | 2020 | 2030 | 2040 |
|---|---|---|---|---|---|
| US | Age 20-34 | 28% | 28% | 26% | 26% |
| | Age 35-59 | 47% | 42% | 41% | 41% |
| | Age 60 & Over | 25% | 30% | 33% | 33% |
| EU15 | Age 20-34 | 24% | 22% | 20% | 19% |
| | Age 35-59 | 46% | 44% | 40% | 38% |
| | Age 60 & Over | 31% | 34% | 40% | 43% |
| Japan | Age 20-34 | 22% | 18% | 18% | 16% |
| | Age 35-59 | 41% | 41% | 38% | 34% |
| | Age 60 & Over | 37% | 41% | 45% | 50% |

Source: UN (2007)

# Growing Dependence on Foreign Savings

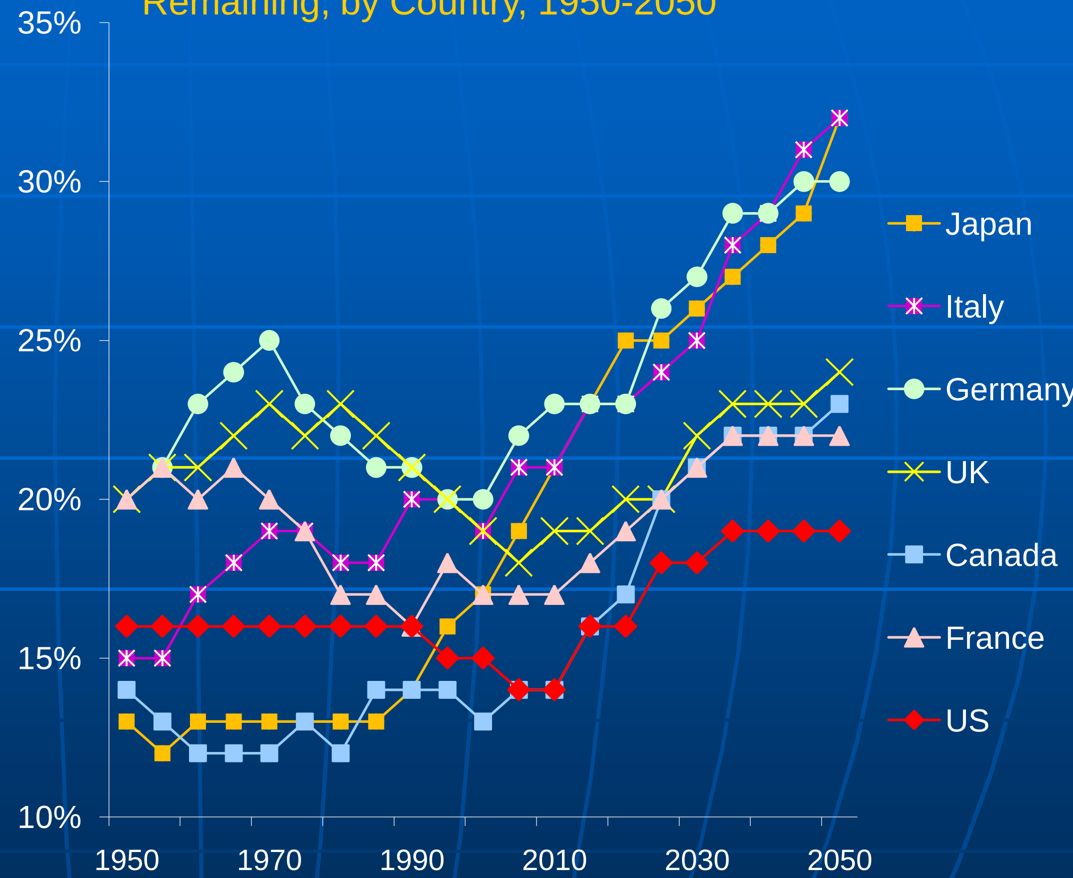
- **Conventional view: Savings will flow from aging rich countries to younger developing countries.**
- **New view: Savings will "flow uphill" from the poor world to the rich world.**
- **Capital imports can help prop up consumption in an aging developed world—but this "global solution" comes with large costs (debt service) and large risks (political leverage).**
- **In any case, it is not sustainable since the new developing-world suppliers of capital will be aging too.**



# A More Risk-Averse Social Mood

- As societies age, the overall social mood may become more risk averse and "small c" conservative.
- Smaller families may find it more difficult to socialize the young—and care for the old.
- Elder-dominated electorates may lock in current public spending commitments at the expense of new priorities.
- Even as societies age, they will also become more diverse—challenging social cohesion in some countries.

