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the global retirement crisis

The Threat to World Stability and What to Do About It

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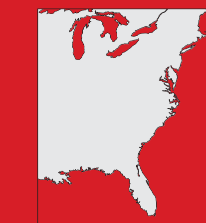
global aging and the United States



The aging of the world's population will strain the capacity of societies to care for the old without sacrificing the living standards of the young. In the developed world, where workers typically support retirees through "pay-as-you-go" retirement systems, the rising cost of pensions and health benefits threatens fiscal and economic stability. Yet even in the developing world, where the old typically live with the young, falling birthrates and growing life spans are combining with industrialization and urbanization to create new stresses. Almost everywhere, countries will have to race against time to ensure their social fabric against the "shock" of global aging.

The United States is better positioned to confront the challenge than most of the world's major economies. It is now the youngest of the developed countries—and its relatively high rates of fertility and immigration are likely to keep it so. By 2050, the elderly share of the population will reach 27 percent in France, 31 percent in Germany, and 36 percent in Japan. In the United States, it will only reach 21 percent.

Along with its younger population, the United States has a relatively inexpensive Social Security system, relatively high retirement ages, and a large and innovative private pension system. A larger share of the elderly and near-elderly work in the United States than in any major developed country except Japan. As of 1999, US pension plans possessed an astonishing 59 percent of total pension assets worldwide.

Although these are considerable advantages, they are not a cause for complacency. The US Social Security system faces a widening financing gap when Boomers start retiring a decade from now. Despite Americans' traditions of financial self reliance, most are heavily dependent on Social Security—and vulnerable to benefit cuts. Although US pension plans own 59 percent of all global pension assets, half of the workforce has no private pension coverage at all. America also has the most costly health-care system in the world. In 1998, the United States spent $4,178 per capita on health care; Switzerland, the next runner-up, spent just $2,794. Explosive growth in health-care spending on the elderly threatens to cancel out the US advantage in pensions.

A few years ago, America began a much-needed debate over the aging challenge. The Clinton administration proposed using mounting budget surpluses as a means of bridging Social Security's financing gap. The Bush administration proposed using them to fund a transition to a two-tiered system that would include personal accounts. By the time President Bush's Social Security Reform Commission issued its final report in December 2001, however, its recommendations were overshadowed by other events.

In the aftermath of September 11, the budget surpluses have vanished—and so has the enthusiasm for reform. Before long, however, America will be compelled to re-engage the aging challenge. In today's more constrained fiscal and economic environment, the reform of retirement systems has become more important, not less.

the global retirement crisis

The Threat to World Stability and What to Do About It

by Richard Jackson
Adjunct Fellow
Global Aging Initiative

April 2002

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FORE WORD

"The world is aging." With these words, *The Global Retirement Crisis* launches us on a tour of one of the most important challenges of our time.

As the report explains, global aging is the result of two long-term trends: falling birthrates and rising life spans. Over the next few decades, it will restructure the economy, reshape the family, and even rearrange the world order. Along the way, it will compel both the public and private sectors to rethink retirement systems which once seemed affordable, but will soon be putting enormous pressure on government budgets and national economies.

In confronting the aging challenge, America enjoys some considerable advantages: a relatively young population, a willingness to welcome immigrants, and a well-developed private pension system, to name a few. In Europe and Japan, which have older populations, more generous public pension systems, and less flexible and entrepreneurial economies, the outlook is much more serious.

But make no mistake: The challenge of global aging will pass no nation by. According to the report, the bill for public retirement benefits in the typical developed country is due to double to one-quarter of GDP by the middle of the century. We may discover that the recent financial crises in Asia and Argentina pale before what lies ahead if the major developed economies fail to reform their retirement systems—and soon.

Thankfully, governments everywhere are beginning to take action. From Australia to the UK, from Germany to Sweden, from Mexico to Poland, a growing number have already enacted major reforms. All of the reforms aim to encourage longer work lives, reduce unfunded pension liabilities, and strengthen funded retirement savings. And all share a common goal: to make retirement systems, in the report's words, "more secure, more equitable, and more sustainable."

In the end, the challenge of global aging is everyone's concern—and doing something about it is everyone's responsibility. Government must ensure that today's "generational contracts" are sustainable. Business must invest more in younger workers and learn to value older ones. And both must educate the public about the nature and magnitude of the problem. At stake is not just our own retirement security when we grow old, but the strength of the economy and society we bequeath to our children.

The Global Retirement Crisis lays out the challenge in compelling terms. We are pleased to have the opportunity to introduce it.

John J. Hamre
President and Chief Executive Officer
Center for Strategic and International Studies

Thomas W. Jones
Chairman and Chief Executive Officer
Global Investment Management
and Private Banking Group
Citigroup

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By 2030, one of four people in the developed world will be elderly.

introduction

THE CHALLENGE OF GLOBAL AGING

The world is aging. For most of human history, the elderly were only a tiny minority of the population—never more than 2 or 3 percent in any country. Today in the developed world,* 15 percent of the population is elderly. By 2030, according to the latest UN projections,† the share will be closing in on 25 percent; by 2050, it will be closing in on 30 percent (Figure 1). And that's just the average. In Japan and some European countries, the share will be passing 35 percent.

As a whole, the developing world will remain much younger for the foreseeable future. Yet it too is aging. The elderly population in several countries of the former Soviet Bloc has already reached developed-world levels. In several major countries in East Asia, including China and Korea, it will reach developed-world levels by the middle of the century. Much of Latin America is not far behind.

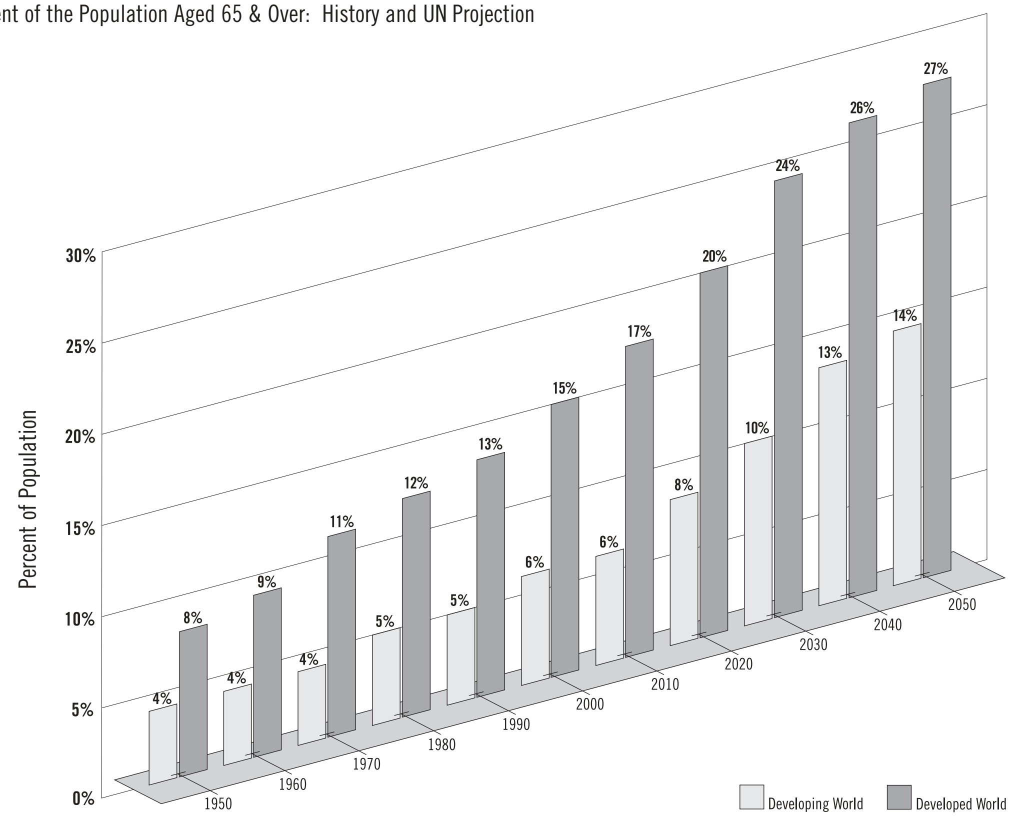
* In this report, the developed world comprises the countries of Europe, excluding the former Soviet Bloc, plus the United States, Canada, Australia, New Zealand, and Japan. The "major developed" or "G-7" countries are Canada, France, Germany, Italy, Japan, the UK, and the United States.

† The major sources used in this study—for demographic statistics, fiscal and economic indicators, public pension and health-care expenditures, private pension assets, retirement ages, income and poverty statistics, etc.—are discussed in *Appendix I-a: A Note on Data and Sources.*

FIGURE 1:

The world is aging—and the developed countries are leading the way.

Percent of the Population Aged 65 & Over: History and UN Projection



Source: UN (2001)

Global aging will bring big changes to almost every dimension of public and private life. Economic growth in the developed world may slow dramatically as working-age populations decline. Tomorrow's families will have to cope with a surplus of frail elders, tomorrow's businesses with a deficit of young consumers. Even the geopolitical order may be rearranged as the population and ultimately the economic output of the developed countries shrink as a share of the world total. In 1950, six of the twelve most populous countries were developed countries. By 2050, only one will be: the United States.

The most certain impact of global aging is the staggering fiscal cost. According to the "official projections" by the European Commission (EC) and the Organization for Economic Co-operation and Development (OECD), public spending on pensions and health benefits for the elderly in the typical developed country will grow from 11 to 18 percent of GDP over the next fifty years. And this may be optimistic. According to projections by the Center for Strategic and International Studies (CSIS) prepared for this report, public retirement spending could grow to 23 percent of GDP if current trends continue.* The extra spending—12 percent of GDP—is alone five times greater than everything the typical developed country now spends on national defense. It is also equivalent to 30 percent of workers' wages, on top of total payroll taxes that often exceed 30 percent already.

* Both the "official" EC/OECD long-term cost projections and the CSIS projections are discussed in *Appendix II: A Note on the Projections*. Note that throughout the report figures for spending in the "typical" developed country are unweighted averages of spending in all of the developed countries.

Global aging will strain the capacity of societies to care for the old without sacrificing the living standards of the young. In the developed world, where workers typically support retirees through "pay-as-you-go" retirement systems, the rising cost of pension and health benefits threatens fiscal and economic stability. Yet even in much of the developing world, where the old typically live with the young, falling birthrates and growing life spans are combining with industrialization and urbanization to create new stresses. Almost everywhere, countries will have to race against time to ensure their economic and social fabric against the "shock" of global aging.

Over the next fifty years, public spending on retirement benefits could grow to one-quarter of GDP in the typical developed country.

If the developed countries fail to act soon and decisively, the consequences could be serious. Among the dangers: debt crises, destabilizing swings in interest rates and exchange rates, steep tax hikes, deep benefit cuts, human hardship among vulnerable populations, and a devastating collapse of civic trust. The outlook is most critical in Japan and the major countries of continental Europe, where the aging trend is most severe and public retirement systems are most generous. But no country, including the United States, can afford to be complacent if it wants to prosper in an aging world.

Today's public retirement systems have achieved some remarkable successes. As recently as the 1950s, old age meant poverty and social isolation for much of the developed world's population. Today, the great majority of the elderly in the developed countries—and a large share of the late-middle aged as well—can look forward to a subsidized retirement lasting a third or more of their adult lives. Poverty and social isolation have not been eliminated. But by most measures of income and wealth, the typical elder is at least as well off as the typical younger adult.

Japan and the countries of continental Europe face the biggest aging challenge.

Along with the successes, however, there have been some failures. Pay-as-you-go retirement systems discourage savings, penalize work, and offer participants a poor "deal" on their contributions. Over time, moreover, they consume a steadily rising share of society's overall fiscal and economic resources. It is this last failure—prohibitive cost—that is pushing reform to the top of national agendas.

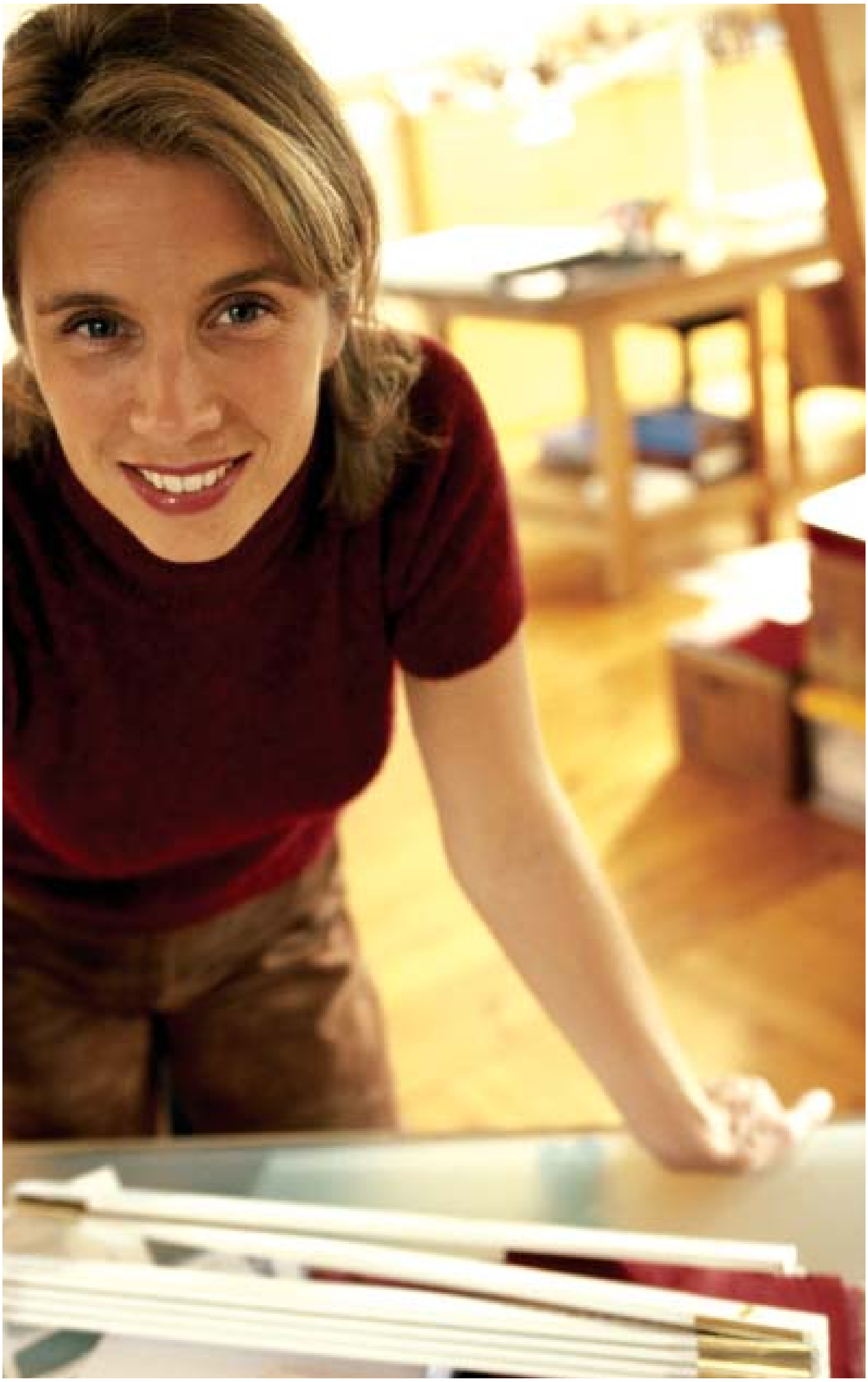
Reform must proceed on two fronts, scaling back pay-as-you-go benefits and strengthening alternative means of support, both public and private. The most promising strategy, now being implemented by countries as diverse as Australia, Chile, Germany, Poland, Singapore, Sweden, and the UK, is to encourage or require people to save more for their own retirement during the course of their working lives. Along with expanding funded benefits, either as supplements to or substitutes for pay-as-you-go pensions, countries can pursue a number of broader strategies to ease the fiscal burden of global aging. These include encouraging longer work lives, increasing immigration, and removing obstacles to productivity and labor-force growth.

This report surveys the state of public pension reform worldwide, with special emphasis on the challenges facing the developed countries. The first chapter (*Behind the Projections*) quantifies the cost of leaving current policies on autopilot. The second chapter (*A Reform Guide*) discusses the range of possible reform strategies. The third chapter (*World Tour*) describes what individual countries have accomplished—and what still remains to be done. The fourth chapter (*The Bigger Picture*) steps back and looks at the broader impact of global aging on the economy and society: its effects on savings and productivity, international capital flows, the family, politics, and the world order.

Most developed countries will need to scale back unsustainable pay-as-you-go pensions and strengthen funded alternatives.

The report identifies some encouraging trends. Most developed countries are discussing—and a few have enacted—major reforms. Although the funding strategy remains politically divisive in some countries, including the United States, it is transcending the old ideologies in others. It was a Labour government that set up "Super," Australia's system of mandatory private pensions. It was a Social Democratic government that added a second funded tier to the public pension system in Germany, the very cradle of pay-as-you-go retirement. Meanwhile, from Chile and Mexico to Hungary and Poland, a growing number of developing countries are turning away from pay-as-you-go pensions and experimenting with funded alternatives.

Yet despite the progress, most countries have barely begun to engage the challenge. Time is running out. The age wave is already breaking in Japan and parts of continental Europe. It will overtake the rest of the developed world within five to ten years, as the large postwar Baby Boom generations now in the workforce begin to reach old age. There is still a narrow window of opportunity left to prepare—but it is about to close.



There is a narrow window of opportunity to prepare for global aging—but it is about to close.

Global aging is the result of two fundamental trends: rising longevity and falling fertility.

chapter one

BEHIND THE PROJECTIONS

During the early postwar decades, the developed countries made a fateful choice. They decided to greatly expand public pensions—and to do so on a strictly pay-as-you-go basis. The pay-as-you-go model was attractive because it allowed early participants to receive benefits far in excess of their contributions. At the time, the model also appeared to be affordable. The number of retirees was small, the number of workers was growing rapidly, and everyone expected this situation to continue indefinitely. As Nobel economist Robert Samuelson put it in a well-known 1967 article, "A growing nation is the greatest Ponzi game ever contrived."*

Since then, the expectations underpinning today's public retirement systems have crumbled. The developed countries find themselves at the leading edge of a great demographic transformation that is overtaking the entire world. Global aging is the result of two fundamental trends: rising longevity and falling fertility. The first increases the relative number of old, while the second decreases the relative number of young. In those countries with large postwar Baby Booms, such as the United States, there's an extra twist. As Boomers entered midlife in the 1980s and 1990s, they slowed the aging of the population. But soon they will enter old age—and accelerate it.

Global aging is not a distant or hypothetical challenge. It is already underway, it is gathering momentum, and it will soon render today's retirement systems unaffordable.

* *Newsweek* (February 13, 1967).

The Demographic Transformation

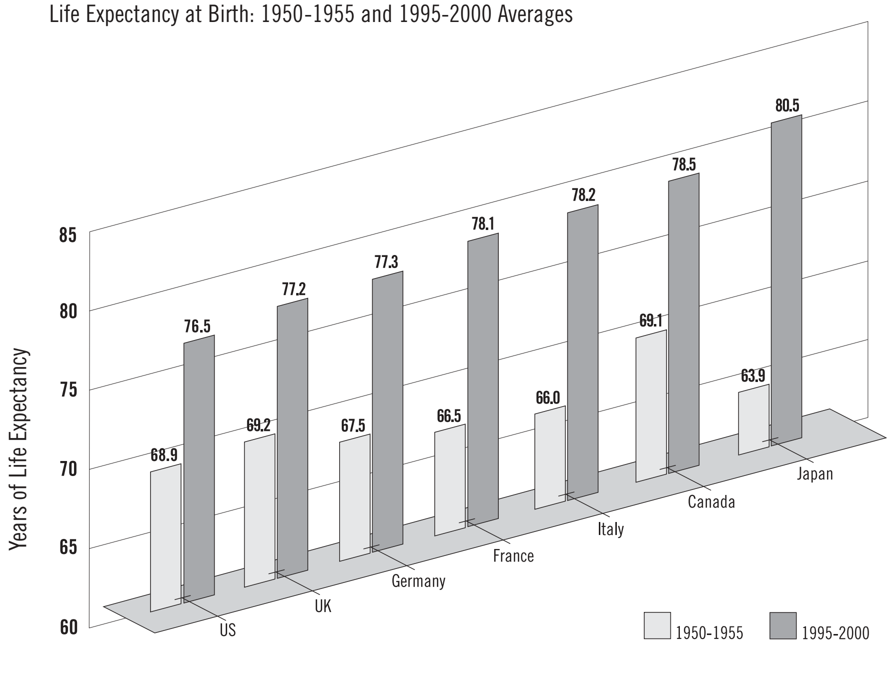
Since World War II, life expectancy at birth has risen from around age 45 to 65—a greater gain over the past 50 years than over the previous 5,000. In the developed countries, it has risen from around age 65 to between 75 and 80. Life expectancy at older ages has also improved dramatically (Figure 2 and Figure 3). When the US Social Security system was founded in 1935, the typical worker who reached age 65 could expect to live another twelve years; today, the typical worker can expect to live another eighteen. If the Social Security retirement age of 65 had been "indexed" to longevity since 1935, he or she would today have to wait until age 72 before retiring.

Life expectancy has risen more over the past 50 years than over the previous 5,000.

FIGURE 2:

Behind global aging: rising life expectancy at birth.

