Global Aging and Financial Markets

Overview Presentation
by
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CSIS Global Aging Initiative

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Center for Strategic & International Studies

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PART I: The Demographic Transformation
► overview of global demographic trends

PART II: Implications for Financial Markets
► overview of the principal linkages
between demography and financial markets
Part I
The Demographic Transformation
The whole world is aging—and today’s developed countries are leading the way.

Elderly (Aged 65 & Over), as a Percent of the Population: History and UN Projection, 1950-2040

Source: UN (2005)
The first force behind global aging: FALLING FERTILITY.

Global aging is what happens when people start having fewer babies.

Lower fertility shrinks the relative number of younger people in the population.
Fertility in the developed world has fallen beneath the “replacement rate” of 2.1.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>3.3</td>
<td>2.0</td>
</tr>
<tr>
<td>France</td>
<td>2.9</td>
<td>1.9</td>
</tr>
<tr>
<td>UK</td>
<td>2.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Canada</td>
<td>3.6</td>
<td>1.5</td>
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<tr>
<td>Japan</td>
<td>2.0</td>
<td>1.3</td>
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<tr>
<td>Germany</td>
<td>2.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Italy</td>
<td>2.5</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Source: UN (2005)
The second force behind global aging: **RISING LONGEVITY**.

Global aging is what happens when people start living longer.

Longer life spans enlarge the relative number of older people in the population.
Life spans in the developed world have risen rapidly over the past half century.

Life Expectancy at Birth, by Country

Source: UN (2005)
Populations throughout history have all shown a steep *pyramid-shaped* age distribution—with more young than old people.

In the near future, starting with developed countries, the distribution will transform into an *inverted pyramid*—with more old than young people.
Pyramid inversion in the developed world—1950 to 2050.

More Developed Regions: UN Constant Fertility Scenario

- Men
- Women

Population in Thousands

<table>
<thead>
<tr>
<th>Year</th>
<th>Median Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>28.6</td>
</tr>
</tbody>
</table>

**This is where we were in 1950**
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

- Median age 1955: 29.0 years

- Year 1955 median age: 29.0

- Population in Thousands
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Year: 1960
Median age: 29.6

Population in Thousands
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Median age:
- Year: 1965
- Median age: 29.8

Population in Thousands

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>50k</td>
<td>40k</td>
</tr>
<tr>
<td>5-9</td>
<td>40k</td>
<td>30k</td>
</tr>
<tr>
<td>10-14</td>
<td>30k</td>
<td>20k</td>
</tr>
<tr>
<td>15-19</td>
<td>20k</td>
<td>10k</td>
</tr>
<tr>
<td>20-24</td>
<td>10k</td>
<td>0</td>
</tr>
<tr>
<td>25-29</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-34</td>
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<td>0</td>
</tr>
<tr>
<td>35-39</td>
<td>0</td>
<td>0</td>
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<tr>
<td>40-44</td>
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<td>0</td>
</tr>
<tr>
<td>45-49</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>50-54</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55-59</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>60-64</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>65-69</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>70-74</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>75-79</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80-84</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>85+</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Pyramid inversion in the developed world—1950 to 2050.

More Developed Regions: UN Constant Fertility Scenario

- Men
- Women

Population in Thousands

Year: 1970
Median age: 30.6
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Population in Thousands

- Men
- Women

Year 1975

Median age 30.9
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Year: 1980
Median age: 31.9

Population in Thousands
Pyramid inversion in the developed world—1950 to 2050.

More Developed Regions: UN Constant Fertility Scenario

Year 1985
Median age 33.1
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Population in Thousands

- Men
- Women

Year: 1990
Median Age: 34.4

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Pyramid inversion in the developed world—1950 to 2050.

More Developed Regions: UN Constant Fertility Scenario

Year: 1995
Median age: 35.8

Population in Thousands

- 0-4
- 5-9
- 10-14
- 15-19
- 20-24
- 25-29
- 30-34
- 35-39
- 40-44
- 45-49
- 50-54
- 55-59
- 60-64
- 65-69
- 70-74
- 75-79
- 80-84
- 85-89
- 90-94
- 95-99
- 100+

Median Age: 35.8 year

Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

- Median age: 37.3
- Year: 2000

Population in Thousands

Median age 37.3
Year 2000
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

- Population in Thousands

- Men
- Women

- Year: 2005
- Median age: 38.7

- THIS IS WHERE WE ARE TODAY
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Population in Thousands

- **Men**
- **Women**

Year: 2010

Median age: 40.0
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Year: 2015
Median age: 41.2

Population in Thousands

- Men
- Women

Year
- 0-4
- 10-14
- 20-24
- 30-34
- 40-44
- 50-54
- 60-64
- 70-74
- 80-84
- 90-94
- 100+

Population in Thousands
- 0
- 10
- 20
- 30
- 40
- 50

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Pyramid inversion in the developed world—1950 to 2050.