Share of Population with Less than 20 Years of Life Remaining, by Country, 1950-2050

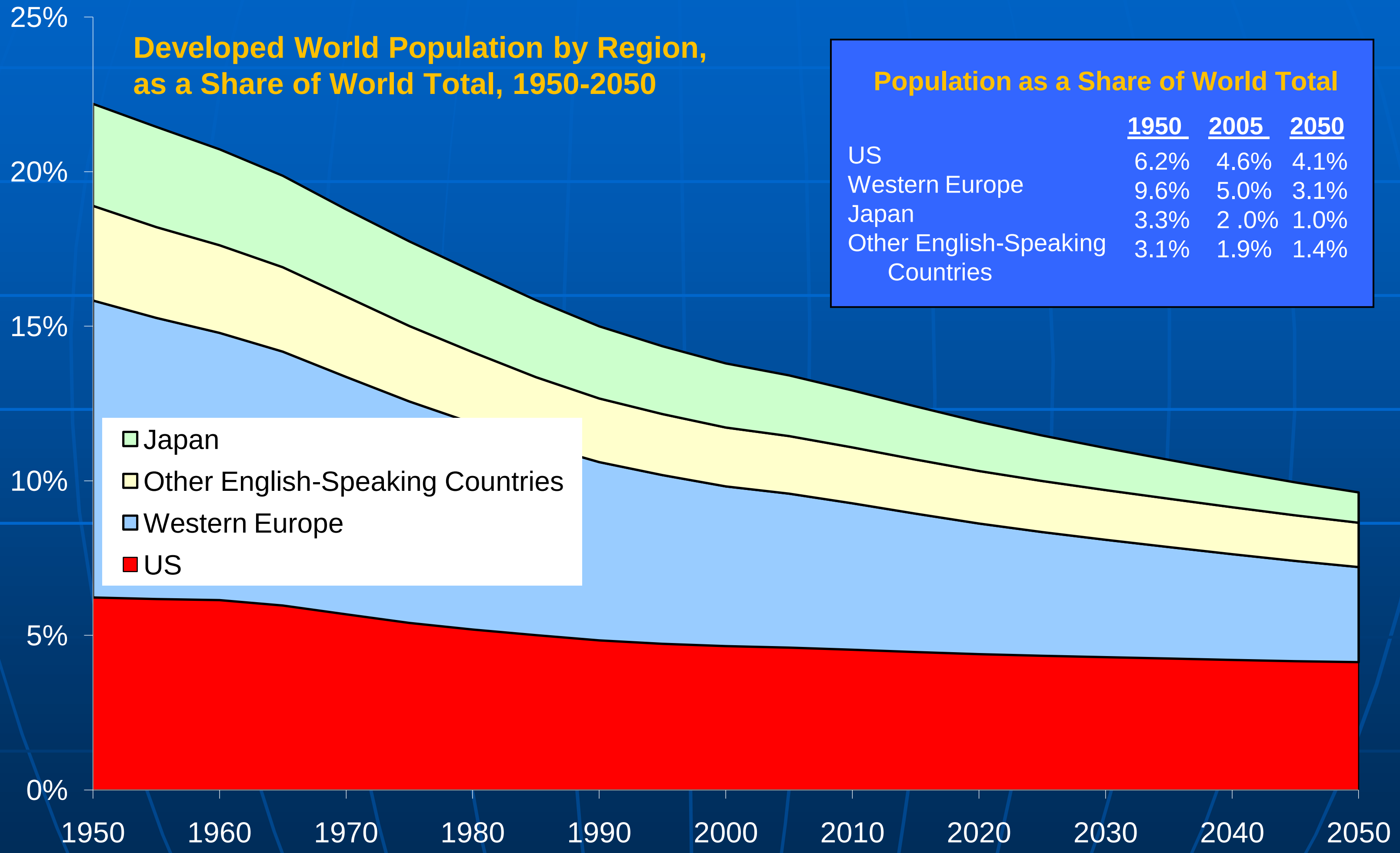



Source: CSIS calculations based on UN (2007) and Human Mortality Database, University of California, Berkeley and Max Planck Institute for Demographic Research