Life Expectancy at Birth: 1950-1955 and 1995-2000 Averages

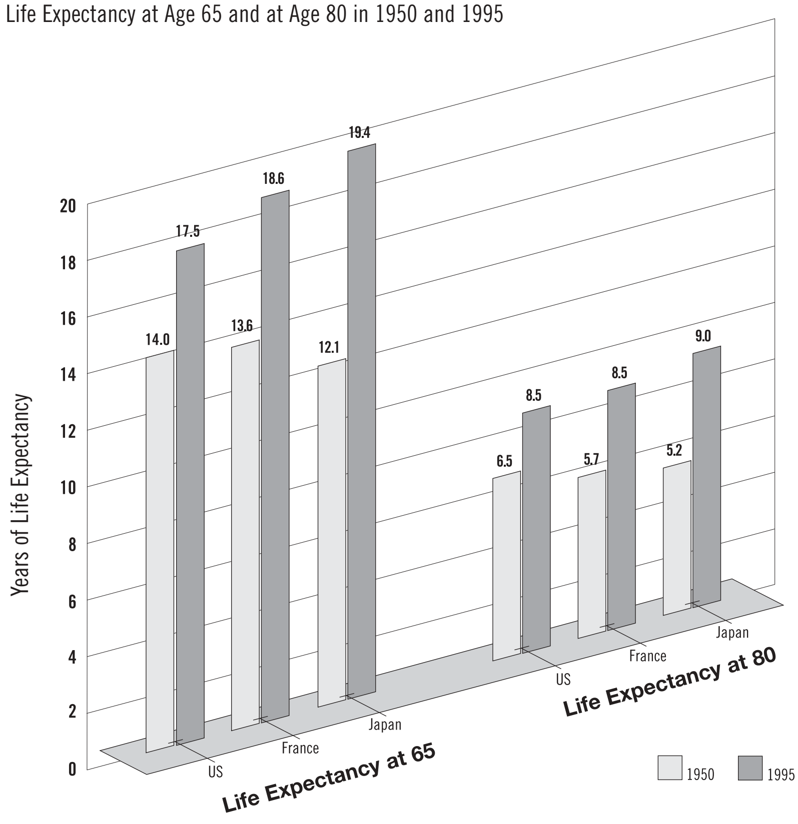


Source: UN (2001)

FIGURE 3:

Behind global aging: rising life expectancy among the elderly.

Life Expectancy at Age 65 and at Age 80 in 1950 and 1995

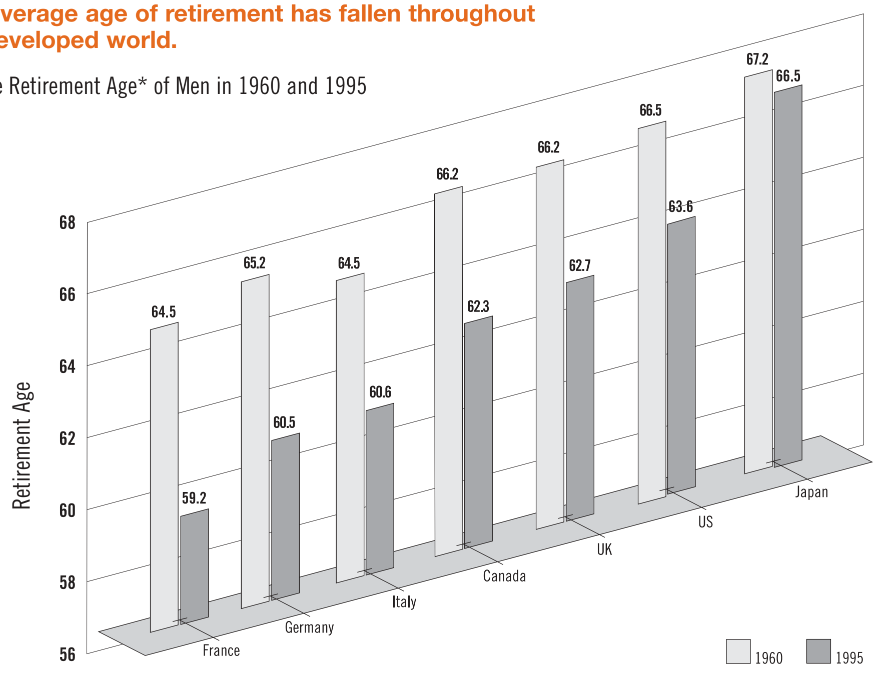


Source: Berkeley Mortality Database (2001)

FIGURE 4:

The average age of retirement has fallen throughout the developed world.

Average Retirement Age* of Men in 1960 and 1995

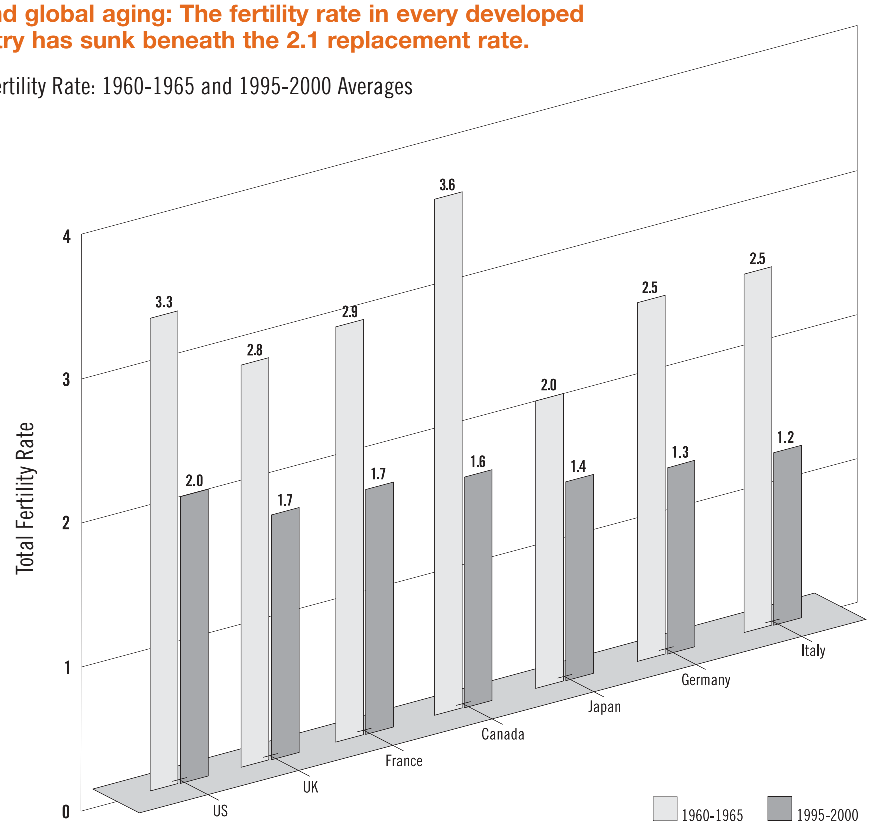


Source: OECD (1998)
* Defined as total withdrawal from the labor force

FIGURE 5:

Behind global aging: The fertility rate in every developed country has sunk beneath the 2.1 replacement rate.

Total Fertility Rate: 1960-1965 and 1995-2000 Averages



Source: UN (2001)

But workers have not been retiring earlier. They have been retiring later, compounding the impact of rising longevity on pension costs. During the mid-1960s, the average age of retirement in the major "G-7" developed countries was 66; today it is 62 (Figure 4). The decline has been most dramatic in continental Europe, where workers are typically eligible for old-age pensions at age 60—and even sooner for special disability and unemployment benefits that substitute for regular pensions. Since 1965, the share of French men aged 65 and over who work has dropped from 35 percent to 2 percent; the share of those aged 60 to 64 who work has dropped from 69 percent to 16 percent.

Meanwhile, fertility rates have plummeted. Worldwide, the average number of lifetime births per woman has fallen from 5.0 to 2.8 since the mid-1960s. In the developed countries, the average fertility rate has fallen all the way to 1.6. Thirty-five years ago, every developed country was at or above the so-called 2.1 replacement rate needed to maintain a stable population over time. Today, every developed country is at or below it—some far below it. In Japan, the fertility rate is 1.4; in Germany, 1.3; in Italy and much of southern and eastern Europe, 1.2 (Figure 5).

The "birth dearth" is ushering in an era of widespread labor shortages and population decline.

This "birth dearth" is not only reshaping the traditional population pyramid, narrowing it at the bottom and widening it at the top, it is also ushering in an era of unprecedented population decline in the developed countries. A generation ago, governments everywhere worried about overpopulation. Today, a growing number are worrying about depopulation. In several countries, including Italy and Japan, the working-age population (aged 15 to 64) is already shrinking. By the 2010s, the UN projects that it will be shrinking in most developed

Some developed countries may have more retired beneficiaries than taxpaying contributors.

countries, the only exceptions being Australia, Canada, Ireland, New Zealand, and the United States. By the 2030s, the total population of most developed countries will be falling as well.

In the fastest aging countries, the population losses could be stunning. By the middle of the century, the UN projects that there will be 28 percent fewer working-age Germans than there are today, 36 percent fewer working-age Japanese, and 42 percent fewer working-age Italians (Figure 6). By the end of the century, the *total* population of these countries is on track to shrink by one-half to two-thirds—unless fertility rates rise.

Why the Official Cost Projections May Be Optimistic

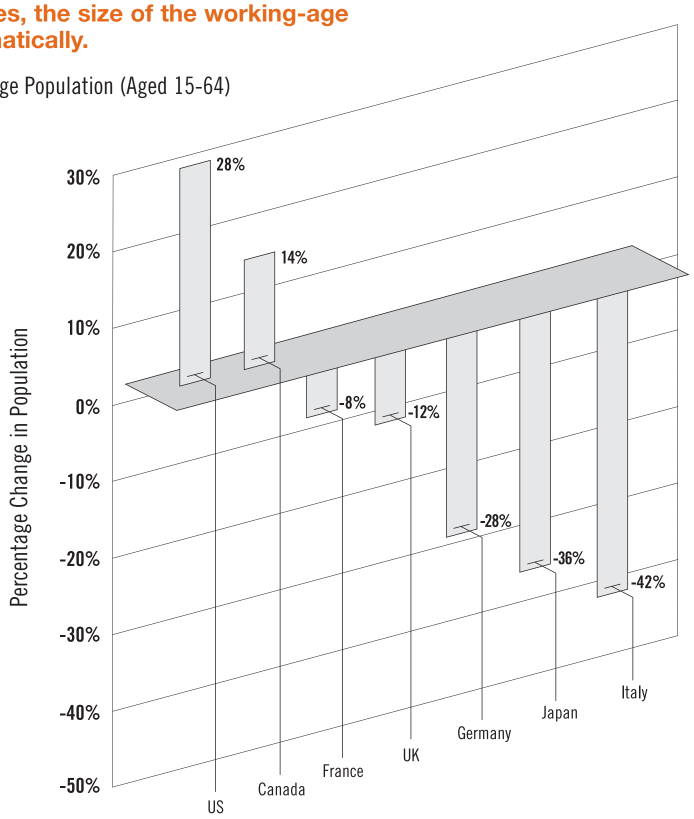
"Demography is destiny," demographer Richard Easterlin famously observed. When it comes to public budgets, it certainly is. Rising longevity and falling fertility translate directly into a lower ratio of taxpaying workers to retired beneficiaries, and this in turn translates into a higher cost rate for retirement programs.

The UN projects that the ratio of working-age adults (aged 15 to 64) to elderly (aged 65 and over) in the developed world will drop from 4.5 to 1 today to 2.2 to 1 in 2050. The actual ratio of contributing workers to retired beneficiaries is lower—since not all younger adults work and since most older adults retire before age 65—and is due to drop further. According to estimates by the International Monetary Fund (IMF),* this "support" ratio will fall by 2050 to 1.5 to 1 in Japan, to 1.4 to 1 in France, and to 1.2 to 1 in Germany. In at least one country, Italy, it may sink beneath 1 to 1, meaning that more people will be collecting benefits than paying taxes (Figure 7 and Figure 8).

FIGURE 6:

In many fast-aging countries, the size of the working-age population will shrink dramatically.

Percentage Change in the Working-Age Population (Aged 15-64) from 2000 to 2050: UN Projection



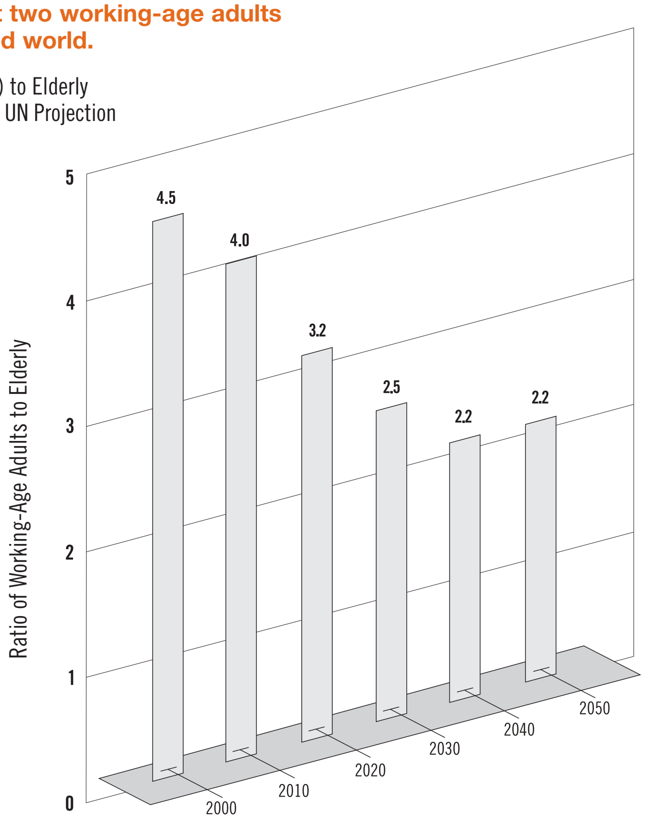
Source: UN (2001)

* Sheetal K. Chand and Albert Jaeger, *Aging Populations and Public Pension Schemes*, Occasional Paper no. 147 (IMF; December 1996).

FIGURE 7:

By the 2030s, there will be just two working-age adults for every elder in the developed world.

Ratio of Working-Age Adults (Aged 15-64) to Elderly (Aged 65 & Over) in the Developed World: UN Projection

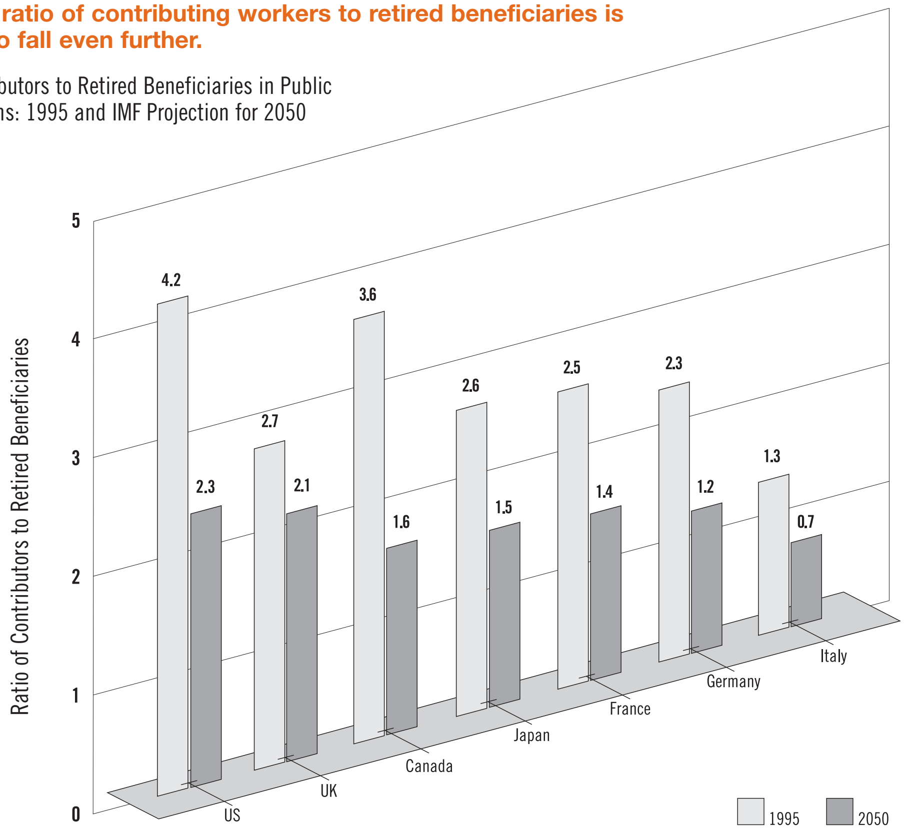


Source: UN (2001)

FIGURE 8:

The actual ratio of contributing workers to retired beneficiaries is expected to fall even further.

Ratio of Contributors to Retired Beneficiaries in Public Pension Systems: 1995 and IMF Projection for 2050



Source: IMF (1996)

The European Commission (EC) and the OECD recently published long-term projections of the impact of global aging on public budgets.* According to these "official" numbers, spending on public pensions in the typical developed country will grow by 4.4 percent of GDP by 2050, or from 8.8 to 13.2 percent of GDP. This represents a 50 percent increase—and it may be a serious underestimate.

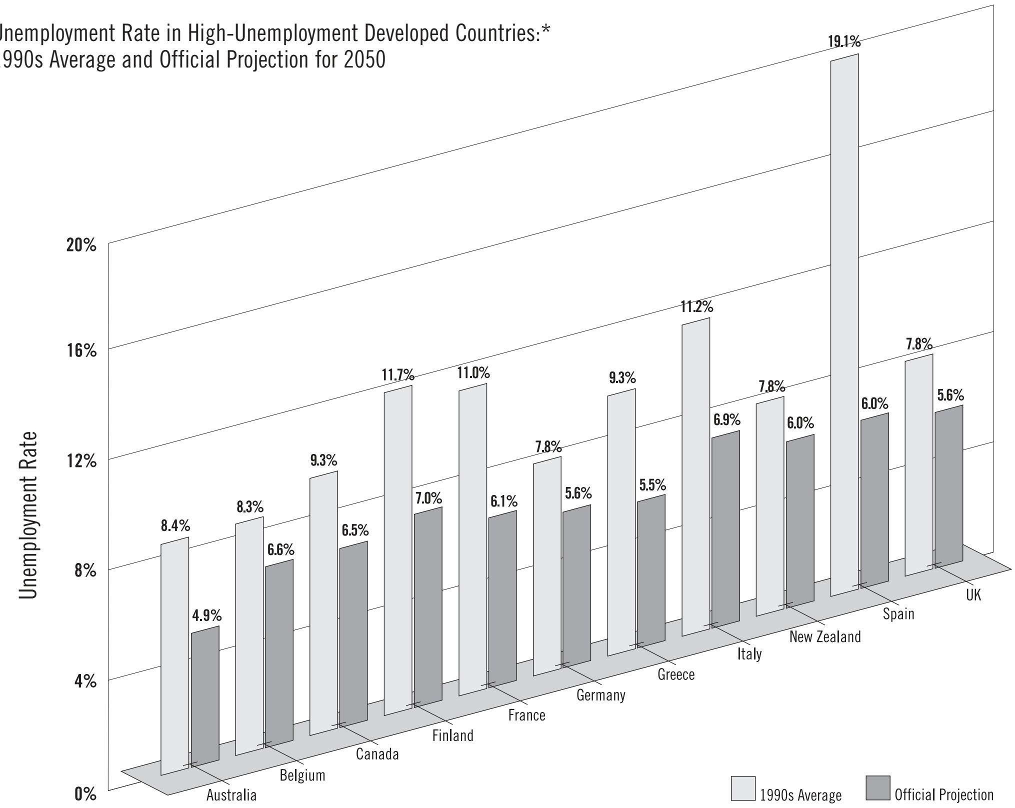
The official projections, in fact, rest on a remarkably optimistic set of assumptions about future economic and demographic developments. They assume that unemployment rates in most countries will fall, that labor-force participation rates will rise, and that fertility will rebound back toward the replacement level. All of these developments increase the projected size of the workforce and tax base, and hence decrease the projected pension cost rate. The projections also assume that the historical rate of improvement in longevity will slow. Although this is bad news for people personally, it is good news for government budgets.

- **Unemployment.** The official projections assume that unemployment will fall beneath its recent (1990s) average in every developed country except Japan—and that the biggest improvements will be in the countries with the highest levels of unemployment. In France, the unemployment rate is projected to fall from 11.0 to 6.1 percent; in Italy, from 11.2 to 6.9 percent; and in Spain, from 19.1 to 6.0 percent (Figure 9). Few economists believe that Europe can solve its chronic unemployment problem without fundamental reform—including reform of public pensions. While contracting workforces may mean tighter labor markets, higher labor costs due to rising pension expenditures will be pushing the other way.

FIGURE 9:

The optimism of the official projections: lower unemployment.