More Developed Regions: UN Constant Fertility Scenario

- Men
- Women

Population in Thousands

Year 2020

median age 42.3
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Population in Thousands

- Men
- Women

Year 2025

Median age 43.4
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

year 2030
median age 44.5

Population in Thousands
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Year: 2035
Median age: 45.4
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Year: 2040
Median age: 46.0

Population in Thousands

- Men
- Women
Pyramid inversion in the developed world—1950 to 2050.

More Developed Regions: UN Constant Fertility Scenario

- Men
- Women

Population in Thousands

Year 2045
Median age 46.3
Pyramid inversion in the developed world—1950 to 2050.

- More Developed Regions: UN Constant Fertility Scenario

Population in Thousands

- 0-4
- 5-9
- 10-14
- 20-24
- 30-34
- 40-44
- 50-54
- 60-64
- 70-74
- 80-84
- 90-94
- 100+

Year

- 2050

Median Age

- 46.4

This is where we will be in 2050.
Behind the averages: The United States will age less than Europe and Japan.

Elderly (Aged 65 & Over), as a Percent of the Population, by Country

Source: UN (2005)
Behind the averages: Northern Europe will age less than Southern and Eastern Europe.

Elderly (Aged 65 & Over), as a Percent of the Population, by Country Group in 2005 and 2040

- The Russian Federation: 14% (2005), 14% (2040)
- The Balkans: 22% (2005), 24% (2040)
- France & Northern Europe: 25% (2005), 26% (2040)
- Rest of Eastern Europe: 16% (2005), 16% (2040)
- Germany & Central Europe: 29% (2005), 16% (2040)
- Italy & Southern Europe: 33% (2005), 18% (2040)

Source: UN (2005)
Falling fertility and rising longevity are not only transforming the traditional population pyramid, they are also ushering in an era of unprecedented workforce and population decline.
In many developed countries, the working-age population will shrink dramatically.

Percent Change in the Working-Age Population (Aged 15-64), 2005-2040

Source: UN (2005)
The number of young working-age adults will shrink even faster than the overall number.
Although the developing world is still much younger than the developed world, some fast-aging countries in East Asia and Latin America may catch up by the middle of the century.
Fertility remains high in some parts of the developing world—but has plunged in others.

Total Fertility Rate by Region

- Africa: 6.9
- Rest of Asia: 6.0
- Latin America: 6.0
- East Asia*: 5.7
- Developed Regions: 2.1

* Includes Oceania and excludes Japan, Australia, and New Zealand.

Source: UN (2005)
Different regions of the developing world are therefore aging at very different rates.

<table>
<thead>
<tr>
<th>Region</th>
<th>2005</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>3.4%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Rest of Asia</td>
<td>5.0%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Latin America</td>
<td>6.1%</td>
<td>15.0%</td>
</tr>
<tr>
<td>East Asia*</td>
<td>7.6%</td>
<td>22.3%</td>
</tr>
<tr>
<td>Developed Regions</td>
<td>15.3%</td>
<td>24.7%</td>
</tr>
</tbody>
</table>

* Includes Oceania and excludes Japan, Australia, and New Zealand.
Source: UN (2005)
East Asia and Latin America: The “second wave” of global aging.

Elderly (Aged 65 & Over), as a Percent of the Population in 2005, 2015, and 2040

- Developed World Average in 2005: 15%
- Developed World Average in 2040: 25%

<table>
<thead>
<tr>
<th>Country</th>
<th>2005</th>
<th>2015</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>5%</td>
<td>6%</td>
<td>12%</td>
</tr>
<tr>
<td>Mexico</td>
<td>5%</td>
<td>7%</td>
<td>17%</td>
</tr>
<tr>
<td>China</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>14%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>South Korea</td>
<td>9%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Singapore</td>
<td>9%</td>
<td>9%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: UN (2005)
Within a generation, China will have an older population than the United States.

Elderly (Aged 65 & Over), as a Percent of the Population in China and the United States, History and UN Projection, 1970-2050

Source: UN (2005)
The certainty of global aging.