# Part IV

# The Geopolitical Challenge

# The developed world:
# A shrinking share of global population.




**Population as a Share of World Total**

| | 1950 | 2005 | 2050 |
|---|---|---|---|
| US | 6.2% | 4.6% | 4.1% |
| Western Europe | 9.6% | 5.0% | 3.1% |
| Japan | 3.3% | 2 .0% | 1.0% |
| Other English-Speaking Countries | 3.1% | 1.9% | 1.4% |

Source: *The Graying of the Great Powers* (CSIS, 2008)

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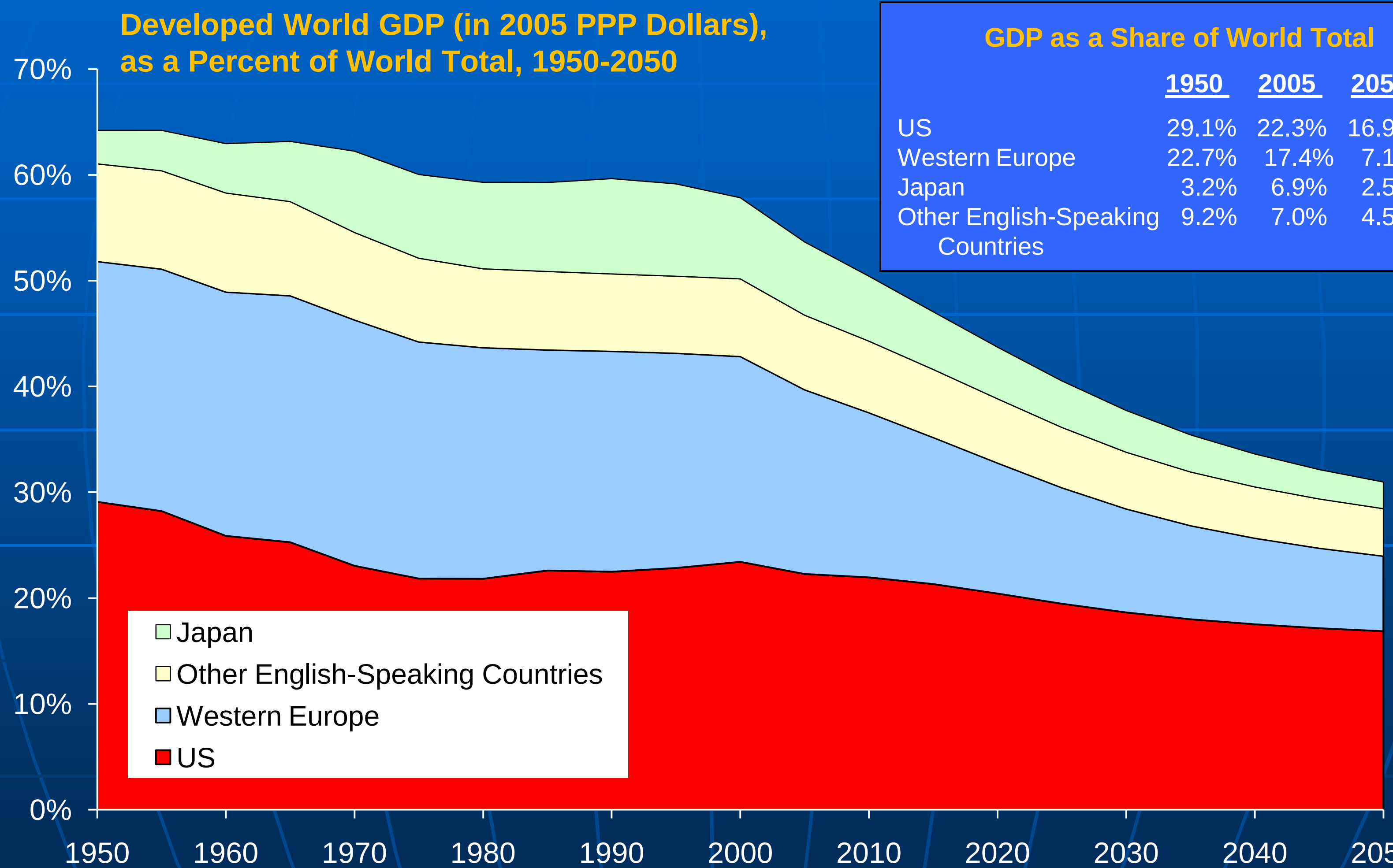
# The developed world:
# A shrinking share of global GDP.