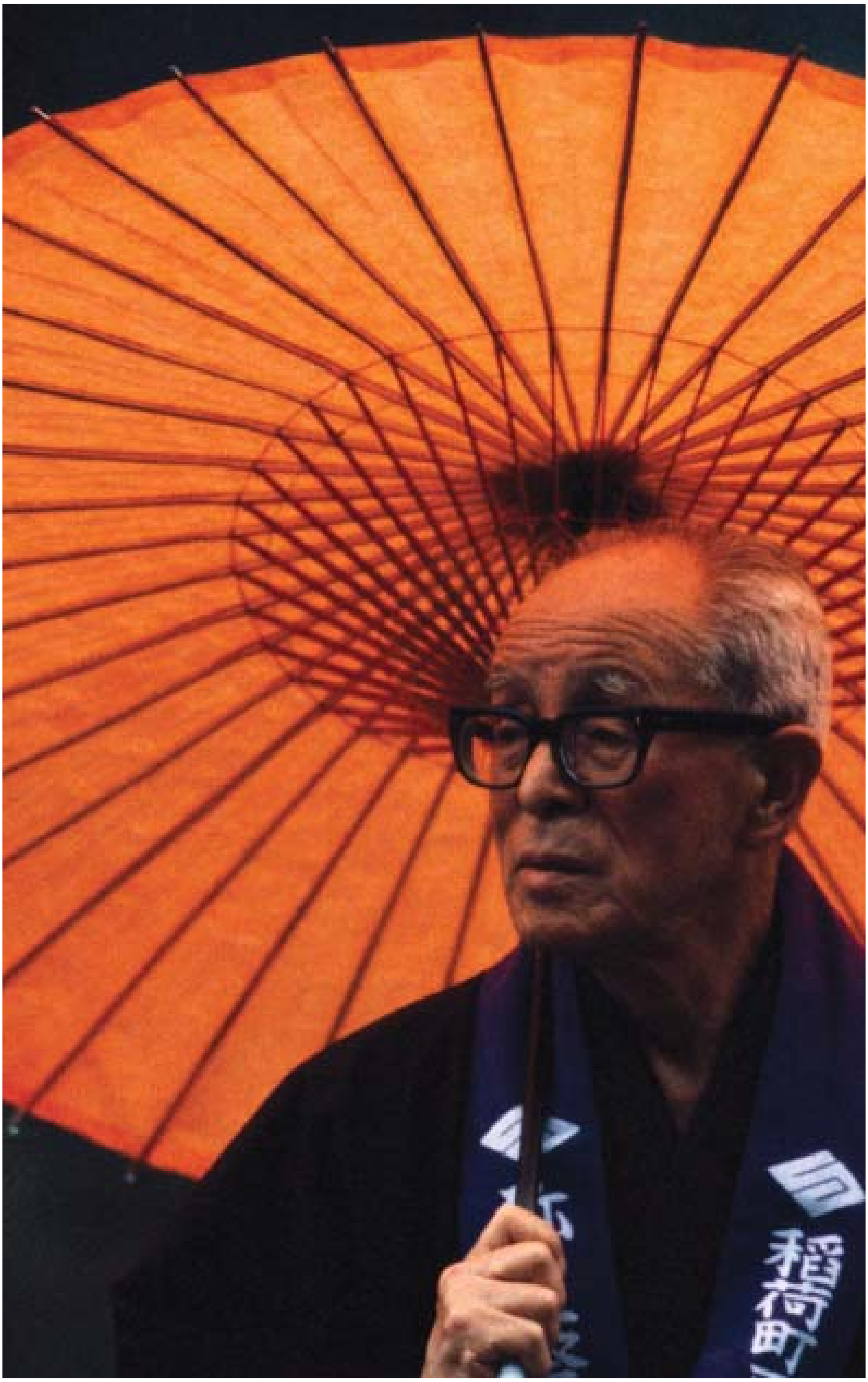
Unemployment Rate in High-Unemployment Developed Countries:*
1990s Average and Official Projection for 2050



Source: EC/OECD (2001) and OECD (2001a)

* Defined as countries with an average unemployment rate during the 1990s of 7.5 percent or higher

* The EC/OECD projections for pensions and health care—as well as the CSIS "historical trends" projection—are discussed in detail in *Appendix II: A Note on the Projections.*

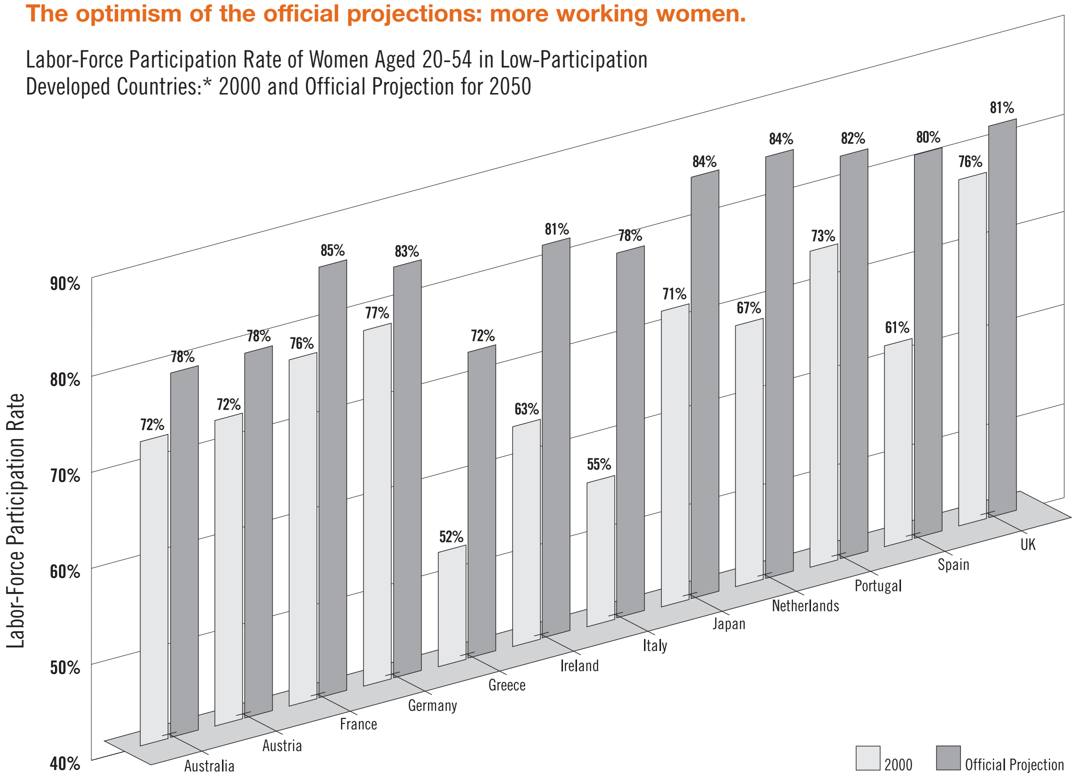


By 2050, Japanese life expectancy could be nine years higher than is officially projected.

FIGURE 10:

The optimism of the official projections: more working women.

Labor-Force Participation Rate of Women Aged 20-54 in Low-Participation Developed Countries:* 2000 and Official Projection for 2050

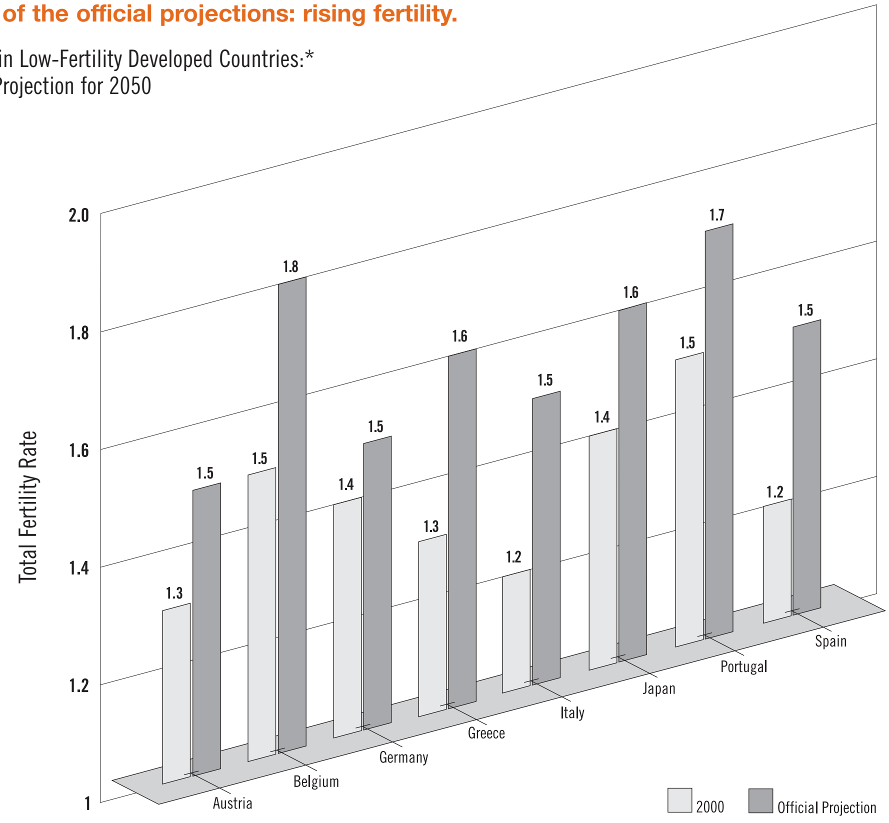


Source: EC/OECD (2001) and OECD (2001a)
* Defined as countries with a current rate at least 15 percentage points less than the male rate

FIGURE 11:

The optimism of the official projections: rising fertility.

Total Fertility Rate in Low-Fertility Developed Countries:*
2000 and Official Projection for 2050



Source: EC/OECD (2001)
* Defined as countries with a current fertility rate of 1.6 or lower—the developed-country average

- **Labor-force participation.** The official projections assume that the female labor-force participation rate will rise in every developed country except Norway. In Greece, it is projected to rise from 52 to 72 percent; in Italy, from 55 to 78 percent; and in Spain, from 61 to 80 percent (Figure 10). In some countries, the female labor-force participation rate may indeed rise as the generation of women now in their twenties and thirties brings new work habits with them into their forties and fifties. But this "cohort effect" at most explains a fraction of the projected gains. The EC and the OECD do not say why they expect participation to increase more—or how this is consistent with another assumption of theirs: rising fertility.

- **Fertility.** The official projections assume that fertility rates will rise in most developed countries, with the biggest percentage increases in those countries—Greece, Italy, and Spain—that currently have the lowest rates (Figure 11). There is no evidence that such a turnabout is imminent. None of the trends that have suppressed fertility since the 1960s, from growing affluence to more working women to the widespread availability of effective birth control and abortion, have been reversed. And in fact, over the past decade fertility has only risen in two developed countries: Denmark and the United States. Everywhere else, it is flat or still falling.

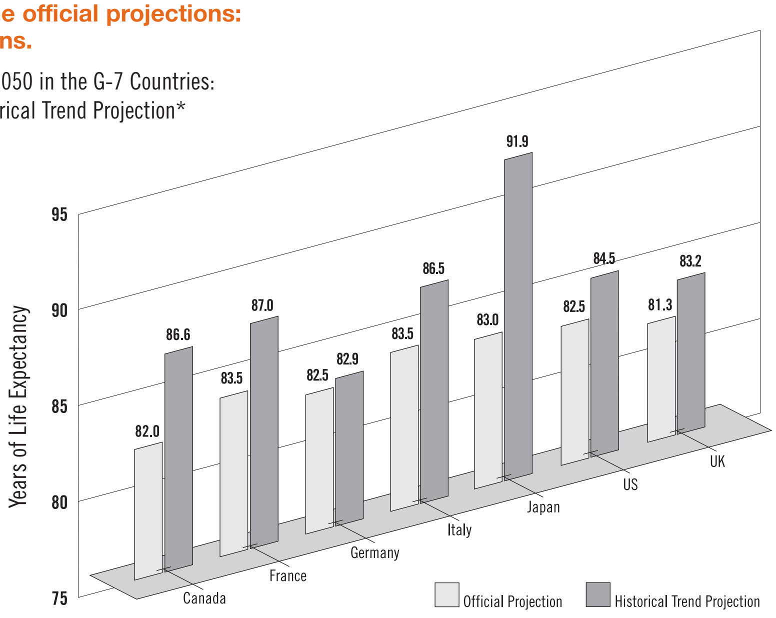
- **Longevity.** The official projections assume that the historical rate of improvement in longevity will slow. If the historical trend continues, average life expectancy in the G-7 countries would be 3.5 years higher by 2050 than in the official projections; in Japan, it would be 8.9 years higher (Figure 12). To the extent there is a justification for the assumed slowdown, it is the expectation that life expectancy must eventually stop rising as medical progress pushes everybody up against the "natural limit" to the human life span. But a growing number of demographers question whether such a limit really exists. And even if one does, it may be much higher than previously thought. In a recent survey by the Society of Actuaries, two-thirds of demographers agreed that historical trends should be the "primary guide" in projecting longevity.*

* Proceedings of an October 30, 1997 seminar of the Society of Actuaries summarized in the *North American Actuarial Journal*, II:4 (October 1998).

FIGURE 12:

The "optimism" of the official projections: smaller longevity gains.

Life Expectancy at Birth in 2050 in the G-7 Countries: Official Projection and Historical Trend Projection*



Source: EC/OECD (2001) and Schieber/Hewitt (2000)
* Based on historical 1950-1994 trend in mortality rates

To assess the potential magnitude of the aging challenge, the CSIS Global Aging Initiative has developed an alternative projection. The CSIS projection begins with the official projections, but adjusts key assumptions to more closely reflect historical trends. It assumes that unemployment will continue at its 1990s level, that women's work patterns will not change (except to allow for cohort effects), that fertility will remain constant, and that longevity will grow at its historical pace.

Pension spending under the CSIS "historical trends" projection grows by 7.0 percent of GDP between now and 2050 in the typical developed country, or from 8.8 to 15.8 percent of GDP (Figure 13). This is nearly 3 percentage points more than under the official projections—and it is just the average. In some countries, the difference is much more dramatic. In Italy, CSIS projects that pension spending will grow by 4.2 percent of GDP (rather than 0.3 percent); in Japan, by 9.6 percent (rather than 6.3 percent); and in Spain by 15.8 percent (rather than 7.9 percent).

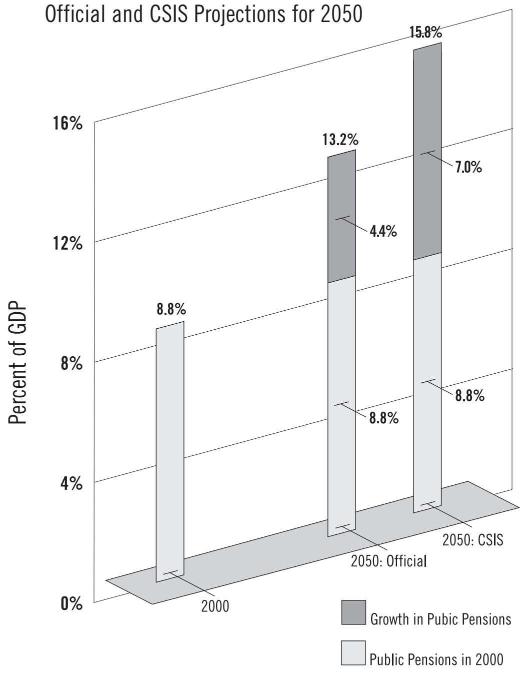
CSIS projects that public pension spending will grow from 9 to 16 percent of GDP by 2050 in the typical developed country.

The CSIS projection is by no means a worst-case scenario, since it merely assumes that historical trends will continue. If fertility rates fall further or if longevity gains speed up, the bill for public pensions could rise even higher. Like the EC/OECD projections, moreover, the CSIS projection assumes robust productivity growth averaging 1.75 percent per year. Although this rate is about equal to the developed-country average over the past quarter-century, it could be difficult to sustain. Rates of savings and investment may decline as the developed countries age, and this in turn could lower productivity growth.

FIGURE 13:

Spending on public pensions is on track to grow by 7 percent of GDP in the developed world.

Spending on Public Pensions, as a Percent of GDP, Developed-Country Average:* 2000 and Official and CSIS Projections for 2050



Source: EC/OECD (2001) and CSIS (2002)
* Figures are unweighted averages

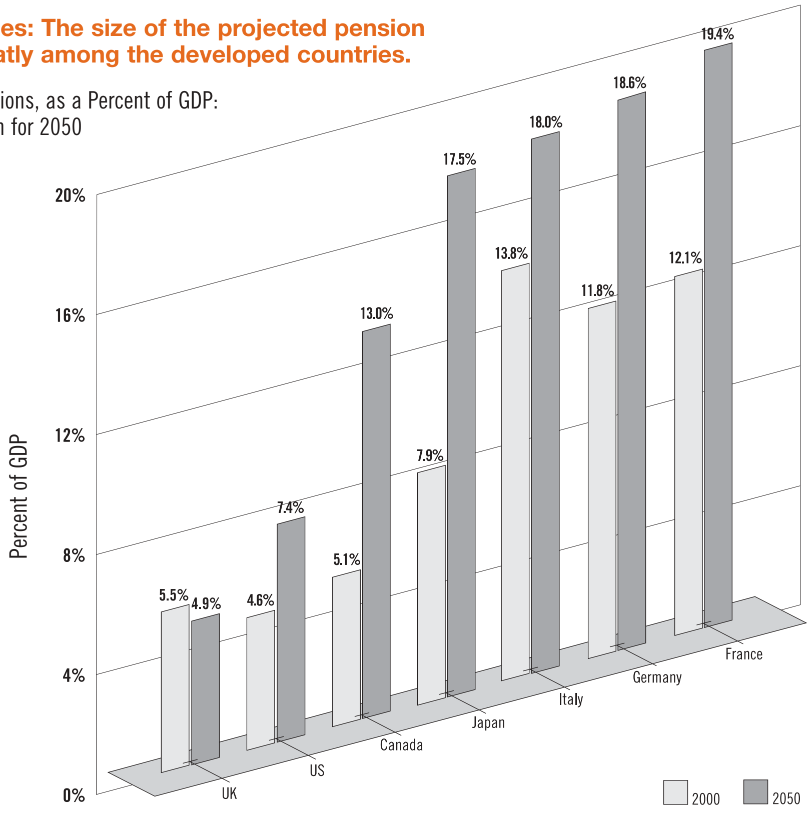
The magnitude of the extra pension burden will vary greatly among the developed countries, partly because some are aging more rapidly and partly because some have earlier retirement ages and more generous benefit formulas (Figure 14). Almost everywhere, however, pension costs will begin to ramp up around 2010. And almost everywhere, they will continue to climb rapidly for two to three decades before slowing or plateauing at a higher level. Global aging is not a temporary challenge. It will bring a permanent shift in the age structure of the developed world's population and will put permanent pressure on public budgets.

Pensions of course aren't the only public costs that are bound to grow as societies age. Health care for the elderly will also be a large burden. In the developed countries, each elder on average consumes three to five times more health care than a younger adult.

FIGURE 14:

Behind the averages: The size of the projected pension burden varies greatly among the developed countries.

Spending on Public Pensions, as a Percent of GDP: 2000 and CSIS Projection for 2050



Source: EC/OECD (2001) and CSIS (2002)

Moreover, the older elders are, the more costly their care becomes. In the United States, the overall per capita ratio of public health-care spending on the "old old" aged 85 and over to spending on the "young old" aged 65 to 74 is roughly 3 to 1; for nursing home care, the ratio is roughly 20 to 1.

What makes these differentials so ominous is that it is precisely the population of old old that will be growing the fastest. The UN projects that the number of elderly aged 65 to 74 in the developed world will grow by roughly 50 percent between now and 2050, while the number aged 85 and over will grow by nearly 300 percent (Figure 15). Today, just one out of ten elders in the developed world is 85 or older. By mid-century, the "aging of the aged" will push this share up to one out of five.

These demographic multipliers threaten to interact explosively with the rising trend in health-care costs. Due mostly to the introduction and diffusion of new technologies, per capita public health-care spending in the developed countries has grown 1.2 percentage points faster than per capita GDP over the past thirty years. The official projections assume that in the future per capita spending will grow no faster than per capita GDP. Even so, the EC and OECD project that public health benefits for the elderly will grow by an average of 2.5 percent of GDP over the next fifty years, or from 2.1 percent of GDP today to 4.6 percent by 2050.

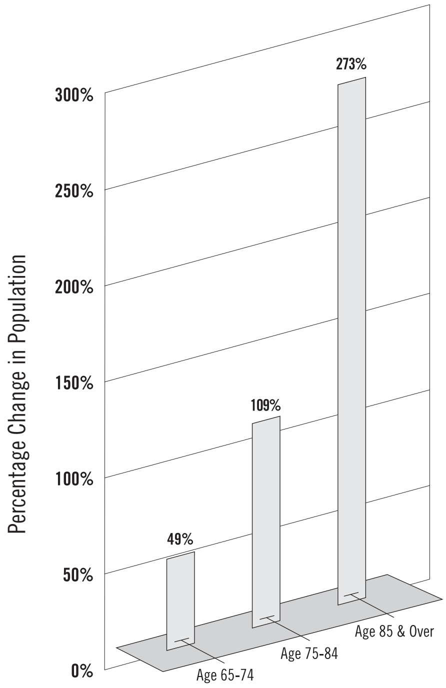
CSIS assumes that health-care spending will continue to grow 1 percentage point faster than per capita GDP. While this may seem like a small difference, it has a big impact. Under the CSIS projection, public health-care spending on the elderly in the typical developed country rises by 5.5 percent of GDP between now and 2050, more than twice what it does under the official projections. Added to the higher growth in pensions under the

Over the next fifty years, the number of "old old" in the developed world will grow by nearly 300 percent.

FIGURE 15:

The "old old" will be the fastest growing age group.

Percentage Change in the Elderly Population of the Developed World from 2000 to 2050, by Elderly Age Group: UN Projection

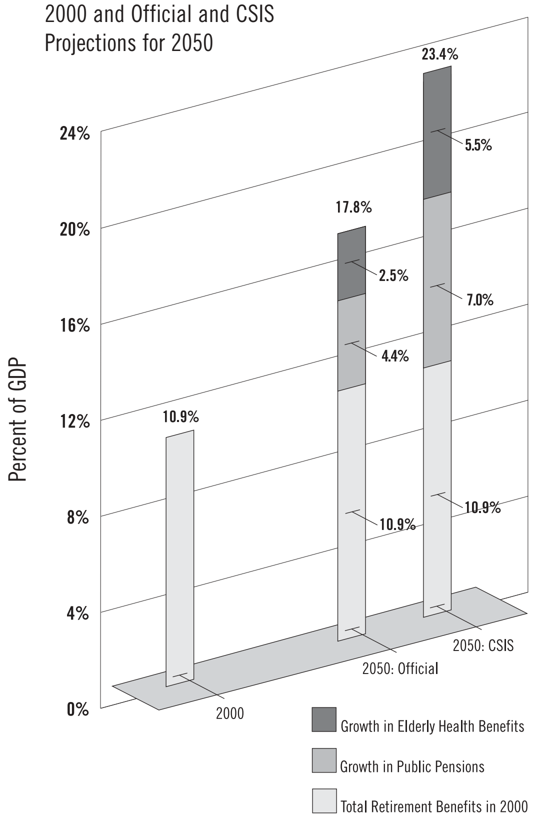


Source: UN (2001)

FIGURE 16:

Total public retirement spending is on track to grow by 12 percent of GDP in the developed world.