- **Fertility?** Even a sharp rise in fertility rates would have no appreciable impact on the rate of growth of the workforce or old-age dependency ratios for a quarter century.

- **Life expectancy?** Longer life spans are desirable—and in any case the risk is that future improvements will be greater than projected.

- **Immigration?** Large and destabilizing waves would be required to slow—much less reverse—the aging of the population.
Part II
Implications for Financial Markets
Four Principal Linkages.

- **Fiscal Linkage**: rising old-age dependency burden → higher tax rates and/or deteriorating fiscal balances

- **Lifecycle Savings Linkage**: declining private savings rates → falling asset prices

- **Workforce Growth Linkage**: slower GDP growth → lower returns to capital

- **Capital Flow Linkage**: changes in fiscal balances, private savings, and GDP growth could all affect global capital flows
Falling fertility and rising longevity translate directly into a falling “support ratio” of workers to retirees—and a falling support ratio in turn translates into a rising cost rate for pay-as-you-go benefit programs.

Three options: Large tax hikes, large benefit cuts, or an exploding public debt.

If old-age benefits are left on autopilot, widening deficits, via higher interest rates, could increasingly crowd productive investment out of private capital markets.
Demographic “support ratios” will fall throughout the developed world.

Number of Working-Age Adults (Aged 15-59) per Elder (Aged 60 & Over) in 1970, 2005, and 2040

- **US**: 4.1 (1970), 2.3 (2005), 2.3 (2040)
- **UK**: 3.1 (1970), 1.9 (2005), 1.7 (2040)
- **Canada**: 5.1 (1970), 3.2 (2005), 2.9 (2040)
- **France**: 3.2 (1970), 1.6 (2005), 1.4 (2040)
- **Germany**: 2.9 (1970), 1.4 (2005), 1.1 (2040)
- **Japan**: 6.1 (1970), 1.1 (2005), 1.1 (2040)
- **Italy**: 3.7 (1970), 1.1 (2005), 1.1 (2040)

Source: UN (2005)
The cost of old-age benefits is due to grow by at least 10% of GDP in most countries.

<table>
<thead>
<tr>
<th>Public Benefits to the Elderly (aged 60 &amp; Over), as a % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>UK</td>
</tr>
<tr>
<td>US</td>
</tr>
<tr>
<td>Canada</td>
</tr>
<tr>
<td>Sweden</td>
</tr>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>Netherlands</td>
</tr>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>France</td>
</tr>
<tr>
<td>Italy</td>
</tr>
<tr>
<td>Spain</td>
</tr>
</tbody>
</table>

Source: CSIS Aging Vulnerability Index (2003)
Widening pension deficits could consume the savings of the developed world.

Growth in Deficit* of G-7 Public Pension Systems, as Percent of G-7 GDP

-2.0% 2000 2010 2020 2030 2040
-0.6% 0.0% -2.4%
-2.0%
-6.0%
-8.0%
-10.0%

minus 7.6% of GDP
deficit consumes G-7 savings

* Deficit = Annual cash deficit plus accrued interest on prior year deficits
According to the lifecycle savings theory, people borrow when young to pay for school and set up households, become large net savers in middle age, then dissave in old age to finance retirement.

As the share of the population in the harvest years rises, individuals (and their pension funds) may sell off assets on a large scale, putting downward on equity prices.
The share of the population in the “harvest years” will rise sharply.

<table>
<thead>
<tr>
<th>Adults Aged 20 &amp; Over by Age Group, as a Percent of All Adults</th>
<th>2005</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 20-34</td>
<td>28%</td>
<td>28%</td>
<td>28%</td>
<td>26%</td>
<td>26%</td>
</tr>
<tr>
<td>Age 35-59</td>
<td>48%</td>
<td>47%</td>
<td>42%</td>
<td>41%</td>
<td>41%</td>
</tr>
<tr>
<td>Age 60 &amp; Over</td>
<td>23%</td>
<td>25%</td>
<td>30%</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td><strong>EU15</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 20-34</td>
<td>25%</td>
<td>24%</td>
<td>22%</td>
<td>20%</td>
<td>19%</td>
</tr>
<tr>
<td>Age 35-59</td>
<td>46%</td>
<td>46%</td>
<td>44%</td>
<td>40%</td>
<td>38%</td>
</tr>
<tr>
<td>Age 60 &amp; Over</td>
<td>29%</td>
<td>31%</td>
<td>34%</td>
<td>40%</td>
<td>43%</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 20-34</td>
<td>25%</td>
<td>22%</td>
<td>18%</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>Age 35-59</td>
<td>42%</td>
<td>41%</td>
<td>41%</td>
<td>38%</td>
<td>34%</td>
</tr>
<tr>
<td>Age 60 &amp; Over</td>
<td>33%</td>
<td>37%</td>
<td>41%</td>
<td>45%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Source: UN (2005)
Questions about the lifecycle savings linkage.