**GDP as a Share of World Total**

| | 1950 | 2005 | 2050 |
|---|---|---|---|
| US | 29.1% | 22.3% | 16.9% |
| Western Europe | 22.7% | 17.4% | 7.1% |
| Japan | 3.2% | 6.9% | 2.5% |
| Other English-Speaking Countries | 9.2% | 7.0% | 4.5% |

Source: *The Graying of the Great Powers* (CSIS, 2008)

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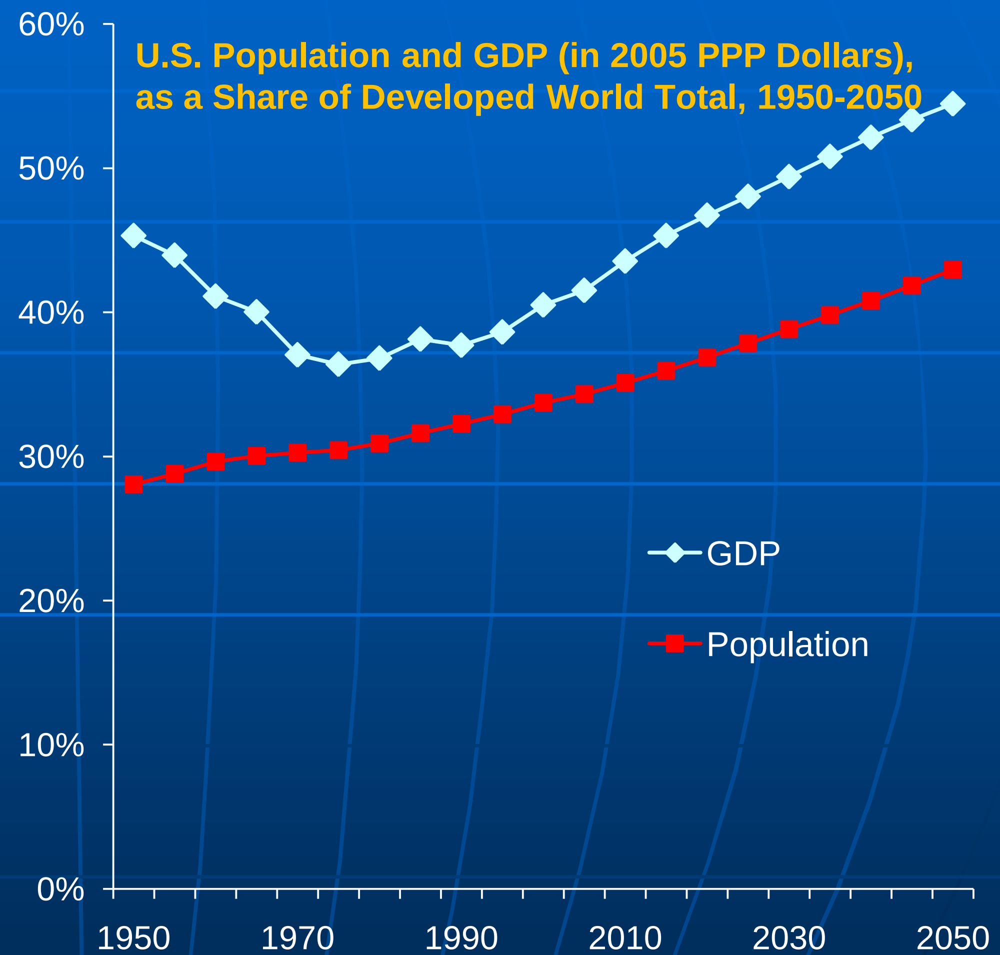
# 12 Largest Countries Ranked by Population

| Ranking | 1950 | 2010 | 2050 |
|---|---|---|---|
| 1 | China | China | India |
| 2 | India | India | China |
| 3 | ***US*** | ***US*** | ***US*** |
| 4 | Russian Federation | Indonesia | Pakistan |
| 5 | ***Japan*** | Brazil | Nigeria |
| 6 | Indonesia | Pakistan | Indonesia |
| 7 | ***Germany*** | Bangladesh | Bangladesh |
| 8 | Brazil | Nigeria | Brazil |
| 9 | ***UK*** | Russian Federation | Ethiopia |
| 10 | ***Italy*** | ***Japan*** | Philippines |
| 11 | Bangladesh | Mexico | Dem. Rep. Congo |
| 12 | ***France*** | Philippines | Egypt |
| | | ***Germany*** (16) | Russian Federation (16) |
| | | ***France*** (21) | ***Japan*** (19) |
| | | ***UK*** (22) | ***UK*** (27) |
| | | ***Italy*** (23) | ***France*** (29) |
| | | | ***Germany*** (30) |
| | | | ***Italy*** (37) |

Source: UN (2009)
Note: Rankings for developed countries that have fallen below 12 are in parentheses.