Spending on Public Pensions and Health Benefits for the Elderly, as a Percent of GDP, Developed-Country Average:* 2000 and Official and CSIS Projections for 2050



Source: EC/OECD (2001) and CSIS (2002)
* Figures are unweighted averages

CSIS projection, this pushes up the projected growth in total public retirement spending to 12 percent of GDP.

subjective standard that itself rises over time. As technology and expectations interact, governments may find it harder—not easier—to control spending. This is why a recent panel of experts charged with reviewing the US Medicare projections concluded that a GDP-plus-one-percentage-point growth assumption lies near "the lower end of the reasonable range."*

Facing Up to the Challenge

Altogether, CSIS projects that public retirement spending in the typical developed country will grow from 11 to 23 percent of GDP by 2050 (Figure 16). Part of the additional cost will come due in the form of health benefits rather than pensions. All that matters fiscally and economically, however, is the total burden of public transfers to retired beneficiaries. The fact that public health-care spending on the elderly is growing too makes the reform of public pensions all the more urgent.

Cost, of course, isn't the only reason public pensions need to be reformed. Most economists agree that unfunded pension benefits substitute for genuine savings, and so reduce capital formation and economic growth. It's easy to understand why: When government promises people future income,

CSIS projects that total public retirement spending will grow from 11 to 23 percent of GDP by 2050 in the typical developed country.

Health-care costs could rise even faster than CSIS projects. Although some recent studies conclude that the health of the elderly is improving, this does not mean that the historical cost trend will slow. The health of the elderly is improving precisely because society is devoting a high and rising level of real medical resources to their care. And society is doing so because "good health" is a

they save less on their own. In most countries, retirement rules and benefit formulas also penalize continued work, once minimum eligibility ages or service requirements are met. According to OECD research, a 55 year old with 35 years of employment and a 65 year old with 45 years will receive the same benefit in eleven of the developed countries.†

* *Review of Assumptions and Methods of the Medicare Trustees' Financial Projections* (Technical Review Panel on the Medicare Trustees' Reports; December 2000).

† Nicholas Vanston, "Maintaining Prosperity," *The Washington Quarterly* (Summer 2000).

As pay-as-you-go systems "mature," moreover, the deal they offer deteriorates. In the pay-as-you-go model, early cohorts of retirees can receive benefits far in excess of the market value of their lifetime contributions—all paid for by later cohorts of retirees, who necessarily become market losers. In the United States, according to the Urban Institute,* the typical single male retiring in 1960 earned a return of 11.0 percent on his Social Security payroll taxes; the typical single male retiring in 1980 earned a return of 4.2 percent. The same worker retiring today can expect a return of just 1.6 percent. By the time today's college graduates retire, the return will be 1.1 percent—one-third what they could earn by investing their payroll taxes in risk-free Treasury bonds (Figure 17).

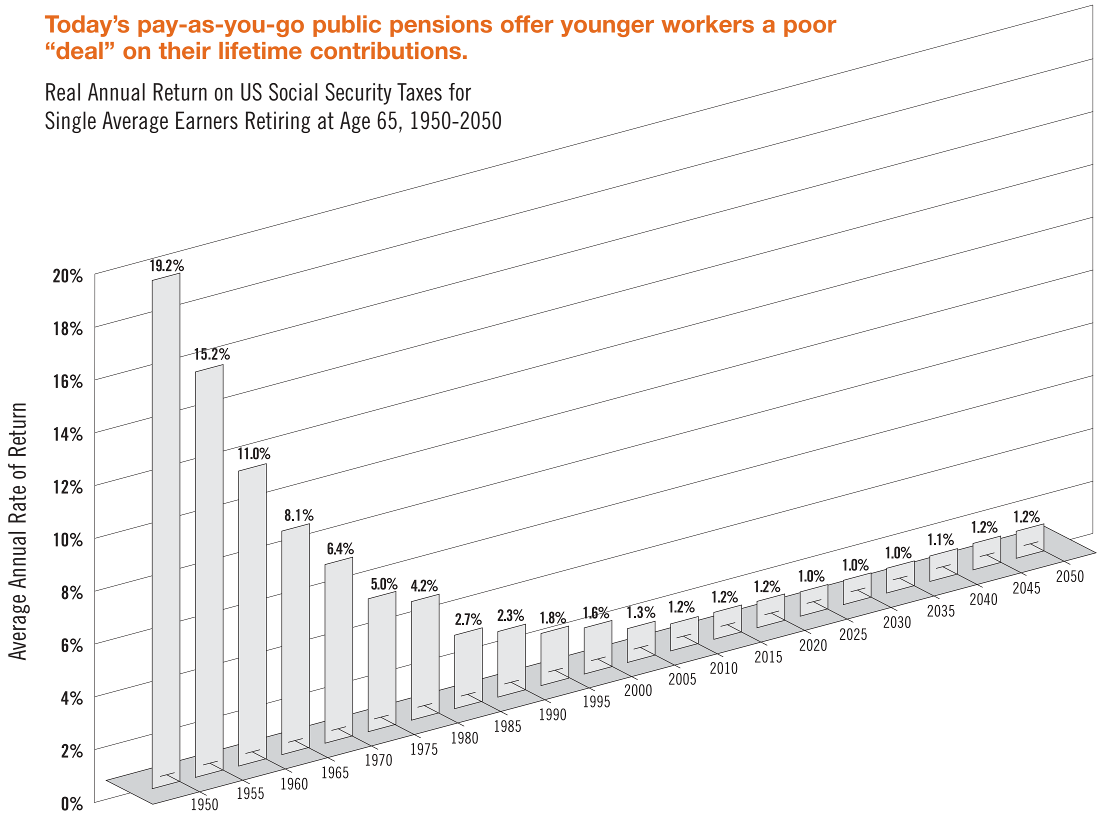
For a long time, the advantages of universal pay-as-you-go pensions—social solidarity, poverty relief, and "windfall returns"—seemed to outweigh the drawbacks. Global aging, however, is changing that calculus. Most governments are coming to understand that today's public pension systems are unsustainable and are beginning to enact reforms, although only a few have faced up to the magnitude of the challenge.

To stabilize spending as a share of GDP, public pension benefits in almost every developed country would eventually have to be cut by 30 to 60 percent beneath current projections. Yet in almost every country, workers remain highly dependent on public pensions and entirely unprepared for large benefit reductions. In the United States, where public pension benefit levels are modest by developed-country standards, Social Security accounts for roughly 60 percent of the total income of average-income retirees. In France, Germany, and Sweden, public pensions account for roughly 80 percent. Among lower-income retirees, the dependence is even more complete.

FIGURE 17:

Today's pay-as-you-go public pensions offer younger workers a poor "deal" on their lifetime contributions.

Real Annual Return on US Social Security Taxes for Single Average Earners Retiring at Age 65, 1950-2050



Source: Urban Institute (1994)

* C. Eugene Steuerle and Jon M. Bakija, *Retooling Social Security for the 21st Century* (Urban Institute; 1994).

In Europe, public pensions account for as much as 80 percent of total retiree income.

Only a handful of countries, most of them in the English-speaking world, now have funded private pension systems that cover half or more of the workforce. Just three countries—the United States, the UK, and Japan—possess over 80 percent of the world's funded pension assets. Nor can the typical retiree fall back on personal savings. Even in the United States, with its traditions of self reliance, most workers have saved little for retirement. According to a recent Employee Benefit Research Institute survey, only 21 percent of households have accumulated more than $100,000 in retirement savings; 35 percent say they have accumulated nothing at all.*

As societies scale back today's unsustainable public pension promises, they must develop new means of supporting the elderly that do not overburden the economy or overtax the young. Although the generosity of today's pay-as-you-go systems will inevitably be reduced, retirement security can be strengthened—provided reform begins soon.

* *The 2000 Retirement Confidence Survey* (Employee Benefit Research Institute; 2000).

In France, Germany, and Italy, payroll taxes already exceed 40 percent.

chapter two

A REFORM GUIDE

The developed countries are finding that the challenge of global aging leaves them no easy options. Over the past few decades, governments have paid for the growth in retirement benefits by raising taxes, cutting other programs, or borrowing from the public. These traditional strategies will be of limited use in the future.

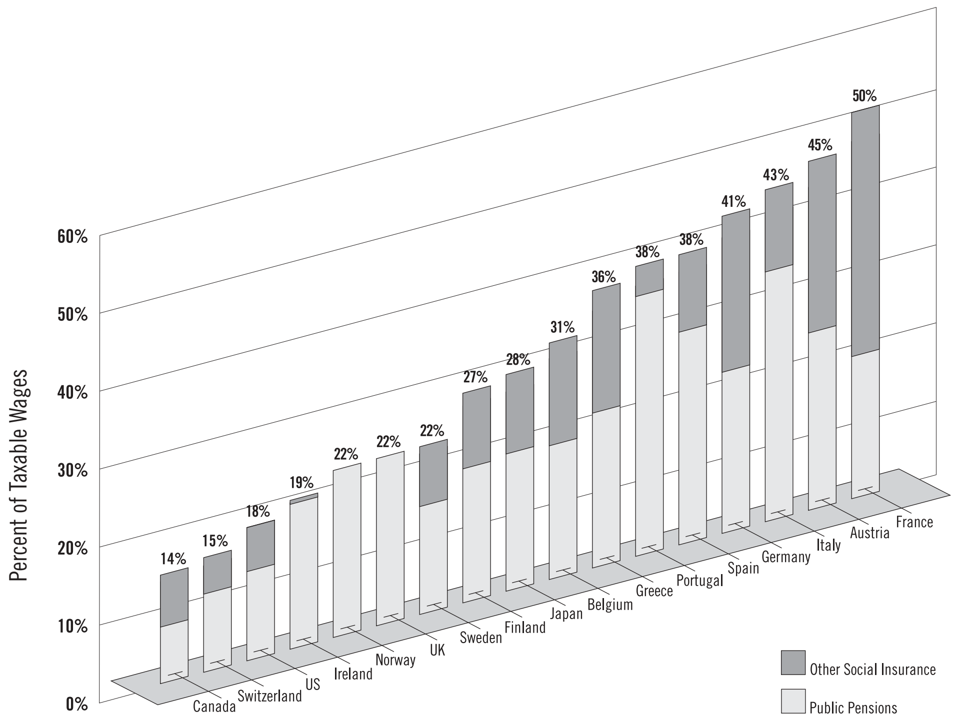
Some countries still have room to raise taxes—and at least two are doing so. Canada is now phasing in a 4 percentage point payroll tax hike in order to build up the Canada Pension Plan's reserve fund while Boomers are still in the workforce. Starting in 2004, Japan plans to increase the payroll tax rate for its main earnings-related pension scheme, Employees' Pension Insurance, by 2.5 percentage points every five years over the next twenty years, or by a total of 10 percentage points.

Few countries, however, will be able to raise taxes enough to cover the projected growth in retirement benefits, and many may not be able to raise them much at all. The problem is that taxes in most countries are already high. In the European Union (EU), total taxes now *average* over 45 percent of GDP. In many European countries, payroll tax rates exceed 30 percent; in France, Germany, and Italy, they exceed 40 percent (Figure 18). Raising taxes by 12 percent of GDP—the equivalent of another 30 percent of pay—may turn out to be impossible. Rather than generate new revenue, higher tax rates may simply slow the economy, exacerbate already high rates of structural unemployment, and push more workers into the growing gray economy.

FIGURE 18:

In most developed countries, payroll taxes already impose a heavy burden on the economy.

Payroll Taxes* by Type in the Mid-1990s, as a Percent of Taxable Wages



Source: US Social Security Administration (1999)
* Includes employer contributions

Cutting other public spending to accommodate old-age benefits may also help. The projected growth in retirement spending, however, is so large that some governments could eliminate all general purpose spending—from defense and infrastructure to police and schools—and still find themselves running deficits twenty-five years from now. Even in the United States, with its relatively youthful population and inexpensive public pension system, the "crowding out" strategy may already have run its course. Since the mid-1960s, spending on retirement programs and health care for the elderly has risen from roughly 15 to 40 percent of the federal budget, even as "discretionary" spending on general purpose government has declined from 66 to 35 percent. Few observers believe that this trend is sustainable.

As for borrowing to cover the rise in public pension costs, it is simply not an option for the developed world as a whole. Within a few decades, widening government deficits would exhaust global savings. If the rise in pension costs represented a temporary challenge, individual countries might be able to borrow to meet it. But the rise will be permanent, and so any country going down this route risks economic ruin. In Europe, the option will not even be available to most countries, unless they are prepared to disregard the Economic and Monetary Union's debt and deficit limits—possibly shattering the EMU.

Successful reform will require a new approach. In the broadest terms, there are three possible avenues to reform—and most countries will need to pursue all of them. The first is to reduce the cost of existing public pension systems through such measures as lowering replacement

Since the mid-1960s, retirement spending has risen from 15 to 40 percent of the US federal budget.

rates, raising retirement ages, and means-testing benefits. The second is to substitute funded retirement savings, in whole or in part, for today's pay-as-you-go promises. The third is to ease the future fiscal burden—and hence the need for benefit reductions—through broader strategies that boost the size and productivity of tomorrow's economy and workforce.

Reducing the Cost of Pay-As-You-Go Systems

Traditional public pension systems are designed as defined-benefit plans, meaning that they promise retirees an annual pension whose amount is determined by a legislated formula. The formulas are generally linked to workers' employment histories and take into account both their earnings and the number of years they have contributed to the system. In such plans, benefits are primarily financed through earmarked payroll taxes, though there may also be subsidies from general revenues. In addition to an earnings-related pension scheme, some countries also have a "basic pension," which can either be flat or means-tested. One developed country—Australia—has no traditional earnings-related pension at all.

Although the details vary, all reform plans ultimately achieve their savings in one or more of the following four ways: by reducing the generosity of new pensions, by reducing the generosity of current pensions, by restricting eligibility for pensions, or by changing incentives so that eligible workers wait longer before retiring.

- **Reducing the generosity of new pensions.** Some countries are changing the wage base used in calculating initial benefits from final earnings to average lifetime earnings, which are generally lower. (Austria, Finland, and Italy, for example.) Others are making "actuarial" reductions to the pensions of early retirees to reflect the greater number of years the pensions will be received (Germany, Italy, and Sweden)—or else are increasing the number of contribution years required to receive a "full" pension (France and Italy). Still other countries are increasing full-benefit eligibility ages. (Germany, Italy, Japan, Portugal, the UK, and the United States.) Although often described as a hike in the "normal" or "statutory" retirement age, this reform does not require anyone to work longer. Rather, it amounts to an across-the-board cut in lifetime benefits for workers retiring at any age.

Many countries are raising the eligibility age for full benefits.

A few countries plan to adjust future benefits to offset gains in life expectancy, potentially neutralizing one of the major forces driving up spending. (Italy, Poland, and Sweden.) And one country (the UK) now indexes the earnings base used in calculating initial benefits to price growth instead of wage growth. This dramatic reform is expected to stabilize public pension spending as a share of GDP, making the UK the only developed country that now faces no long-term cost challenge.

Finally, a number of countries plan to save on costs by trimming back or phasing out separate and more generous pension systems for civil servants, the military, and favored industries and professions. (Finland, Greece, Italy, and Portugal.)

- **Reducing the generosity of current pensions.** Although the UK is the only developed country that routinely price-indexes *initial* benefits (Ireland sometimes does so), many countries are saving money by making subsequent postretirement cost-of-living adjustments (COLAs) less generous. A growing number have achieved significant long-term pension savings by linking COLAs to prices rather than wages. (France, Italy, and Japan.) While price indexing maintains the initial purchasing power of a pension throughout the retirement years, wage indexing raises the pension in line with the overall growth in living standards. Other countries have taken the more modest step of shifting indexation from gross to net wages—that is, to wages net of payroll taxes. (Austria and Germany.) This reform at least requires retirees to share some of the burden of rising pension costs.

Many countries are also reducing the generosity of COLAs.

Another way to reduce the generosity of current pensions is to tax them. In the developed world, the scope for savings is limited since most countries—the United States being a notable exception—already fully tax benefits. Many developing countries, however, do not. In the transition economies of the former Soviet Bloc, benefit taxation is now a matter of heated debate.

- **Restricting pension eligibility.** The most obvious way to restrict eligibility is to cut back on early retirement. New Zealand is raising the minimum eligibility age for public pensions. Italy is gradually phasing out "seniority pensions" that allow workers with long work histories to retire before the minimum age. Many more countries are restricting back-door routes to early retirement. (Austria, Denmark, Finland, Germany, Greece, the Netherlands, and Norway.) These routes include "bridge" pensions that fill in for regular old-age pensions until older workers reach normal retirement age, as well as special disability benefits (with more lenient eligibility rules for older workers), special unemployment benefits (which may not require older workers to look for a new job), and special early retirement "windows" (for older workers in troubled industries).

A growing number of countries are restricting access to special early retirement benefits.

Means tests can also be used to restrict eligibility to public pensions. A number of countries have a means-tested basic pension or minimum benefit guarantee, including Australia, Ireland, Spain, Sweden, and the United States. Although Australia is the only country that currently means-tests all pay-as-you-go benefits, others may make greater use of this "floor of protection" strategy.

- **Changing retirement incentives.** In most public pension systems, workers earn little or no additional pension benefit by working and contributing past minimum eligibility ages and so suffer large lifetime benefit loses by staying on the job. In France and Italy, the benefits workers lose by delaying retirement one year equal four-fifths of after-tax pay.* Several reforms mentioned above, including the use of longer earnings histories and the introduction of actuarial reductions for early retirement, will strengthen the link between contributions and benefits, increasing incentives to stay on the job longer. To the same end, a number of countries are also introducing or liberalizing actuarial increases for later retirement. (Austria, Germany, and the United States.)

Countries everywhere are trying to reduce disincentives to work.

Meanwhile, Italy and Sweden in the developed world and Latvia and Poland in the developing world are transforming their defined-benefit systems into "notional defined-contribution" accounts. In the new systems, worker contributions are credited to fictive ("notional") accounts where they earn a rate of interest equal to average wage growth (Sweden) or GDP growth (Italy). Upon retirement, the account balances are converted into annuities, which are in principle adjusted to reflect both retirement age and life expectancy.

Notional accounts remain just as unfunded as the systems they replace. By linking lifetime contributions and benefits, however, they may improve work incentives. Because they directly tie the growth in average benefit levels to the growth rate of the economy, they may also help stabilize long-term costs.

* Jonathan Gruber and David Wise, *Social Security Programs and Retirement Around the World*, NBER Working Paper no. 6134 (NBER; August 1997).

Setting Up Funded Systems

While reducing the cost of pay-as-you-go pensions is the essential first step, it does not add up to a complete reform plan. Societies must also develop new and more sustainable strategies for supporting tomorrow's larger elderly population. The most promising approach is to encourage or require people to pay in advance for a larger share of their own retirement by setting aside more of their income during their working years.

This "funding" strategy has many potential advantages, including higher national savings and higher returns on contributions. Over the long run, a funded system can finance any given level of benefits at a lower contribution rate than a pay-as-you-go system. Funding also decouples retirement security from the ups and downs of demographics—and, to the extent that foreign investment is allowed, from the ups and downs of national economic performance as well. The funding strategy will allow workers and retirees in the aging developed world to benefit from the growth opportunities of a still younger developing world. In designing funded systems, governments face a number of important issues and choices.

- **Who does the funding?** National pension plans can be funded publicly through government trust funds (also called "reserve funds") or privately through occupational pensions and personal retirement accounts. Is government ownership of funded pension assets preferable? Is private ownership preferable? Or should funds be personally owned but publicly managed, as in Singapore, Malaysia, and the other "provident fund" countries?

  Advocates of government funding cite two big advantages: Administrative costs are minimal and investment risk is born by society as a whole. Critics point out that returns to publicly managed funds have historically been low and that investment decisions have often been politicized. There is also the issue of whether government trust funds can be effectively "lock boxed"—in other words, whether they are likely to result in genuine savings at all. In Japan, Sweden, and the United States—three countries whose national pension systems have large public trust funds—governments have often counted retirement assets as part of the budget and used them to finance current expenditures.

The funding strategy has many possible advantages, including higher national savings and higher returns on contributions.

  Advocates of private funding stress the benefits of higher returns and private ownership. The appeal of ownership largely explains the wave of personal account reforms sweeping the world, from Chile and Sweden to Poland and Hong Kong. Workers are coming to understand that traditional public pensions are revocable government promises, whereas personal accounts confer property rights that politicians can't easily take away. Critics warn that workers may merely be trading the "political risk" that benefits will be cut for the "market risk" that a lifetime of savings won't buy a decent retirement.

  Most concerns about personal accounts can be addressed through regulatory safeguards and guarantees. Strict credentialing rules, fiduciary standards, and disclosure requirements can

Personal pensions give workers the security of property rights.

prevent "mis-selling" scandals like the one that rocked the UK pension system in the early-1990s. Workers need not see administrative fees consume returns: Costs can be capped (as in the UK's new "stakeholder" pensions) or else workers can be offered a low-cost default investment option (as in Sweden). Nor need retirees be put at risk of outliving their savings: Annuities can be made mandatory (Hungary, Poland, and Sweden) or retirees can be given the choice between an annuity and phased withdrawals (Chile and the UK). At the same time, the adequacy of benefits can be ensured through "top up" and "relative return" guarantees (Chile and Poland) or means-tested benefit floors (Australia). Unfortunately, not all personal account reforms include sufficient safeguards.

A funded system can finance any given level of benefits at a lower contribution rate than a pay-as-you-go system.