- To what extent does the typical elder in different countries actually dissave today?
- Will fiscal reforms that reduce the generosity of old-age benefits change the typical age-savings profile in the future?
- Is equity ownership concentrated among a relatively small number of affluent elders?
- Will there be enough young buyers in developing countries to take up the slack?
The WORKFORCE GROWTH Linkage.

More slowly growing (or declining) working-age populations could mean more slowly growing economies.

Slower economic growth could in turn mean lower returns to capital. As workforces grow more slowly, investment demand in the developed world may fall, reducing returns to capital. Over the long run, moreover, returns to capital cannot indefinitely exceed the growth rate of the economy.
Growth in the working-age population will slow—and in many countries turn negative.

<table>
<thead>
<tr>
<th></th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
<th>2010s</th>
<th>2020s</th>
<th>2030s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canada</strong></td>
<td>1.3%</td>
<td>1.1%</td>
<td>1.2%</td>
<td>0.3%</td>
<td>-0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>0.8%</td>
<td>0.3%</td>
<td>0.4%</td>
<td>-0.2%</td>
<td>-0.3%</td>
<td>-0.3%</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>0.6%</td>
<td>0.2%</td>
<td>-0.2%</td>
<td>-0.3%</td>
<td>-1.0%</td>
<td>-0.9%</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>0.7%</td>
<td>0.0%</td>
<td>-0.3%</td>
<td>-0.5%</td>
<td>-1.1%</td>
<td>-1.7%</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>0.9%</td>
<td>0.1%</td>
<td>-0.5%</td>
<td>-0.9%</td>
<td>-0.7%</td>
<td>-1.5%</td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td>0.4%</td>
<td>0.3%</td>
<td>0.5%</td>
<td>0.0%</td>
<td>-0.2%</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong>US</strong></td>
<td>1.0%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Source: UN (2005)
The fastest aging countries could see a secular stagnation in GDP growth.

* Assumes constant labor-force participation and productivity growth of 1 percent per year.
Does aggregate growth matter?

- **Neoclassical view:** What really matters is per capita GDP growth—and demographic trends won’t affect this. Aging and slowly growing economies will need less savings and investment to maintain the same rate of growth in the capital-to-labor ratio.

- **Alternative view:** Demographically growing economies may be more dynamic. To the extent that innovation depends on market expansion and “learning by doing,” slower aggregate growth may adversely affect productivity and living standards.
The countries and regions of the world are aging at different rates. International capital flows can match savings with investment opportunities—potentially mitigating the economic and financial market impacts of global aging.
Two Capital Flow Scenarios.

- **Capital Export Scenario:** Investment demand in an aging and slowly growing developed world falls faster than savings. Developed-country savers continue to earn higher returns by investing in younger and faster growing developing countries.

- **Capital Import Scenario:** Savings falls faster than investment demand. In a reversal of historical roles, developed economies rely on savers in developing countries to prop up consumption and maintain minimum levels of investment.
Questions about the capital flow linkage.

- Do the two scenarios represent alternative futures—or near-term and long-term futures?
- In the “capital export” scenario, are investment opportunities in the developing world likely to be sufficient to offset falling investment demand in the developed world?
- In the “capital import” scenario, what are the economic and financial market implications of paying an indefinitely rising debt service charge to the rest of the world?
- How long will the population age and growth differentials driving both scenarios persist?
Workforce growth is rapidly decelerating in many of today’s large emerging markets.