# The United States is better positioned to confront the age wave than most developed countries.

- The United States is now the youngest of the developed countries—and thanks to its relatively high fertility rate and substantial net immigration it is projected to remain the youngest.
- America's flexible labor markets, broad and deep capital markets, and entrepreneurial culture also constitute important advantages.
- To be sure, the United States labors under some notable handicaps, including a low savings rate, an extraordinarily expensive health system, and a political culture that finds it difficult to make trade-offs.
- But among today's developed countries, it alone will have the demographic and economic resources to play a major geopolitical role.




Source: *The Graying of the Great Powers* (CSIS, 2008)

# The case for hope: Declining "youth bulges" and "demographic dividends."

- **The "demographic peace thesis": Demographic trends are pushing the developing world toward greater peace, prosperity, and ultimately democracy.**
- **The political argument: Fading youth bulges and rising median ages will foster social stability.**
- **The economic argument: Declining dependency ratios create a "demographic dividend"—and open up a window of opportunity for economic growth.**

**Youth Bulge (Aged 15–24), as a Percent of the Total Adult Population (Aged 15 & Over), 1975–2050**

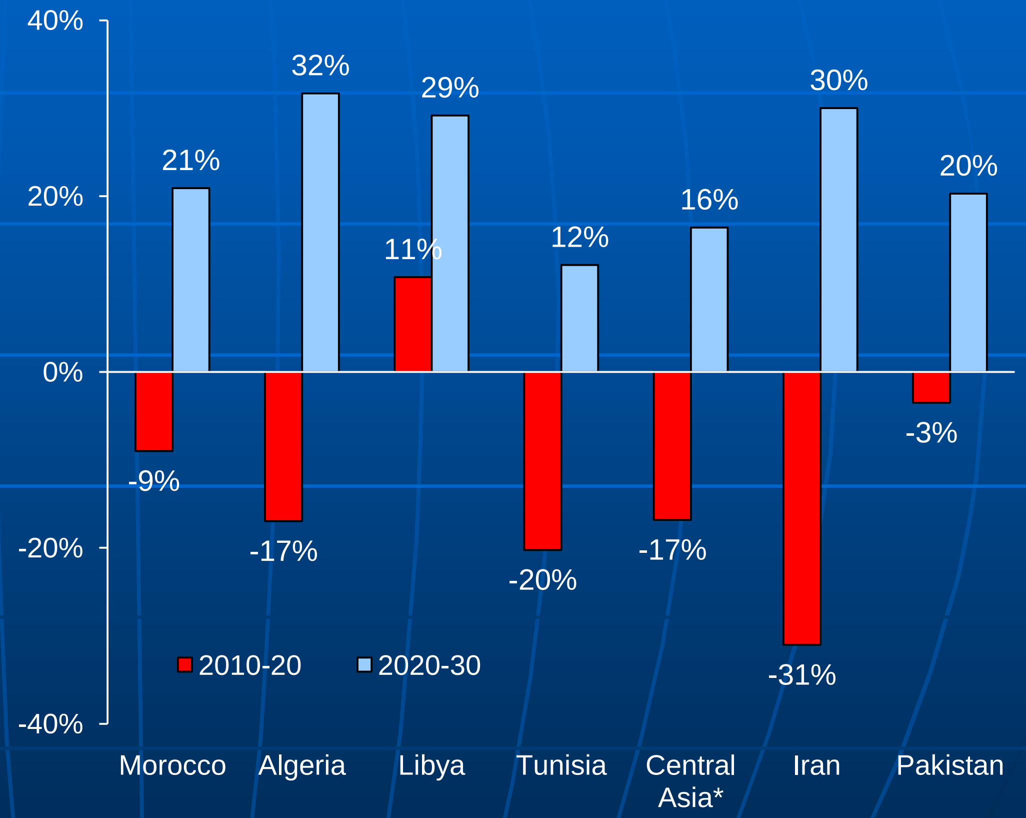
| | 1975 | 1990 | 2000 | 2010 | 2030 | 2050 |
|---|---|---|---|---|---|---|
| East Asia | 31.6% | 30.1% | 20.9% | 20.9% | 14.3% | 11.8% |
| Eastern Europe | 23.1% | 19.5% | 19.2% | 15.8% | 12.1% | 9.7% |
| Latin America | 33.5% | 30.9% | 28.4% | 24.8% | 18.9% | 16.9% |
| Muslim World | 33.5% | 33.3% | 32.2% | 28.5% | 22.6% | 19.7% |
| Russian Sphere | 23.7% | 17.5% | 19.2% | 17.1% | 13.4% | 10.4% |
| South Asia | 33.5% | 31.1% | 29.6% | 27.5% | 21.6% | 18.4% |
| Sub-Saharan Africa | 33.9% | 35.1% | 35.8% | 35.3% | 32.6% | 27.4% |