- **The transition cost.** Any reform that moves toward greater funding of existing pay-as-you-go systems faces a transition cost. The cost arises because the contributions of current workers cannot both pay for the benefits of current retirees and be saved to finance their own retirements. This "double burden" problem is not a significant obstacle to reform in most developing countries, where populations are younger, few workers have yet qualified for pensions, and governments can often cover much of the transition cost by privatizing public assets, as Chile, Mexico, and Poland are doing. It is a major issue in most developed countries, where unfunded public pension liabilities—the sum total of benefits promised to today's adults for which nothing has been saved—typically run between 100 and 250 percent of GDP.

- **Full versus partial funding.** The size of the transition cost limits the options of most developed countries. In the developing world, a number of countries are largely or entirely replacing their pay-as-you-go public systems with funded systems. (Chile, Kazakhstan, Mexico.) The only developed countries now heading in this direction are the UK and Australia. The UK had an earnings-related pay-as-you-go pension system that was still immature at the time it initiated reform; Australia had no earnings-related public pension system at all.

  A number of other developed countries are partially funding public systems, either by building up government trust funds (Canada, Ireland, and Norway) or by introducing a second tier of funded personal pensions (Sweden and Germany). Many more countries in the developed and developing worlds alike are utilizing tax incentives to encourage the growth of private employer pensions and personal retirement accounts entirely outside of the public system. (Brazil, the Czech Republic, and Italy.)

- **Mandatory versus voluntary.** A related issue is whether participation in a funded system should be mandatory (as in Australia and Chile) or voluntary (as in Argentina and the UK)—and if the former, whether it will be so for all workers or only for younger workers and new workers (Hungary and Poland). Although voluntary systems are politically attractive, they may lead to an unraveling of the social safety net. Low-earning workers are least likely to participate, yet these are the workers who most need to develop substitutes for pay-as-you-go benefits.

Reforms that move toward greater funding will have to confront the "double burden" problem.

"Out-of-System" Strategies

The first two strategies—reducing pay-as-you-go benefits and moving toward greater funding—involve large changes to retirement systems themselves. Governments can also pursue a number of broader strategies that will help society prepare for the aging challenge by expanding the economy and ultimately the tax base. These "out-of-system" strategies range from lengthening work weeks to lengthening work lives, from boosting immigration to boosting productivity. None are new. But all will acquire a new urgency in aging societies where workforces, and perhaps even total economic output, will be shrinking decade in and decade out.

These strategies are not "magic bullets." They cannot roll back the age wave and they cannot substitute for pension reform. To the extent they are successful, however, they will mitigate the needed adjustments.

- **Remove obstacles to work.** With the number of working-age adults due to decline in most of the developed countries, governments will be looking for ways to persuade those who don't work to get jobs—and those who already work to work more. Wherever work weeks are short, unemployment rates high, and labor-force participation low, countries stand to benefit enormously from this strategy.

  To pursue the strategy, countries may have to overcome deep-rooted social expectations about everything from gender roles (in Italy women work outside the home at roughly half the rate of men) to leisure time (in France legislation recently lowered the workweek to 35 hours). In Europe in particular, governments will have to revise labor laws that make it

Strategies that boost the size of the economy and tax base can mitigate the need for benefit cuts.

difficult for employers to lay off workers when times are bad and so discourage them from hiring workers when times are good. They may also have to reform disability and unemployment programs that offer few incentives to find jobs. Even so, this strategy may not have much success unless governments first reform old-age pension systems, whose rising cost is an important reason the labor supply isn't bigger to begin with.

- **Raise productivity growth.** Along with removing obstacles to work, governments can reform regulatory and tax policies that discourage entrepreneurship, misallocate capital, and hurt economic efficiency. Nothing is more important for tomorrow's living standards than productivity growth. Larger gains will mean a larger GDP—and more resources available for all public and private goals, including spending on pensions.

  When it comes to the long-term cost projections, however, higher productivity growth is unlikely to make a decisive difference. One reason is that the projections already assume that productivity growth will average an impressive 1.75 percent per year. Another is that initial pension benefits in almost every developed country are indexed to wages. When productivity goes up, wages go up—and when wages go up, benefits go up too. To be sure, higher productivity will make tomorrow's workforce more affluent, and a more affluent workforce may be more willing to pay a rising payroll tax burden. But this is not an argument that many leaders, liberal or conservative, are eager to make.

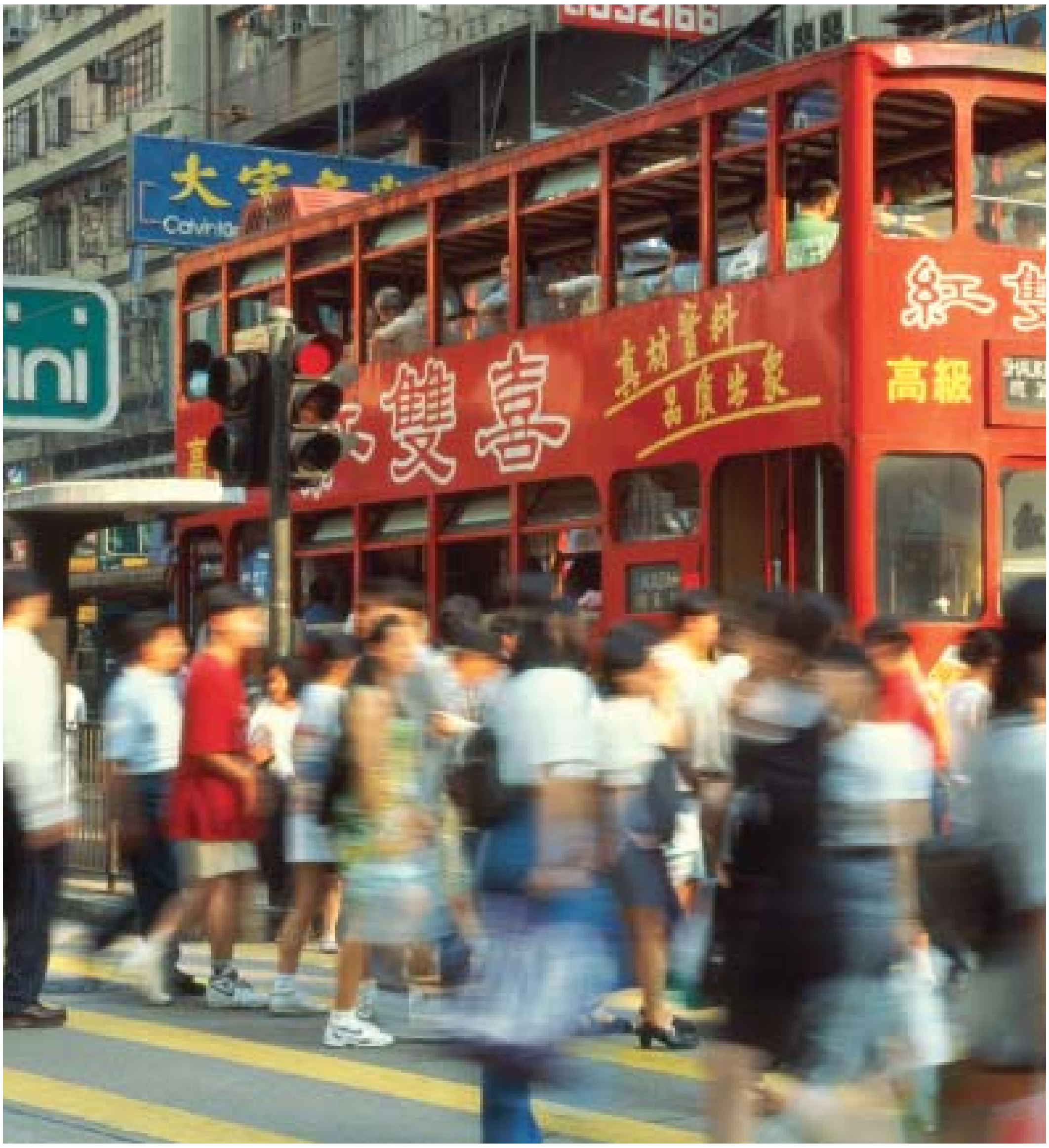
- **Reward child rearing.** A number of developed countries—notably the Scandinavian nations and France—have a long tradition of generous public funding for "family allowances" and other pronatal incentives. This tradition seems to be spreading. Many European countries, for instance, have begun to count years spent raising children as "contribution" years in calculating pension benefits. The new German personal accounts system also subsidizes child rearing by paying bigger government "matching contributions" to families with children.

  The record shows that pronatalist incentives can have a positive if modest impact on fertility. The hitch is that higher fertility takes roughly twenty-five years before it begins to raise the worker-to-retiree ratio—and in the near term, more school-age children would actually add to government spending.

- **Increase immigration.** Immigration acts much like a higher fertility rate, but without the delay. As a consequence, it is widely advocated as a means of easing labor shortages in aging societies. In the years to come, the developed countries will be under growing pressure to accept more immigrants. Already today, Germany (a high-immigration country) and Japan (a low-immigration country) are vigorously debating immigration as a "retirement" strategy.

  While immigration may help, it cannot reverse the aging of the developed world. To keep the ratio of working-age adults to elderly from falling, the UN calculates that Europe would have to accept 25 million immigrants annually;[*] by way of comparison, annual net immigration to the United States, both legal and illegal, is now about 1 million. In this scenario, three-quarters of "Europeans" would be new immigrants or their descendants by the end of the century. Obviously, immigration at even a fraction of this level could trigger widespread social conflict—and not just in the destination countries. Some observers worry about a "new colonialism" in which an aging developed world siphons off the best-educated and most ambitious workers from the developing countries.

* *Replacement Migration: Is It a Solution to Declining and Ageing Populations?* (UN, Population Division; March 2000).



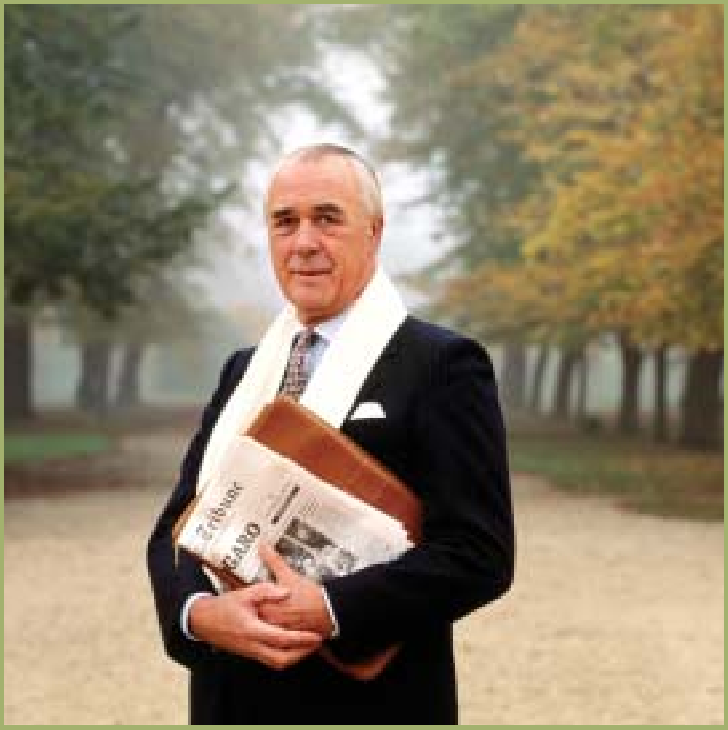
Nothing is more important for tomorrow's living standards than raising productivity growth.

- **Encourage longer work lives.** This is the most direct and most effective of the "out-of-system" strategies. Moving beyond the traditional three-box life cycle of education, work, and retirement would not only have enormous benefits for government budgets and national economies, it would also, many gerontologists believe, be good for the elderly themselves.

  Much will have to change, however, for "active aging" to replace "rocking chair" retirement as the new social norm. Pension systems throughout the developed world still subsidize early retirement and penalize continued work. In Japan and many European countries, older workers are routinely subject to mandatory retirement rules. Outside the United States, age discrimination laws are generally weak or nonexistent. Almost everywhere, rigid seniority pay scales make hiring older workers costly. Meanwhile, training programs for older workers, like Germany's "Campaign 50 Plus," remain rare.

Business leaders will have a vital role to play.

Clearly, addressing the challenge of global aging is more than a matter of reforming public pensions—or indeed, public policies. Private-sector attitudes and institutions will have to evolve as well. In all of this, business leaders will have a vital role to play. They will need to invest more in the productivity of workers—old and young alike—while expanding access to nontraditional career options like "phased retirement" and "un-retirement." They will need to work with governments to encourage broader access to private pensions. And they will need to educate the public through such innovative initiatives as the "Choose to Save Campaign" sponsored by the Employee Benefit Research Institute and the American Savings Education Council. At the same time, they should take every opportunity to remind political leaders about the importance of beginning to prepare now for a future of fewer workers and more retirees.



By 2050, public pension spending is on track to reach 19 percent of GDP in continental Europe, compared with 9 percent in the English-speaking countries.

chapter three

WORLD TOUR

Although most countries are just beginning to address the aging challenge, there is already a lengthening list of reform models, from Australia and the UK to Sweden and Singapore. Most involve some combination of gradual reductions in pay-as-you-go benefits, changes in retirement incentives, and new funded savings.

Global aging poses many common challenges. The reforms that societies implement, however, will naturally reflect their own unique history and culture. There are important differences among the developed countries, starting with the magnitude and timing of the demographic challenge (Figure 19). Global aging is more severe in continental Europe than in the United States and the other English-speaking countries.* In continental Europe, moreover, the "age wave" is more like a rising tide: Populations have been growing steadily older for decades and will continue to do so for decades to come. In the English-speaking world, the age wave is being delayed by the middle-aging of large postwar Baby Boom generations, but it will arrive in full force with their retirement starting around the year 2010. Japan, by contrast, is experiencing an age wave that is both early and sudden.

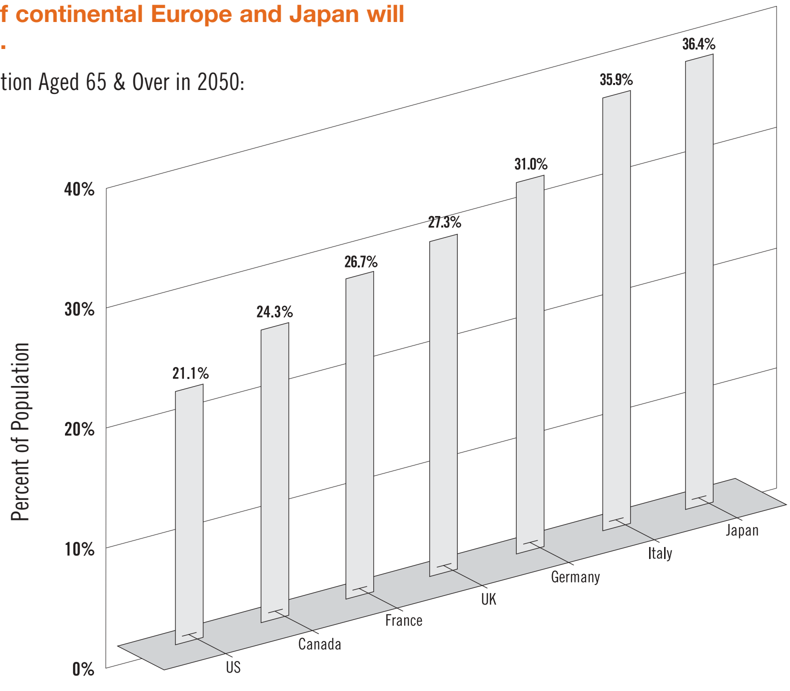
The generosity of pension systems also varies from country to country. Continental Europe has the highest replacement rates, the earliest retirement ages, and the steepest payroll taxes. CSIS projects that public pension spending in continental European countries will reach an average of 19 percent of GDP by 2050, compared with 9 percent in the English-speaking world. As if this didn't make the challenge difficult enough, most of these countries also have underdeveloped private pension systems, a weak "equity culture," and powerful reform-resistant unions. The United States and the other English-speaking countries, with their younger populations, less generous public benefits, and well established private pensions, are better positioned to confront the aging challenge. Japan is a unique case. Its high savings, working elders, and strong families are important long-term advantages. But Japan's age wave is massive and is arriving in the midst of a profound economic and institutional crisis.

* In the *World Tour* and throughout the report, "continental Europe" refers to the developed economies of continental Europe and excludes the transition economies of the former Soviet Bloc. The "English-speaking" countries are: Australia, Canada, Ireland, New Zealand, the UK, and the United States.

FIGURE 19:

The countries of continental Europe and Japan will grow the oldest.

Percent of the Population Aged 65 & Over in 2050:
UN Projection



Source: UN (2001)

Despite the differences, most of the developed countries are moving in the same direction—toward a collision between twentieth-century pensions and twenty-first-century demography. In the developing world, the situation is much more diverse.

In the more traditional economies of Africa, the Middle East, and South Asia, pension reform is simply not high on the agenda. Most governments are preoccupied with the problems of hunger, disease, and urbanization. Fertility remains high, life expectancy low, and the number of elderly small: just 3 percent of the population in Africa (Figure 20). Of these elders, moreover, most live in traditional kinship groups. Formal pensions rarely cover more than one-tenth of the workforce in Africa and South Asia and one-third in the Middle East. Although mismanagement is often a real problem, none of these countries faces a significant aging challenge.

The transition economies of the former Soviet Bloc could hardly be more different. Several of those in Eastern Europe are as old as the developed countries. All, moreover, are busy rebuilding universal pension systems that collapsed in the early 1990s during the transition from communist to market economies. As part of the general economic restructuring over the past decade, many are introducing funded pension systems.

The countries of Latin America and East Asia are mostly young, but aging rapidly. Some of the more affluent countries in Latin America—notably Argentina and Uruguay—already confront developed-country-sized pension problems today. In China, a major pension crisis looms just over the horizon. These are the exceptions, however. The pension systems in most of Latin America and East Asia are relatively inexpensive, which means countries still have time to experiment and prepare.

In this chapter, we take a world tour and look at what different countries have already accomplished—as well as what remains to be done.

THE DEVELOPED ECONOMIES OF CONTINENTAL EUROPE

Global aging is about to give the term "Old World" a whole new meaning. The UN projects that the elderly will grow from 17 to 31 percent of the population in continental Europe between now and 2050. In France, the share will reach 27 percent, in Germany 31 percent, and in Italy 36 percent. By then, half of all continental Europeans will be 49 or older. Meanwhile, across the Atlantic, the median age in the United States will be a comparatively youthful 40.

By the middle of the century, half of the population of continental Europe will be 49 or older.

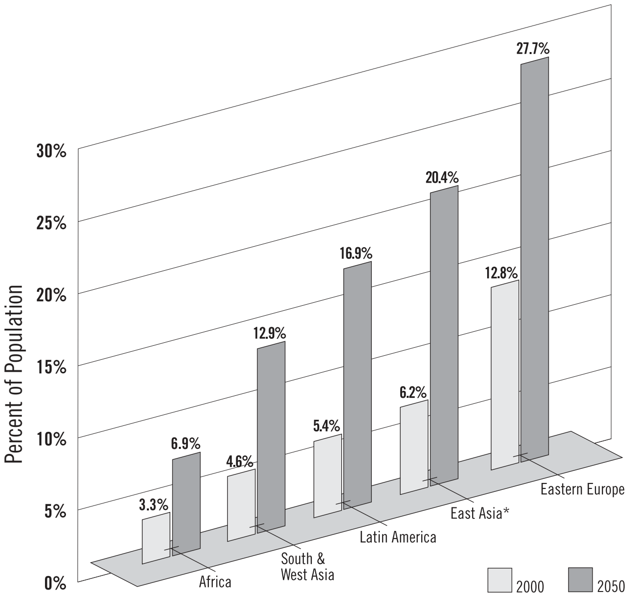
The aging trend is somewhat less severe in northern Europe, where fertility remains a bit higher, and somewhat more severe in southern Europe, where fertility is in free fall. But everywhere, aging will be putting intense new pressure on retirement systems that are already straining budgets, inflating labor costs, and cutting deep into after-tax pay.

Several smaller countries have well-developed funded pension systems covering a majority of the workforce. Switzerland has a mandatory employer pension system. Denmark and the Netherlands have quasi-mandatory employer pensions established through collective bargaining. All three countries have substantial pension assets that will help take pressure off their pay-as-you-go systems.

FIGURE 20:

In the developing world, the countries of East Asia and Eastern Europe face the biggest aging challenge.

Percent of the Population Aged 65 & Over:
2000 and UN Projection for 2050



Elsewhere, dependence on pay-as-you-go benefits is almost complete. In the major economies of continental Europe, pension assets totaled less than 10 percent of GDP in 1999, compared with 95 percent in the UK, 84 percent in the United States, and 36 percent in Japan (Figure 21 and Figure 22). Overall, according to the European Federation for Retirement Provision, only 7 percent of pension payments in Europe come from funded employer plans and only 1 percent from personal pensions.* Meanwhile, according to a recent Wall Street Journal Europe poll, 56 percent of Europeans say they are currently saving nothing at all.†

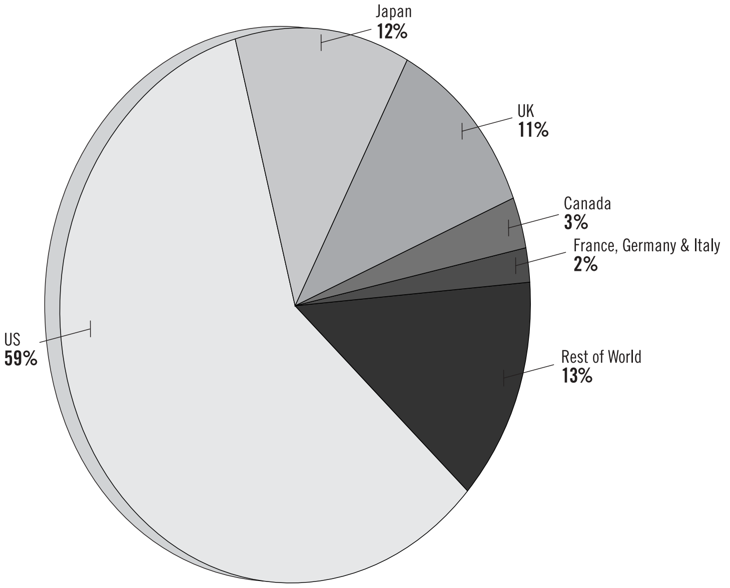
* *European Pension Funds: Their Impact on European Capital Markets and Competitiveness* (European Federation for Retirement Provision; 1996).