<table>
<thead>
<tr>
<th>Country</th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
<th>2010s</th>
<th>2020s</th>
<th>2030s</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2.6%</td>
<td>1.2%</td>
<td>1.2%</td>
<td>0.1%</td>
<td>-0.3%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>EU15</td>
<td>0.7%</td>
<td>0.3%</td>
<td>0.2%</td>
<td>-0.2%</td>
<td>-0.6%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>India</td>
<td>2.4%</td>
<td>2.2%</td>
<td>2.0%</td>
<td>1.6%</td>
<td>1.1%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Japan</td>
<td>0.9%</td>
<td>0.1%</td>
<td>-0.5%</td>
<td>-0.9%</td>
<td>-0.6%</td>
<td>-1.2%</td>
</tr>
<tr>
<td>Mexico</td>
<td>3.4%</td>
<td>2.5%</td>
<td>1.9%</td>
<td>1.3%</td>
<td>0.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>US</td>
<td>1.0%</td>
<td>1.1%</td>
<td>1.1%</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Source: UN (2005)
Populations in the developed world are due to age dramatically over the next few decades—and in many cases enter a gathering decline.

Global aging could affect financial markets through several avenues: rising old-age dependency burdens, falling private savings rates, slower growth in GDP and investment demand, and shifts in the magnitude (and possibly direction) of global capital flows.

Assessing the likely magnitude of the impact is not just a matter of empirical research. It also requires judgments about the stance of future fiscal policy and the course of globalization.
ANNEX CHARTS
### Elderly (Aged 65 & Over), as a Percent of the Population

<table>
<thead>
<tr>
<th>Country</th>
<th>2005</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>13%</td>
<td>14%</td>
<td>18%</td>
<td>23%</td>
<td>26%</td>
</tr>
<tr>
<td>France</td>
<td>17%</td>
<td>17%</td>
<td>21%</td>
<td>24%</td>
<td>26%</td>
</tr>
<tr>
<td>Germany</td>
<td>19%</td>
<td>20%</td>
<td>22%</td>
<td>27%</td>
<td>31%</td>
</tr>
<tr>
<td>Italy</td>
<td>20%</td>
<td>21%</td>
<td>25%</td>
<td>30%</td>
<td>36%</td>
</tr>
<tr>
<td>Japan</td>
<td>20%</td>
<td>22%</td>
<td>28%</td>
<td>31%</td>
<td>36%</td>
</tr>
<tr>
<td>UK</td>
<td>16%</td>
<td>16%</td>
<td>19%</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>US</td>
<td>12%</td>
<td>13%</td>
<td>16%</td>
<td>19%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: UN (2005)
## Average Annual Growth Rate in the Population, by Decade

<table>
<thead>
<tr>
<th></th>
<th>1980s</th>
<th>1990s</th>
<th>2000s</th>
<th>2010s</th>
<th>2020s</th>
<th>2030s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>China</strong></td>
<td>1.5%</td>
<td>1.0%</td>
<td>0.6%</td>
<td>0.5%</td>
<td>0.2%</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong>EU15</strong></td>
<td>0.3%</td>
<td>0.4%</td>
<td>0.3%</td>
<td>0.1%</td>
<td>0.0%</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong>India</strong></td>
<td>2.1%</td>
<td>1.9%</td>
<td>1.5%</td>
<td>1.2%</td>
<td>0.8%</td>
<td>0.6%</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>0.6%</td>
<td>0.3%</td>
<td>0.1%</td>
<td>-0.1%</td>
<td>-0.3%</td>
<td>-0.4%</td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td>2.2%</td>
<td>1.7%</td>
<td>1.2%</td>
<td>1.0%</td>
<td>0.7%</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>US</strong></td>
<td>1.0%</td>
<td>1.1%</td>
<td>0.9%</td>
<td>0.8%</td>
<td>0.6%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Source: UN (2005)
## Public Benefits in 2000, as a Percent of After-Tax Elderly Income

<table>
<thead>
<tr>
<th>Country</th>
<th>Average</th>
<th>3rd Quintile</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>35%</td>
<td>54%</td>
</tr>
<tr>
<td>Japan</td>
<td>35%</td>
<td>NA</td>
</tr>
<tr>
<td>Canada</td>
<td>42%</td>
<td>62%</td>
</tr>
<tr>
<td>Sweden</td>
<td>57%</td>
<td>70%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>54%</td>
<td>74%</td>
</tr>
<tr>
<td>UK</td>
<td>50%</td>
<td>75%</td>
</tr>
<tr>
<td>Spain</td>
<td>64%</td>
<td>77%</td>
</tr>
<tr>
<td>France</td>
<td>67%</td>
<td>78%</td>
</tr>
<tr>
<td>Italy</td>
<td>59%</td>
<td>83%</td>
</tr>
<tr>
<td>Germany</td>
<td>61%</td>
<td>84%</td>
</tr>
</tbody>
</table>

Source: CSIS (2003)