Source: UN (2009)

# The case for concern: The uneven pace of the demographic transition.

- **Stalled transitions: In some parts of the developing world, including most of sub-Saharan Africa and some poorer Muslim-majority countries, the transition has failed to gain traction.**
- **Transitions too fast and too far: In other parts of the developing world, most notably East Asia, extremely rapid transitions are leading to "premature aging."**
- **Nonlinear transitions: Many developing countries where youth bulges are now fading will see a new resurgence of youth in the 2020s.**

**Cumulative Percentage Change in the Youth Bulge Population (Aged 15-24)**




- *Includes Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
- Source: UN (2007)

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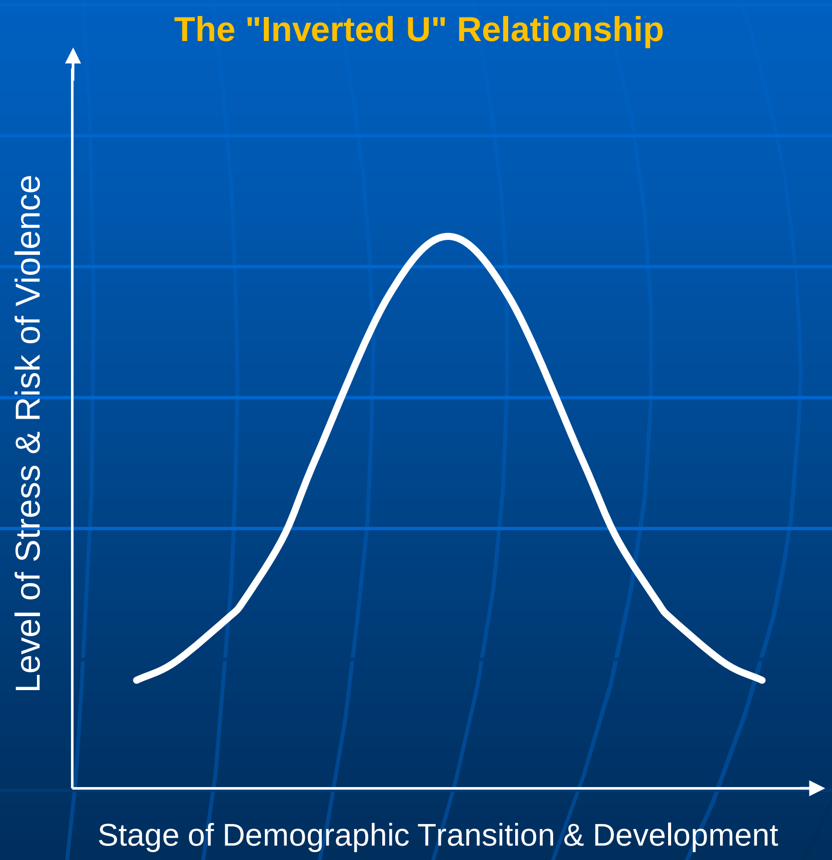
# The case for concern:
# Journeys can be more dangerous than destinations.

- Societies undergo tremendous stress as they move from the traditional to the modern. When plotted against development, most of the stressors describe an inverted-U—meaning that they become most dangerous midway through the transition.

- These stressors include:

  - Contact with the global marketplace and culture
  - Urbanization
  - Environmental degradation
  - Growing income inequality
  - Growing ethnic competition
  - Religious extremism



# Crisis of the 2020s?

# A Confluence of Challenges

- **For the Developed World, a decade of "hyperaging" and population decline**
  - fastest rise in the old-age dependency burden
  - dramatic flattening of real GDP growth rate
  - chronic budget crises and manpower shortages
- **For the Islamic World, an echo-boom decade**
- **For Russia & Eastern Europe, an implosion decade**
- **For China, a decade of "premature aging"—coinciding with GDP parity with U.S.**

We live in an era defined by many challenges, from global warming to global terrorism.

None is as certain as global aging.

And none is likely to have such a large and enduring effect on the shape of national economies and the world order.

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