† Cited in Silvia Ascarelli, "Study Finds Europeans are Poor Savers Who Don't Tend to Change Their Habits," *Wall Street Journal Europe* (June 28, 2001).

FIGURE 21:

The English-speaking countries and Japan account for over 80 percent of the world's funded pension assets.

Funded Pension Assets in 1999 by Country, as a Percent of World Total

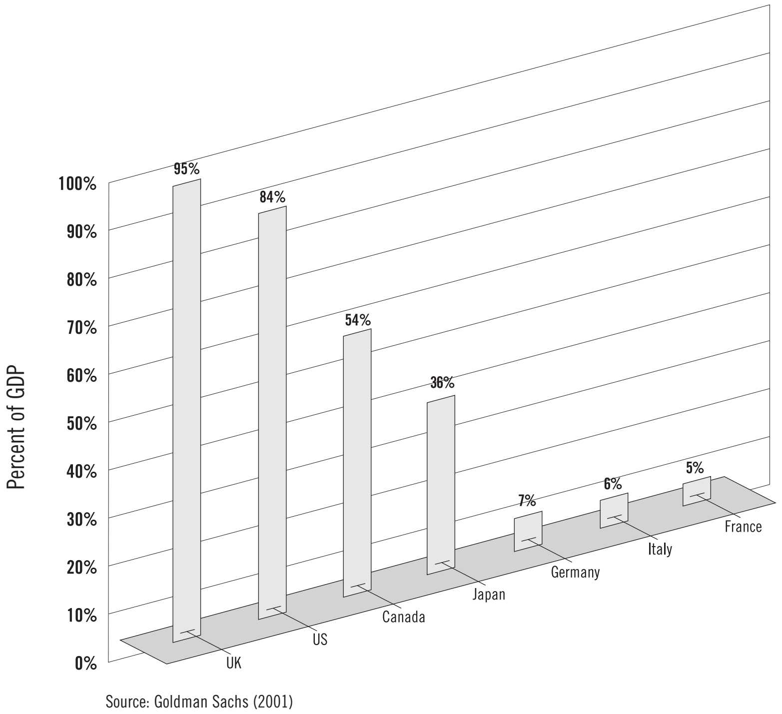


Source: Goldman Sachs (2001)

FIGURE 22:

In the major economies of continental Europe, funded pension assets amount to less than 10 percent of GDP.

Funded Pension Assets in 1999 by Country, as a Percent of GDP



Source: Goldman Sachs (2001)

Beginning in the early 1990s, the reform of Europe's pay-as-you-go pension systems acquired a new urgency as national governments rushed to comply with the debt and deficit limits established for membership in the new Economic and Monetary Union, or EMU. At the same time, the European Commission began to focus on eliminating obstacles to funded private alternatives. Perhaps the biggest is the lack of pension portability, which is hampered by inconsistent tax treatment of contributions and benefits among the EU countries, as well as by differences in credentialing, disclosure, and investment rules. Incredibly, someone who works in Germany and retires in the UK may be taxed twice, while someone who works in the UK and retires in Germany may not be taxed at all. A directive harmonizing the regulation of private pensions—though not the tax treatment—recently passed the European Parliament but stalled in the Council of Ministers.

As for public pensions, a few countries have undertaken fundamental reforms. Sweden is converting its traditional defined-benefit pensions into notional defined-contribution accounts. It has also added a second tier of funded personal accounts that began operation in 1999. Payroll contributions are divided between the systems, with a modest 2.5 percent of the 18.5 percent total earmarked for the personal accounts. Individuals can choose among a wide variety of investment funds. A central "clearinghouse," however, certifies the funds and administers the accounts.

In 2001, Germany also added a second tier of funded pensions to its public system—though unlike Sweden, Germany left its pay-as-you-go benefits largely unchanged. The pensions will be funded with voluntary worker contributions, plus government matches designed to encourage participation. Meanwhile Italy, which once faced the worst pension crisis in Europe, has enacted a series of deep cuts in future benefits that have significantly improved the long-term outlook.

In most countries, however, reforms have been modest—and proposals to do more provoke a political firestorm. In the fall of 1995, the civil service unions shut down Paris in protest over a reform that would have required public employees to work as long as private-sector workers to receive full benefits. The fallout helped bring down the Conservative government of Alain Juppé—and the French have yet to re-engage the pension issue. In the spring of 2001, the Greek Socialists under Costas Simitis proposed raising the full benefit retirement age to 65. Once again, demonstrators took to the streets and forced the government to back down. Greece's public pension system, due to grow to 25 percent of GDP by 2050 even under the official EC/OECD projections, remains among the most costly and unsustainable in Europe.

Fifty-six percent of Europeans say they are saving nothing at all.


Germany
Italy
France

We take a closer look at France, Germany, and Italy:

France

Of all the peoples in Europe, the French are the most attached to their current pension system, which they view as the cornerstone of "social solidarity"—and the most hostile to funded alternatives, which they associate with "Anglo-Saxon" capitalism. It's easy to see why the system is popular. Roughly three-quarters of the French retire by the time they reach age 60, and they do so on pensions that typically replace 70 percent of preretirement earnings for full-career workers. The problem is that the system is among the most expensive in the developed world, after only Italy, Austria, and Greece.

In 1993, the Conservative government of Edouard Baladur enacted a reform that remains France's most serious attempt to grapple with its looming pension crisis. Prior to the Baladur reform, the General Regime, which covers most of France's private-sector workforce, allowed retirement with full benefits at age 60 with 37.5 years of contributions. The Baladur reform raised the contribution period to 40 years, while shifting from wage indexation to price indexation in calculating annual COLAs.

It was this reform that Alain Juppé, Baladur's successor, tried to extend to civil service pensions in 1995. The government's failure and subsequent fall from power have put pension reform into a state of permanent gridlock. Since then, even the debate over possible reform options has been confined to narrow terrain.

The only exception is the so-called Charpin report prepared for Lionel Jospin's new Socialist government by Jean-Michel Charpin, head of France's economic planning agency. The Charpin report, issued in 1999, called for a further increase in the contribution period to 42.5 years under the General Regime—and for imposing the new rule on civil service retirees as well. For most workers, this would have amounted to raising the full-benefit retirement age to 65. The civil service unions, which had been pushing for ***lowering*** *the retirement age to 55, opposed any increase. So did much of the public. Early retirement in France and many European countries is widely supported as a means of opening up jobs for younger workers, though most economists believe that the higher payroll taxes which result tend to increase—not lower—unemployment.*

The French view pay-as-you-go pensions as the cornerstone of "social solidarity."

Subsequent reports by other official bodies have mostly played down the fiscal challenge and the need for major reform. To its credit, the Jospin government has taken the positive step of creating a "reserve fund" within the general regime. It is not clear, however, how the fund will be financed or invested. And in any case, the fund will be small, apparently just 5 percent of GDP at its peak in the 2020s.

Meanwhile, private pensions in France remain almost entirely unfunded. Currently, most workers are covered under the quasi-public supplementary employer pension schemes known as ARRCO and AGIRC. Like the General Regime, these schemes are administered by the "social partners"—that is, the employer federation and unions. And like the General Regime, they operate on a pay-as-you-go basis.

President Jacques Chirac is on record in favor of funded private pensions, partly as a means of boosting French ownership of French companies. Two-fifths of the shares traded on the French Bourse are owned by foreign investors, largely American, Dutch, and British pension funds. So far, however, the proposals have gone nowhere.

A law passed in 1997 setting up tax-favored pension funds (the so-called Loi Thomas) was later abrogated by the Jospin government. Arrangements called Employee Savings Plans are growing in popularity, but are locked in for only five or ten years, and so are limited substitutes for funded pensions.

Two-fifths of the shares traded on the French Bourse are owned by foreigners.

Few observers expect a breakthrough any time soon. Jospin's Socialists are committed to propping up the current system and the Conservatives have no mandate to change it. Meanwhile, France's demographic time bomb keeps ticking.

Germany

Labor Minister Walter Riester, the architect of Germany's recent pension reform, calls it "the biggest social reform in the postwar era." The second tier of funded pensions that Gerard Schroeder's Social Democratic government added to Germany's public pension system in May 2001 certainly puts Germany in a better position than France to cope with the age wave. Unfortunately, while the reform expands funded benefits, it fails to control the cost of Germany's existing pay-as-you-go system.

When the German pension system was set up by Chancellor Bismarck in the 1880s, it offered a subsistence benefit to the minority of workers who lived to age 65. Today, the typical worker retires by age 60 with benefits replacing 70 percent of wages. "Flexible" early retirement options are so widely available and so attractive that only one-quarter of new pensioners in 1998 retired with a regular old-age pension. The rest qualified under special deals for women, for long service workers, for the unemployed, and for the disabled, which for older workers in Germany can simply mean unable to find a job in one's usual occupation.

A 1992 reform trimmed the system's generosity. The reform shifted indexation from gross to net wages. It is also raising the normal retirement age, as well as the ages for special women's pensions and long service pensions. Although early retirement will still be allowed at age 60, there will be some reduction in annual benefits to reflect the extra years spent collecting a pension. The routes to early retirement via the unemployment and disability systems, however, were left open—raising the question of whether retirement ages are likely to increase at all.

Germany has an established private pension system. Coverage is relatively broad by continental European standards, especially for workers at large companies. Most pensions, however, are financed through book reserves, meaning that the funds are retained as part of the firm's working capital rather than invested in marketable securities. As such, they represent a kind of halfway house between pay-as-you-go and fully funded. According to Merrill Lynch, pension assets total roughly 15 percent of GDP in Germany, but invested assets only 5 percent.[*]

From the outset, the Schroeder government made pension reform a high priority. Shortly after coming to power in 1998, it enacted a number of stop-gap measures aimed at stabilizing the system's near-term finances. These included a crackdown on payroll-tax evasion and a temporary suspension of wage indexation in 2000 and 2001. It also earmarked a new "ecological tax" to the pension trust funds.

At the same time, the Schroeder government proposed a long-term reform plan that included large cuts in pay-as-you-go benefits and a new second tier of funded pensions. The government won approval for the funded pensions. When the plan is fully phased in in 2008, workers who elect to participate will contribute 4 percent of pay to one of a wide variety of pension schemes, from occupational plans to personal accounts. There is also an elaborate system of government matching contributions pegged not just to a worker's income, but to the number of children in his or her household. Workers will have the

* Jan Mantel and Stefan Bergheim, *German Pension Reform* (Merrill Lynch; June 2000).

choice between making an after-tax contribution and receiving a government match—or, if it is more favorable, making a tax-deductible contribution and foregoing the match.

As for the cuts in pay-as-you-go benefits, they were ultimately scaled back to overcome opposition from the German trade unions, including Labor Minister Riester's own IG Metall. A complicated change in the way initial benefits are calculated will, over the long run, result in a 10 percent benefit reduction. This change, however, still leaves the cost of Germany's public pension system on track to grow by 15 percent of payroll by 2050, about what the United States now spends on Social Security and Medicare combined. The government insists that there will be no further reductions in benefits or increases in worker contributions. Apparently, the rising cost of the system is to be shifted to the general taxpayer.

More Germans retire early on special unemployment and disability pensions than on regular old-age pensions.

"We're shelving the problems that pensioners face still further into the future at the cost of the young," says Green Leader Kerstin Muller. Unfortunately, that's a criticism that could apply to most of the countries of continental Europe—and indeed, the developed world.

Italy

During the 1990s, Italy had to embark on a particularly ambitious program of fiscal belt-tightening in order to qualify for the EMU. Along the way, it enacted a series of major pension reforms which, at least on paper, go further than anything France or Germany has yet done to slow the long-term growth in spending.

Reform was certainly needed. Costing 14 percent of GDP in 2000, Italy's public pension system is Europe's second most expensive. Replacement rates are even higher than in France and Germany—as much as 80 percent for the typical full-career worker—and full-benefit retirement ages are even lower. Prior to the 1990s reforms, seniority pensions allowed private-sector workers to retire at any age with full benefits after 35 years of service and public-sector workers after a mere 25 years. A private sector-worker who started work at age 16 could thus retire at 51, a public-sector worker at age 41.

According to former prime minister Giuliano Amato, "Young Italians believe the unions only represent their fathers."

The expense of public pensions boosts labor costs and limits job growth, while leaving little space in public budgets for other priorities—including job training and unemployment assistance for Italy's legions of out-of-work youth. The system is nonetheless defended by the labor unions, roughly half of whose members are already retired. It's no wonder that "Young Italians believe the unions only represent their fathers," as former Prime Minister Giuliano Amato puts it.

Italy also faces an extraordinary demographic challenge. Overall, its fertility rate is 1.2, among the world's lowest. In the more urban and industrial north, fertility has fallen well beneath 1.0. The UN projects that Italy will have a median age of 54 by 2050, the highest of any country in the world except Spain. By then, Italy's working-age population will have shrunk by 42 percent while its elderly population will have grown by 48 percent. The demographic challenge, moreover, is compounded by early retirement, low female labor-force participation, and chronically high unemployment. In all, only 54 percent of Italians aged 15 to 64 are formally employed, less than in any other developed country (Figure 23). While some of the remaining 46 percent have jobs in the gray economy, they don't pay payroll taxes.

The reform process began in 1992 under the government of Giuliano Amato. On the eve of the Amato reform, pension costs were expected to approach 25 percent of GDP by 2030, or roughly 60 percent of payroll. The Amato reform introduced a package of cost-saving measures that lowered projected costs by about one-quarter. The measures included raising normal retirement ages, changing the wage base from final to lifetime earnings, and switching from wage to price indexation in calculating annual COLAs.

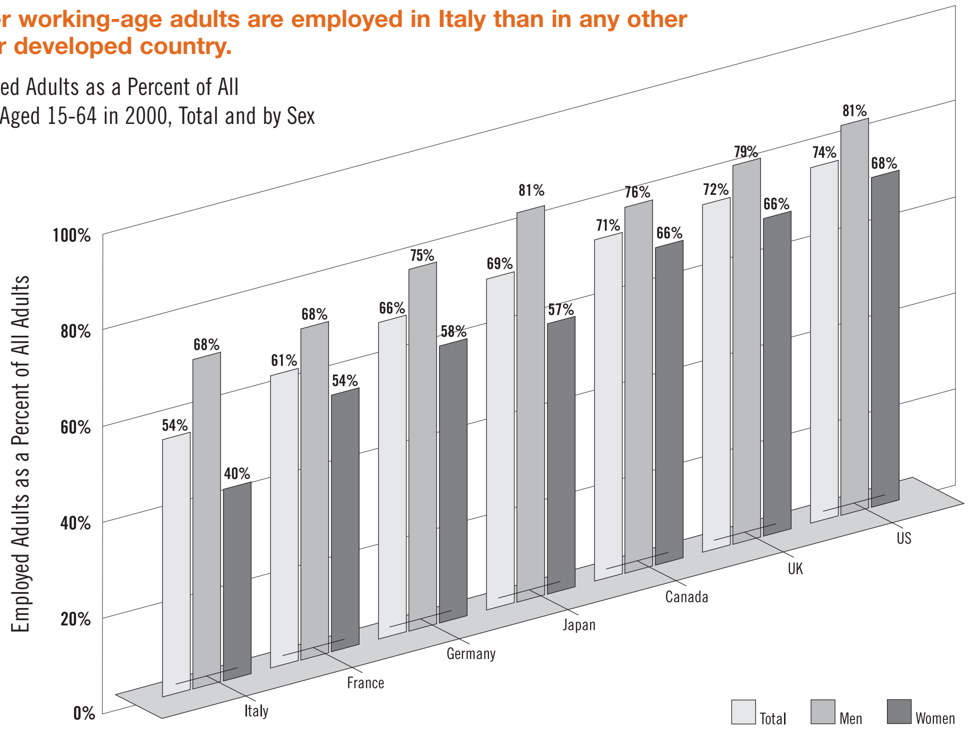
Three years later, the government of Lamberto Dini passed a second major reform package. The Dini reform will gradually transform Italy's defined-benefit system, with its seniority pensions and other special privileges, into a system of notional defined-contribution accounts. In the new system, benefits will be linked to lifetime contributions and actuarially adjusted for early or late retirement—as well as, in principle, for changes in life expectancy. The caveat is necessary because the law, in fact, does not provide for automatic indexing to life expectancy. Instead, it calls on the social partners to meet every ten years to negotiate any adjustments. As such, it may do more to improve the projections than to actually solve the problem.

There's another concern: the slow phase in of the reforms. About two-fifths of today's workforce is entirely unaffected by the Dini reform. The first workers for whom the new rules will be fully phased in won't retire until the 2030s. This long

FIGURE 23:

Fewer working-age adults are employed in Italy than in any other major developed country.

Employed Adults as a Percent of All Adults Aged 15-64 in 2000, Total and by Sex



Source: OECD (2001a)

delay ensures that pensions will subject government budgets to relentless pressure for decades to come. Under the CSIS "historical trends" projection, pension spending grows from 14 percent of GDP today to 19 percent in 2040, before dropping to 18 percent in 2050. While this represents a large improvement over the pre-reform projections, it will still leave Italy with one of the most expensive pension systems in the world.

Meanwhile, Italians have few alternatives to pay-as-you-go pensions. Although recent legislation provides for tax incentives to encourage participation in private plans, the share of workers who participate remains small: less than 10 percent. Participation is even lower among young workers, those who will be most affected by reductions in pay-as-you-go benefits. Current proposals to strengthen private pensions include redirecting some of the money now flowing to Italy's generous severance pay funds to the new pension funds. But neither employers nor workers are enthusiastic. The former use the severance pay funds, which they hold on their books, as a source of working capital, while the latter like the lump-sum distributions they offer.

The first workers fully affected by Italy's recent pension reforms won't retire until the 2030s.

The 1990s reforms, says Innocenzo Cipoletta, former head of Confindustria, the Italian employers' association, "gave the illusion that the pensions problem had been resolved. It is much harder now to explain the need for real change." Cipoletta may be too harsh. But even a government committee chaired by Undersecretary of Labor Alberto Brambilla recently concluded that pension reform is still urgently needed.


United States
Australia
United Kingdom

THE ENGLISH-SPEAKING COUNTRIES

The United States and the other English-speaking countries are better positioned to confront the global aging challenge than the major countries of continental Europe. They have younger populations, deeper capital markets and more flexible labor markets, relatively inexpensive public pension systems, and private pension systems covering at least half the workforce. Most also have relatively high rates of net immigration.

While the United States is still debating fundamental reform of its Social Security system, the UK and Australia have acted decisively. The UK is encouraging workers to shift to employer plans or set up personal accounts while allowing pay-as-you-go benefits to shrink as a share of wages. Australia is requiring all workers to be covered by a new system of funded pensions while tightening up on its means-tested public benefits.

Canada and Ireland are pursuing a different strategy: government funding. In 1998, Canada passed legislation that will raise the contribution rate for the Canada Pension Plan by 4 percentage points over six years. The surpluses are to be invested by an independent board in marketable securities until needed to cover rising pension costs when Canada's Boomers retire. Ireland, meanwhile, plans to set aside a minimum of 1 percent of GDP annually in a similar fund. The success of these reforms will depend on whether Canada and Ireland are better at building fire walls between public pension reserve funds and general government revenues than other countries have been.

We take a closer look at the United States, the UK, and Australia:

The United States

The United States is now the youngest of the major developed countries—and its relatively high rates of fertility and net immigration are likely to keep it so. The UN projects that the elderly share of the US population will peak at just 21 percent in the 2030s. Meanwhile, both its working-age and its total population will continue to grow, in stark contrast to continental Europe and Japan.

Along with more favorable demographics, the United States has a relatively inexpensive public pension system. The Social Security replacement rate for the typical worker is now about 40 percent, just half the rate in Italy. Retirement ages are also high. Social Security doesn't allow early retirement until age 62, and then only with reduced benefits. The full-benefit retirement age, now 65, is rising to 67 as the result of a 1983 reform. These eligibility rules, along with America's flexible labor markets, help explain why a larger share of the elderly and near-elderly work in the United States than in any major developed country except Japan (Figure 24).

The United States also has a large and innovative private pension system. As of 1999, US pension plans possessed an astonishing 59 percent of total pension assets worldwide. Traditionally, most pensions in the United States have been defined-benefit plans. But in recent years, there has been an explosive growth in "defined-contribution" or personal pensions, from 401(k)s to IRAs and Keoghs. The expansion of personal pensions has underpinned a rapid rise in equity ownership. Between 1983 and 1998, the share of all US households owning *stocks, either directly or through mutual funds, increased from 19 to 49 percent.*

Although these are considerable advantages, they are not cause for complacency. While America may never grow as old as Europe and Japan, its age wave will arrive with a bang. In just the two decades between 2010 and 2030—roughly the years Boomers turn sixty-five—the number of elderly Americans will nearly double. If the United States fails to prepare for the challenge, it could end up facing a retirement crisis after all.

US pension plans possess 59 percent of global pension assets.

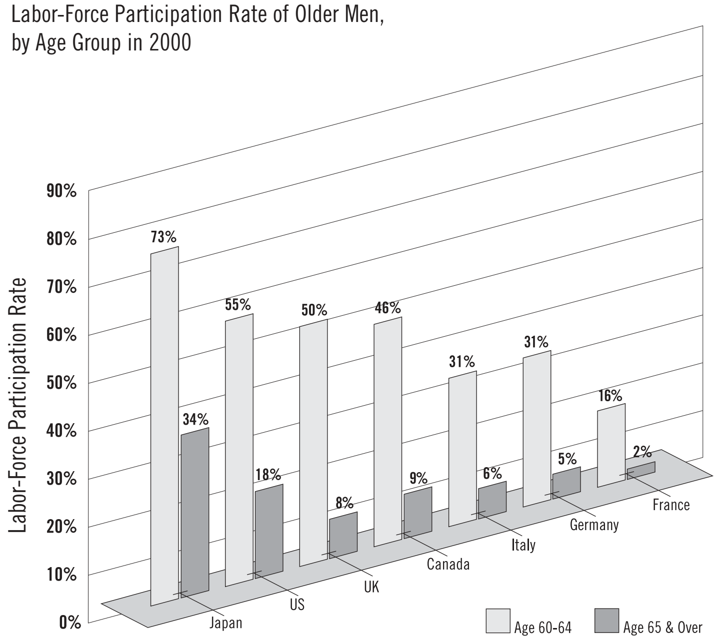
According to US government projections, Social Security benefits will exceed earmarked tax revenues by a widening margin beginning in 2017. On paper, the system's trust fund will cover the financing gap for an additional twenty-four years. The trust fund's assets, however, consist entirely of Treasury IOUs. As such, they represent obligations of government, but not real resources that can be drawn upon to pay future benefits. To satisfy the obligations, Congress will have to procure new cash. It wasn't supposed to work out that way. In 1983, Congress raised payroll taxes in order to build up a large funded reserve that would help finance the Baby Boom's retirement. But instead of increasing national savings, the trust-fund surpluses allowed Congress to spend more and tax less. This is why Senator Daniel Patrick Moynihan, one of the original architects of the build up, has since denounced it as "thievery."

Despite Americans' traditions of financial self reliance, most are not prepared for large cuts in Social Security benefits. Although US pension funds own 59 percent of all global pension assets, half of the workforce has no pension coverage at all. Nor did all Americans benefit from a rising stock market in the 1990s. As of 1998, according to the Federal Reserve, half of all US households owned less than $23,000 in financial assets, even including personal pensions like 401(k)s. * *For middle- and upper-income workers with a generous employer pension, retirement really is a "three-legged stool." But for many Americans, dependence on unfunded public benefits is just as significant as it is in Europe.*

FIGURE 24:

More elderly and near-elderly work in the United States than in any major developed country except Japan.

Labor-Force Participation Rate of Older Men, by Age Group in 2000



Source: OECD (2001a)

There is another dimension to the challenge. While the United States has a relatively inexpensive public pension system, its health-care system is the most costly in the world. In 1998, the United States spent $4,178 per capita on health care; Switzerland, the next runner-up, spent just $2,794. Over the past thirty years, per capita public health-care spending in the United States has grown 2.7 percentage points faster than per capita GDP, twice the developed-country average. The faster growth explains why America spends as much publicly on health care as

* "Recent Changes in U.S. Family Finances: Results from the 1998 Survey of Consumer Finances," *Federal Reserve Bulletin* (January 2000).

developed countries with national health systems, even though only a fraction of its population (primarily the elderly and the poor) has public coverage. The growth is due both to America's more intensive use of high-tech medicine and to its aversion to government rationing. If it continues, it could cancel out the US advantage in pensions.

A few years ago, America began a much-needed debate over the aging challenge. The Clinton administration proposed using mounting budget surpluses as a means of bridging Social Security's financing gap. The Bush administration proposed using them to fund a transition to a two-tiered system that would include personal accounts. By the time President Bush's Social Security Reform Commission issued its final report in December 2001, however, its recommendations were overshadowed by other events.

In the aftermath of September 11, the budget surpluses have vanished—and so has the enthusiasm for reform. Before long, however, America will be compelled to re-engage the aging challenge. In today's more constrained fiscal and economic environment, the reform of retirement systems has become more important, not less.

The United States spends $4,178 per capita on health care—nearly 50 percent more than the next runner-up, Switzerland.

The United Kingdom

As a share of its economy, the UK now spends just half what the typical continental European country does on public pensions. This already low level of pension spending, moreover, is projected to decline further as a share of GDP in the decades to come, making the UK the only developed country that now faces no long-term cost challenge. Part of the difference lies in the UK's favorable demographics: Like the United States, Canada, and Australia, it has a relatively high fertility rate. But most is due to the sweeping pension reform begun by the Conservative governments of Margaret Thatcher and John Major and continued by the Labour government of Tony Blair.

The UK is the only developed country whose public pension system now faces no long-term cost challenge.

Reform has proceeded on two fronts: reducing the cost of pay-as-you-go benefits and expanding funded substitutes. Starting in 1981, the Basic State Pension, a flat benefit with means-tested supplements, was decoupled from wages and linked to prices. As a result, it has been shrinking and will continue to shrink relative to wages. The government has also greatly reduced the generosity of the State Earnings Related Pension Scheme, or SERPS, while encouraging workers to "contract out"—that is, to redirect their payroll contributions to a private pension plan. Today, only a minority of workers—roughly one-quarter of those eligible—remain in SERPS. The rest either have employer pensions (one-half) or personal *pensions (one-quarter). Since their introduction in 1988, personal pensions have been the fastest growing option.*

The reforms initiated two decades ago by the Thatcher government have been so successful at controlling costs that some worry the UK may end up trading a budget problem for a poverty problem. By most measures, retirees in the UK have a lower living standard than retirees in the other major economies of the European Union. Although the rapid growth in private pension funds is improving the retirement prospects of many workers—the UK now has more pension assets than the rest of the EU put together—others are being left behind. "Two worlds" of pensioners may be emerging: one where employer pensions are common and real incomes are rising, the other where retirees struggle to get by on public benefits that each year fall further behind wages.

The UK now has more pension assets than the rest of the European Union combined.

The Blair government is responding by shoring up the public safety net. It has proposed a new means-tested "top up" benefit called the Pension Credit. And it is phasing out SERPS entirely and replacing it with a new State Second Pension, which will be tilted toward low earners. The goal is not just to target public benefits toward the lower end of the income distribution, but to encourage more middle-income workers to contract out of the public system. Meanwhile, the government is requiring all but the smallest employers to set up a new type of personal pension. Unlike existing plans, the "stakeholder" pension will be subject to strict regulations aimed at limiting costs and risks. The government hopes that it will appeal to smaller and less experienced investors. The cost of these initiatives is not fully reflected in the official projections and may offset some of the expected long-term savings in regular public pension benefits.

In moving toward greater funding, the UK has enjoyed two important advantages: a strong private pension tradition and a weak tradition of pay-as-you-go social insurance. The second factor was crucial. The Basic State Pension, which dates back to 1908, is among the world's most venerable public pension programs. SERPS, however, was not set up until 1975. Prior to its introduction, the UK had no comprehensive earnings-related pension. As a result, its unfunded public pension liability—and thus its "double burden" problem—is much smaller than in the major countries of continental Europe, or even the United States. There is also no large and entrenched beneficiary lobby to defend the status quo.

The road to reform has not always been smooth. In the early 1990s, a "mis-selling" scandal rocked the pension system. Some investment firms used misleading sales pitches to convince workers to switch to the newly introduced personal pensions, when they would have been better off sticking with (or joining) their company's occupational plan. As David Blake, director of the Pensions Institute, explains, "Inappropriate products were sold by inappropriate producers to inappropriate consumers." The Financial Services Authority, set up in the wake of the scandal, has been reviewing cases and awarding compensation. Another scandal involving company misuse of pension assets, the so-called Maxwell Affair, led to new rules regarding minimum funding (the Pensions Act of 1995) and more stringent rules regarding fiduciary standards and corporate governance (the Myners Report of 2001).

The UK nonetheless remains committed to its new system. Although pension reform began as part of an overall program of privatization and deregulation under the Thatcher government, Labour has wholeheartedly embraced it. As Secretary of State for Work and Pensions Alistair Darling sums up the new UK consensus on pensions, "Everyone who can save for their retirement has a responsibility to do so...In turn, the government has a responsibility to provide security for those who cannot save enough."

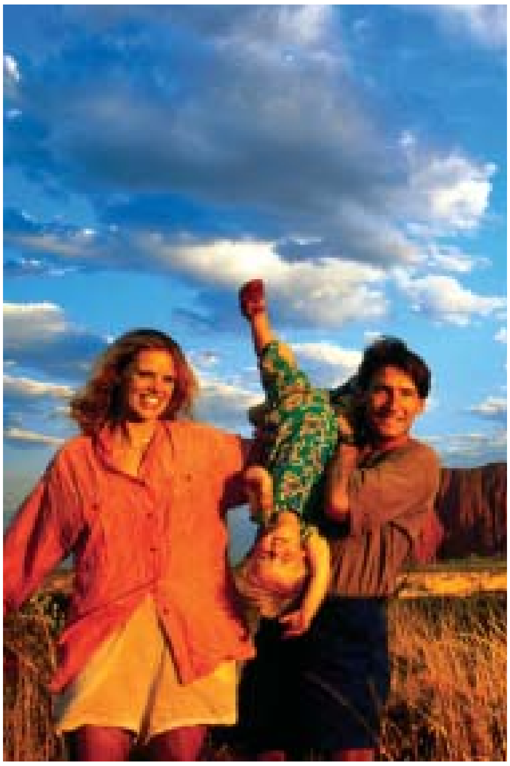
Australia

While the Conservative government of Margaret Thatcher was busy launching its reform in the UK, the Labour governments of Bob Hawke and Paul Keating were following a different route to the same end half way around the globe in Australia. In the UK, workers were encouraged to opt out of the public earnings-related system. In Australia, which has no earnings-related system to opt out of, the government mandated private pension coverage. In 1986, the government began requiring certain categories of employers to contribute 3 percent of pay to funded private pension accounts established on behalf of their employees. Starting in 1992, contribution rates were raised and coverage was extended to create a "superannuation" guarantee for all employees.

Under the new system, popularly known as "Super," employers contribute 9 percent of pay to a pension fund on behalf of employees. In addition, employees can make voluntary contributions, which roughly 40 percent currently do. The pensions are generally defined-contribution plans, although some employers offer defined benefits. Except for very low earners, all employees aged 18 to 65 are covered. Participation by the self-employed is optional.

To help cement support for Super, the government sponsored a high-profile educational campaign in 1994 and 1995. The effort, which included mass mailings to every Australian household, stressed that superannuation was not only good for workers (because it would increase retirement incomes), but was also good for the economy (because it would increase national savings). Almost everyone seemed to agree—even the trade unions, who liked the mandatory employer contributions.

While Australia never had a pay-as-you-go earnings-related pension system, it does have a means-tested Age Pension. This pension, which like the UK's Basic State Pension dates back to 1908, is payable to men at age 65 and to women at age 62 (rising to age 65 in 2014). In 1998, some 80 percent of retirees who had reached the eligibility age received at least a partial benefit. The full Age Pension replaces roughly 25 percent of average earnings. Although this is a generous means-tested minimum, it is very low compared with the typical earnings-related benefit in the developed countries. The share of retirees receiving the Age Pension, moreover, is expected to decline as more retirees collect Super pensions and fewer people meet the means test. Together with its favorable demographics, this dynamic explains why Australia faces only moderate growth in public pension spending: just 2 percent of GDP between now and 2050, even under the CSIS projection.



In 1996, a Conservative government replaced Australia's Labour government. The outgoing administration had planned to add a few features to Super, including mandatory individual contributions and government subsidies for low earners. The Conservatives dropped the individual contributions and substituted a tax rebate for the subsidies. Otherwise, the Australian reform appears to have been as successful in transcending partisan politics as the UK reform.

JAPAN

Twenty-five years ago, Japan was the youngest society in the developed world. Within five years, it will tie Italy for the oldest. Japanese fertility fell sooner than in the other developed countries and has remained beneath the replacement level longer. Meanwhile, longevity rose faster and further. At the end of World War II, Japanese life expectancy was 64, about what it is in the developing world today. Japanese life expectancy is now 81, higher than in any other country. In 1950, 5 percent of Japanese were elderly; by 2050, 36 percent will be.

Japan's rapid aging would present an enormous challenge for any society. But in Japan, the challenge is being greatly compounded by chronic economic weakness. If Japan fails to control its budget deficits and revive its rate of economic growth, its age wave could overwhelm the economy.

In 1950, just 5 percent of the Japanese were aged 65 or older; by 2050, 36 percent will be.

Japan has a two-tiered pension system: a flat rate benefit known as the National Pension and an earnings-related benefit known as Employees' Pension Insurance. The combined replacement rate is about 50 percent. The full benefit retirement age is in principle 65, but in practice special arrangements have allowed employees to claim both parts of the public pension benefit without any reduction at age 60.

Over the past decade, reforms have reduced the generosity of the system for future retirees. A major 1994 reform increased the effective eligibility age for the full flat benefit to 65 starting in 2001, with the hike to be phased in by 2013 for men and 2018 for women. It also switched postretirement indexing from gross wages to net wages—that is, to wages net of payroll taxes. In 1999, a further reform increased the future full-benefit retirement age to 65 for the earnings-related pension as well and switched to price indexing for both benefit tiers. At the same time, the reform will increase the general revenue subsidy for the flat benefit from the current one-third to one-half and raise the payroll tax rate for the earnings-related benefit by a cumulative 10 percentage points over twenty years.

To date, there has been little public protest over cost-saving reforms. As Japanese economist Noriyuki Takayama explains, "We are not living in a strict contract society." Additional large benefit cuts, however, will soon be required. With no further cuts, CSIS projects that public pension spending in Japan will grow from 8 percent of GDP today to 18 percent by 2050.

Japan's Employees' Pension Insurance program has a substantial reserve fund that is supposed to help defray these future costs. But the fund is largely invested in "social overhead" capital—that is, in public programs and projects. The investments are managed by the Fiscal Investment and Loan Program, or FILP, which pays interest to the reserve fund for use of the money. In effect, the reserve fund is invested in government debt. An asset to the fund is thus a liability to the budget and the taxpayer, just as an asset to the Social Security trust fund is in the United States.

Japan also has a broad-based private pension system. Nearly 90 percent of workers are covered by some form of occupational retirement plan, whether a pension plan or a severance pay plan. Personal pensions are rare, but were given a big boost in 2001 by new legislation authorizing tax-favored accounts similar to US 401(k)s. Despite the system's breadth, however, it faces serious problems. Until the "Big Bang" of the late 1990s, employer pensions were burdened by onerous investment restrictions. Some of the plans operate on a book reserve basis, and so have no invested assets at all. Many of the others are underfunded. The *collapse of Japan's real estate and stock markets not only hinders economic recovery, but also weakens Japan's private pension plans. If the government has to bail them out, the bill will come on top of that for public pensions.*

As for Japan's deep pool of personal savings, most is deposited in the banking and Postal Savings systems, where it too has been used to finance corporate and public investment that may be worth no more than a fraction of its book value. Meanwhile, the government is racking up a record debt, long before the pressure on old-age benefit systems peaks. Government debt has roughly doubled over the past decade, and the true level is even higher if one takes into account contingent liabilities for loan guarantees and losses by public-sector enterprises. Moody's downgraded Japan's bond rating in 1998, downgraded it again in 2000, and is considering yet another downgrade in 2002.

Japan has some important compensating advantages. Although its high rate of savings is dragging down the economy in the short term, in the long term it may make it easier to finance rising pension costs. Japan also has the highest rate of elder employment in the developed world. Roughly one-third of Japanese men work past age 65, typically at part-time jobs after their formal retirement. Elders also receive much support from the Japanese extended family. Although the share of Japanese elders living with adult children has been falling, at roughly 50 percent it still dwarfs the share in other developed countries—just 15 percent in the United States and 5 percent in Sweden, at last count. This may make it easier for Japan to manage the potentially explosive cost of long-term care for the frail elderly.

One-third of elderly Japanese men still work — a higher share than in any other developed country.

Traditionally, the Japanese people have also been known for their ability to build social consensus and for their willingness to sacrifice on behalf of the future. The aging of Japan promises to put these national traits to their ultimate test.


Former Soviet Bloc
East Asia
Latin America

THE TRANSITION ECONOMIES OF THE FORMER SOVIET BLOC

The former Soviet Republics and Soviet Bloc countries of Eastern Europe offer the developed world a sobering preview of the widespread hardship that can result when public pension systems fail. At the beginning of the 1990s, all of these countries had generous unfunded public pensions as part of their overall system of "cradle-to-grave" socialism. Retirement ages were typically 55 for women and 60 for men. Required contribution periods were short—as little as 20 years for women and 25 for men. There were also many special deals for favored groups.

Within a few years, all of the systems had collapsed. As the former communist economies began the transition to market economies, output everywhere contracted sharply. And as it did, so did the pension contribution base. The resulting loss in revenue was compounded by massive tax evasion. According to some estimates, the informal economy grew to as much as one-third of GDP in the former Soviet Bloc countries and to as much as two-fifths of GDP in the former Soviet Republics.

Meanwhile, the number of pensioners surged as millions of unproductive workers lost their jobs and ended up on the disability and early retirement rolls. Support ratios plummeted to levels not projected for the developed countries until the 2030s. By 1996, the ratio of contributors to beneficiaries in Hungary had dropped to 1.7 to 1; in the Ukraine, it had dropped to 1.5 to 1; in Bulgaria, to 1.3 to 1.

By 2050, the elderly share of the population will reach 28 percent in Eastern Europe, compared with 17 percent in Latin America and just 7 percent in Africa.

Most governments, strapped for cash, took advantage of high rates of inflation and allowed real pension benefit levels to erode. Some, especially among the former Soviet Republics, simply held up checks—a backlog they have never repaid in full. In the end, an entire generation of retirees was betrayed. Even so, contribution rates soared almost everywhere to levels well above the developed-country average. In a few countries, total expenditures also rose sharply as a share of the economy, nearly doubling in Poland from 9 to 16 percent of GDP in just two years between 1990 to 1992.

By the mid-1990s, it seemed things couldn't get worse. And yet an even bigger challenge loomed just over the horizon. Many of the transition economies of Eastern Europe are already as old as their more affluent neighbors to the west. And with fertility rates that now ***average*** *1.3, all will be aging rapidly in the decades to come. By 2050, the UN projects that the elderly share of the population in Eastern Europe will reach 28 percent, compared with 17 percent in Latin America and just 7 percent in Africa.*

It was against this backdrop that a wave of pension reform swept the transition economies. Several have set up new funded systems that will partially (or even entirely) replace the old pay-as-you-go systems—and more are planning to do so. The spectrum runs from the Czech Republic, whose public pension system is still exclusively pay-as-you-go, to Latvia, Hungary, and Poland, which have established two-tiered or mixed systems, to Kazakhstan, which is completely replacing pay-as-you-go pensions with funded personal accounts.

In Hungary, some unions are entering joint ventures with foreign firms to set up pension funds.

Latvia, the tiny Baltic Republic, led the way. In 1996, it converted its traditional defined-benefit system to a notional accounts system, while also tightening up special early retirement programs.

In 2000, it added a funded tier of personal accounts to the reformed pay-as-you-go system. As in Sweden, worker contributions will be split between the notional accounts and the funded accounts—with most going to the former.

In 1999, Poland set up a similar two-tiered system. The Polish plan, however, is more ambitious. One-third of the payroll tax will be "carved out" and diverted to the new personal accounts, which eventually are expected to supply about one-half of total benefits. The revenue shortfall in the pay-as-you-go system will be largely covered by privatization proceeds. The accounts are mandatory for new workforce entrants and for current workers under age 30 at the time of reform; older workers were given the option of joining. Like Super in Australia, the Polish reform, dubbed "Security through Diversity," enjoyed broad support, even among the unions.

In 1998, Hungary also introduced a second tier of funded personal accounts, but without switching to notional accounts in its pay-as-you-go system. New workforce entrants are required to participate in the personal accounts, which will eventually supply one-quarter of total benefits. The rest of the workforce had the option of joining. As in Poland, the unions were largely supportive—and some are even entering joint ventures with foreign firms to set up pension funds.

The Czech Republic is so far taking a more conservative course. It has begun to trim back the cost of pay-as-you-go pensions by restricting access to early retirement benefits. It is also offering tax incentives to encourage private-sector pension savings. Meanwhile in Central Asia, the Republic of Kazakhstan is taking pension reform to the opposite extreme. In 1997, it became the first and only country outside of Latin America to completely replace its pay-as-you-go system with personal accounts.

There are a number of reasons for the popularity of funding and personal ownership in the transition economies. As everywhere, funding will eventually allow for lower contribution rates or higher benefits. But in addition, the transition economies find the strategy attractive as a means of boosting savings rates, deepening capital markets, and reducing tax evasion. Perhaps most important, there is the issue of civic trust. After the collapse of pay-as-you-go systems during the early 1990s, citizens worry more about political risk than market risk. In Budapest and Warsaw, people trust the security of personal ownership more than politicians' promises.

LATIN AMERICA

Latin America straddles two different worlds. The more "European" countries of the Southern Cone—Argentina, Chile, and Uruguay—have older populations and mature public pension systems dating back as far as the 1920s. Benefit formulas are generous, retirement ages are early, and payroll taxes are high. In the rest of South and Central America, which is younger and less affluent, pension systems cover just a fraction of the population. Uruguay spends 15 percent of GDP on public pensions, while Colombia, Mexico, and Peru spend just 1 percent. Still, despite the modest economic burden of pension spending in these younger countries, lavish benefits for civil servants and other favored groups can overwhelm government's limited fiscal resources.

Most Latin American pension systems were experiencing financial difficulties by the 1980s, especially those in the Southern Cone. As growing payroll tax evasion forced up contribution rates, governments let inflation erode benefits, just as later happened in the transition economies of Eastern Europe. This set in motion a "death spiral" in which rising contribution rates and falling real benefits led to more evasion, which in turn resulted in still higher contribution rates and still lower benefits. In Argentina, the pension crisis was particularly severe. In 1986, faced with a spate of judicial claims brought by pensioners, the government declared a state of "social security emergency" and defaulted on its benefit promises.

Radical reform began in Chile in 1981, when the government of Agosto Pinochet replaced the existing pay-as-you-go system with a system of funded personal accounts—the first such reform in the world. In the Chilean system, workers contribute 10 percent of pay to personal accounts that are managed by investment funds known as AFPs. Another 3 percent of pay goes to purchase disability and life insurance. The funds must pay a minimum relative rate of return based on the average return for all funds. There is also a minimum government benefit guarantee. Current workers had the option of staying in the pay-as-you-go system, but almost all switched. Apparently they agreed with José Piñera, Chile's Minister of Labor, who went on radio and television to tell workers that it was better to set up a personal account than to continue to see their money disappear down a "black hole."

There have been some problems with Chile's system. While most workers belong to a pension fund, a large number do not make contributions. One reason is that many workers remain in the informal economy; another is that the minimum guarantee encourages low earners to drop out, since their contributions earn them little or no extra benefit. Initially, the system also had high administrative costs, though these have been declining.

Uruguay spends 15 percent of GDP on pensions, while Mexico spends just 1 percent.

Most observers agree, however, that reform has been an overall success. The new system pays more generous benefits than the old. Reform also boosted national savings, mostly because the government ran large budget surpluses to fund the transition. This helped fuel a long period of rapid economic growth. Meanwhile, funded pension assets grew to 42 percent of GDP by 1998, far higher than the share in all but a handful of developed countries.

Since the early 1990s, many other countries have followed Chile's lead—with varying degrees of success. In 1994, Argentina set up a two-tiered system that gives workers the choice between a flat benefit and a scaled-back earnings-related benefit or a flat benefit and a funded personal pension account, much as in the UK. Overall, two-thirds of workers have *chosen the personal accounts; among new workforce entrants, 90 percent have. The reform managed to overcome resistance by the unions, who were given the opportunity to manage some of the pension funds. It did not, however, solve Argentina's long-term cost problem—or ensure retirement security. The flat benefit is very expensive, payroll tax rates remain very high, and evasion is still widespread. As economic crisis again engulfed Argentina during the course of 2001, the government once more found itself compelled to slash pay-as-you-go pensions.*

In 1998, pension assets in Chile equaled 42 percent of GDP, far above the share in all but a handful of developed countries.

In 1996, Uruguay also set up a two-tiered system. The personal accounts, however, are only mandatory for high earners, hardly a recipe for weaning workers from pay-as-you-go dependence. And indeed, as in Argentina, the cost of pay-as-you-go benefits is projected to remain high. So will contributions, which are a continental-European sized 28 to 40 percent of payroll, depending on the sector of the economy.

There has also been an explosion of reform activity among the younger countries of South America. Peru (in 1993) and Colombia (in 1994) added a voluntary personal accounts tier to their pay-as-you-go systems. They originally planned to replace the systems entirely, but were unable to overcome civil servant and union opposition. Mexico went further. After a series of false starts in the early 1990s, it decided in 1997 to entirely replace its pay-as-you-go benefits with Chilean-style personal accounts. All private-sector workers are being switched to the new system, although public-sector workers were exempted. A unique feature is that upon retirement current workers can choose between their account balance or their benefit under the old system, whichever is greater. This could pose a classic "moral hazard" problem if it encourages workers to make risky investments.

Brazil, the largest country in Latin America, has proved the most reform-resistant. Public pension spending in Brazil totals a hefty 9 percent of GDP—as much as the older and more affluent developed countries spend on average. Half of this goes to civil service retirees, even though they make up just 5 percent of all retirees. Replacement rates often exceed 100 percent of final pay. Roughly 25 percent of male pensioners and 50 percent of female pensioners retire before the age of 50. A 1998 reform did little to curb the excess. Retirement ages were raised, but all current workers were grandfathered. The reform, moreover, left the generosity of benefits largely intact—limiting itself to capping pensions for future retirees at 100 percent of final salary!

Until a few years ago, the regime for private-sector workers was also careening out of control. As coverage was extended beginning in the mid-1980s, the contributor-to-beneficiary ratio plummeted to less than 2 to 1. What happened is that older workers signed up because they were eligible for immediate benefits, while younger ones stayed away to avoid paying contributions. Here, however, reform has made some headway. In 1999, eligibility requirements were tightened by lengthening contribution periods. A notional accounts system that adjusts benefits for retirement age and life expectancy is also being introduced. Meanwhile, Brazil is expanding tax incentives for private-sector pensions. Assets already total a surprising 13 percent of GDP.

The Latin American lesson is mixed. After a decade of major reforms, pension systems in a number of major countries, including Argentina and Brazil, still teeter on the brink of bankruptcy. Meanwhile, in many other countries, large segments of the population still lack pension coverage altogether and so remain dependent on extended families for old-age security. Almost everywhere, however, the development of funded systems is encouraging thrift, deepening capital markets, and creating wealth. These developments will serve Latin America well as it ages in its turn.

In Brazil, civil servants account for 5 percent of pensioners, but 50 percent of pension payments.

EAST ASIA

East Asia is still young, but it is growing old rapidly—more rapidly in fact than the developed countries. In the developed world, the elderly share of the population is due to double over the next fifty years, from 15 percent to 27 percent. In East Asia, it is due to triple, from 6 percent to 20 percent. In China, the growth in the number of elderly will be staggering. By 2050, there will be 332 million Chinese aged 65 and over, which as recently as 1990 was the elderly population of the entire world.

By 2050, there will be 332 million Chinese aged 65 or older.

Pension systems in East Asia are as varied as the region's economies. Coverage ranges from a low of around 10 percent in Vietnam to a high of 60 percent in Malaysia and 65 percent in Singapore. Most countries continue to rely heavily on informal family networks to support the elderly. But this model will soon be under extreme duress. In China, leaders worry that many children will eventually have to support two aged parents and four grandparents, or what is commonly known as the "1-2-4 problem."

A number of countries in the region, notably Malaysia and Singapore, have well-developed provident funds. Provident funds are fully funded, publicly managed defined-contribution plans. In principle, they offer participants both property rights and market returns. Unfortunately, accountability in provident funds is often minimal, "social investment" is routine, and assets consist largely of government debt. As a result, returns typically come in far beneath the market, meaning that benefits too will be

low. Between 1983 and 1997, for instance, the return on Singapore's Central Provident Fund was just 1.5 percent. By comparison, US stocks earned a return of 13.5 percent between 1982 and 1999.

Until recently, Hong Kong's only public pension system was a means-tested flat benefit similar to Australia's. With a coverage rate of 30 percent, however, its private-sector pension system is the most developed in the region. Hong Kong is now building on this tradition with its new Mandatory Provident Fund. Despite the name, the MPF, which began operation in 2000, is a privately managed personal accounts system. In the MPF, employers will choose the managers, but employees will have a choice of investment options, much as they do in US 401(k) plans.

In China, meanwhile, pension reform appears to go on endlessly. China established a national public pension system during the 1950s, but dismantled it during the Cultural Revolution. Responsibility for pensions devolved to the State Owned Enterprises or SOEs, which offered their employees cradle-to-grave security—the so-called "iron rice bowl." Since the late 1970s, China has been trying to re-establish a national system. The 1980s and 1990s saw many demonstration projects and a proliferation of separate plans, each with its own rules and financing provisions.

The current system is burdensome on participants, in part because so many younger workers are abandoning SOEs for the private sector, leaving behind older workers and retirees. The payroll tax rate ranges from 15 to 30 percent, depending on the enterprise or locality, and is projected to rise sharply over the next few decades.

In 1997, the government issued a new pension directive that aims to establish a more unified and less costly public system. Henceforth, the Chinese pension system will have two public tiers: a scaled-back pay-as-you-go benefit and personal accounts. But since government specified few of the details, the demonstration projects continue—with results that are not always encouraging. When the pay-as-you-go system in the current Liaoning Province demonstration became short of cash, local government authorities reportedly confiscated the personal accounts to make up the difference.

According to Chinese writer Lin Ying, China will be the first country to get old before it gets rich.

China is running out of time. Its large postwar "Red Guard" generation will start reaching elderhood around 2015. Following it in the workforce is a much smaller generation—the result of China's "single child" birth policies. Between 2010 and 2030, the elderly share of the Chinese population will jump by 8 percentage points, about what it will during the retirement of the US Baby Boom. Chinese writer Lin Ying makes an ominous observation: "Whereas the now-developed countries first got rich and then got old, China will first get old." *

* Lin Ying, "The Aging of the Population: A Severe Challenge," *Guangming Ribao* (April 6, 1996).

Shrinking workforces may soon mean shrinking economies.

chapter four

THE BIGGER PICTURE

Global aging will have consequences that reach far beyond public budgets. It promises to restructure the economy, reorganize financial markets, reshape the family, redefine politics, and even rearrange the world order. As the developed countries reform their public pension systems, this "bigger picture" will inevitably influence their choices and constrain their options. At the same time, the choices they make in pension reform will shape the bigger picture. Indeed, success or failure in confronting the global aging challenge could literally determine the destiny of nations.

Global Aging and the Economy

Shrinking workforces may soon make "aging recessions" the normal state of affairs in much of the developed world. By the 2010s and 2020s, the working-age population in Japan and many countries in Europe will be contracting by roughly 1 percent per year. By the 2030s, it will be contracting by roughly 1.5 percent per year. Unless productivity growth remains robust, the real economies of some countries could begin contracting as well.

How will government leaders adjust when the size of the tax base is expected to decline from one decade to the next? How will business leaders adjust when the size of their markets is expected to decline as well? Global aging is pushing the developed countries into uncharted waters.

In the near term, the private savings rate will remain high in the developed world as today's large middle-aged populations prepare for retirement. But starting in the 2010s, it may begin to decline. By the 2030s, the OECD projects that the private savings rate could fall by more than half.* Some economists say that this won't hurt productivity or competitiveness, since societies with shrinking workforces won't need to invest as much to maintain the same rate of growth in capital per worker. Others disagree. The pace of technological progress, they say, may depend crucially on the annual amount of new investment a society undertakes.

Within a few decades, the developed countries may be undertaking little investment at all unless they reform their pension systems. Whatever happens to private savings rates, growing public-sector pension deficits will crowd out productive investment. If the developed countries fail to confront the aging challenge, they risk a future of slowly growing wages and stagnant after-tax living standards.

Global Aging and Financial Markets

Global aging may also usher in an era of greater interdependence—and turmoil—in world financial markets. In one scenario, savers in the developed countries will seek out higher returns than they can earn in their own aging economies and will find them in the faster-growing economies of the developing world. Before long, pensioners in Berlin would come to depend on the productivity of workers in Beijing. Whether this enhances retirement security will in large part depend on the progress developing countries make in improving the transparency and security of their capital markets. In another scenario, today's developed countries will themselves become dependent on higher-saving developing countries in order to finance their public pension deficits—and maintain adequate rates of private investment.

According to EC Commissioner Fritz Bolkestein, "The true test of the euro comes when the Baby Boom generation demands their pensions."

At the same time, the failure of even a few big economies to reform their pension systems could send shock waves through the world financial system. One danger is that mounting pension and budget deficits in today's large capital exporting nations could trigger destabilizing shifts in the direction of global capital flows. Everyone will be watching Japan—and contemplating the possibility that the world's biggest capital exporter may soon become a capital importer.

Another danger is that divergent retirement policies will strain regional economic arrangements like Europe's Economic and Monetary Union. The official debt targets for membership in the EMU do not take into account unfunded pension liabilities. As these come due, many countries will find it difficult to meet the EMU's deficit ceiling. Will the ceiling be retained at the insistence of those countries that have reformed their retirement systems? Or will it be lifted? Either way, the EMU would be in trouble. As Fritz Bolkestein, the EC Commissioner for the Internal Market, warns, "The true test of the euro comes when the Baby Boom generation demands their pensions."

* *Ageing in OECD Countries: A Critical Policy Challenge*, Social Policy Studies no. 20 (OECD; 1996).

The retirement of Boomers may also pose a broader threat to financial markets. Some economists predict that as retiring Boomers (and their pension funds) begin cashing out assets on a large scale, the financial markets will experience a "Great Depreciation." This may never happen, especially if there are enough young buyers in the demographically expanding developing world to take up the slack. But if it does, it would put new pressure on governments to increase the generosity of public pension systems just as they are becoming unaffordable.

Global Aging and the Family

Governments almost everywhere now count on families to assume most of the burden of long-term care for the frail elderly. In the United States, it is estimated that without family caregivers the number of elders in nursing homes would triple. Boomers are typically able to share the task of caring for Mom and Dad with their siblings. But when they grow old, they will be much more likely than today's elders to have never been married, to have one child or no child, or to be widowed or divorced. When the need for long-term care arises, a growing share will have no alternative to public programs.

This is part of a bigger problem: the unprecedented transformation in the size and shape of the extended family. In some of today's developed countries, at least one child in two has no brothers or sisters. Within another generation, at least one in four will have no cousins. Even as families shrink in size, rising life expectancy is multiplying the number of generational tiers alive at one time—not just more grandparents, but more great-grandparents.

In recent years, the expansion of public retirement benefits, the entrance of women into the labor market, and the rise of a new ethic of "independent living" among the elderly have weakened the traditional role of the family as a support network for dependents of all ages. Now global aging threatens to place vast new burdens upon it. Will it be up to the task? And if it is not, can governments afford to assume a larger role?

Twenty-five years from now, one out of every two adults in the developed countries will have reached retirement age.

Global Aging and Politics

Until recently, organized retiree lobbies were largely a US phenomenon. But the electoral clout of the elderly is now also growing in Europe, where it operates through labor unions and affiliated political parties. In the Netherlands, a new "Pension Party" has scored successes at the voting booth. And in Russia, the Communist Party has emerged as the de facto party of pensioners.

In Europe, pay-as-you-go pensions are often defended as the linchpin of "social solidarity." In the United States, they are considered "earned" entitlements, tantamount to personal property. Although a growing number of developed countries have enacted pension reforms that cut future benefits for today's young workers, few have cut benefits for currently retired or soon-to-retire workers. One obvious reason is that voter participation rates generally rise with age. In the United States, two-thirds of adults aged 65 and over voted in the 2000 election, compared with one-quarter of those under age 25.

Will retiree lobbies defend the status quo? Or will they support reforms that require some sacrifice, but that ultimately make pension systems more secure, more equitable, and more sustainable? It may be up to pensioners themselves to decide what course governments take. Twenty-five years from now, one out of every two adults in the developed countries will have reached retirement age.

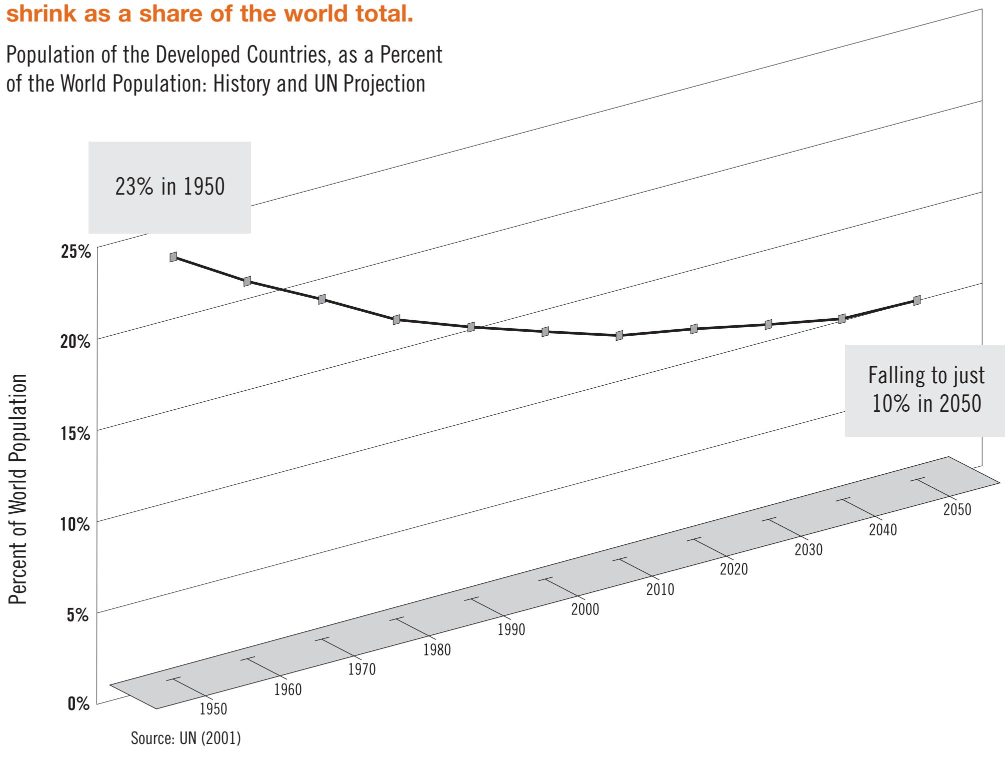
Global Aging and the World Order

As the developed world's population and ultimately its economic output shrink as a share of the world total, other great powers may arise (Figure 25 and Figure 26). The challenge facing an aging developed world is how to ensure that the emerging newer order is compatible with its values, interests, and long-term security.

FIGURE 25:

The population of the developed countries will continue to shrink as a share of the world total.

Population of the Developed Countries, as a Percent of the World Population: History and UN Projection



Source: UN (2001)

FIGURE 26:

Fifty years from now, only one of the world's twelve most populous countries will be a developed country.

Twelve Largest Countries Ranked According to Population

	1950	2000	2050
1	China	China	India
2	India	India	China
3	United States	United States	United States
4	Russian Federation	Indonesia	Pakistan
5	Japan	Brazil	Indonesia
6	Indonesia	Russian Federation	Nigeria
7	Germany	Pakistan	Bangladesh
8	Brazil	Bangladesh	Brazil
9	United Kingdom	Japan	Congo
10	Italy	Nigeria	Ethiopia
11	France	Mexico	Mexico
12	Bangladesh	Germany	Philippines

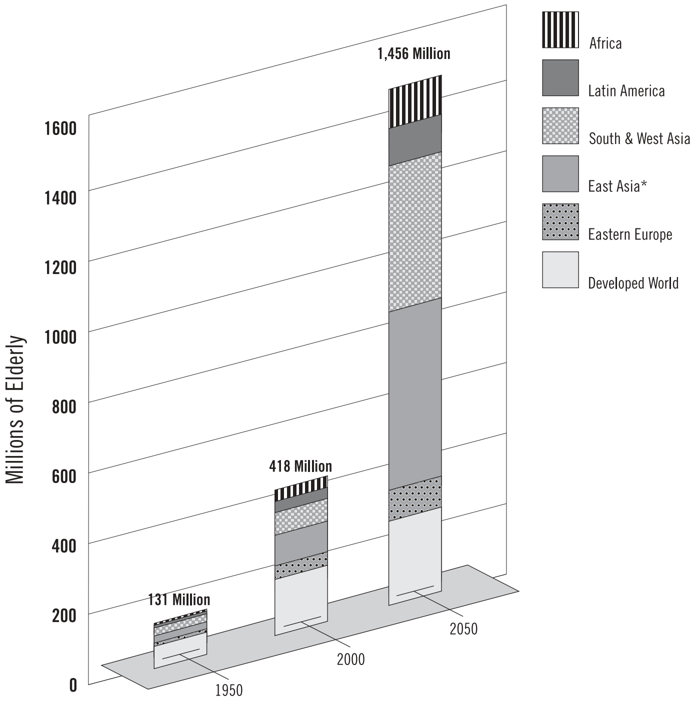
Source: UN (2001)

Developed Country

FIGURE 27:

Global aging is hitting the developed countries first, but it will soon overtake the entire world.

Millions of Elderly by World Region:
History and UN Projection



Source: UN (2001)
* Includes South East Asia and excludes Japan

Many countries may find it difficult to meet their security commitments. Defense and international affairs budgets will be under constant pressure from rising pension and health-care expenditures. Armed forces may experience manpower shortages, both because the number of youth will be declining and because tight civilian labor markets could make military careers less attractive. Elder-dominated electorates may become more risk averse, shunning decisive confrontations abroad in favor of ad-hoc settlements. Even the changing structure of families could pose a serious issue if parents are unwilling to risk their only children in war.

Aging developed countries may find it difficult to meet their security commitments.

Global aging poses a host of other international challenges. With workforces due to shrink dramatically in most of the developed countries, pressures to increase immigration from the developing world will grow. Even in traditionally immigrant-averse Japan, the Keidanren, the country's powerful business association, has announced that stepped-up immigration "fits the trend of the times." Wherever immigration increases, so will the potential for political backlashes. From Austria to Australia, anti-immigration parties have recently made electoral advances.

In the years to come, calls for protectionism may also become more persistent. Historically, trade liberalization has usually gone hand in hand with expanding markets, while contracting markets have given rise to tariff barriers and "beggar-thy-neighbor" protectionism. In the developed countries, domestic markets for many industries are bound to shrink along with working-age populations. At the same time, failure to reform public pension systems may lead to repeated tax hikes that add to labor and manufacturing costs—and so reduce competitiveness in foreign markets as well.

Growing financial interdependence will meanwhile raise foreign policy issues which leaders have barely begun to consider. Cross-border investment by pension funds could create new tensions—or possibly lead to a new cooperation—between the developed and developing

Some developed countries may become dependent on capital imports from higher-saving developing countries like China.

worlds. The international balance of power could also change in unexpected ways if developing countries like China become large lenders and developed countries like Japan, Germany, and the United States become large borrowers.

No one yet knows if the developed world will successfully confront the challenge of global aging—or how the developing world will fare as it ages in turn (Figure 27). In part, the answer will depend on whether countries succeed in reforming social contracts that now direct a rising share of economic and budget resources toward retirement benefits—that is, toward rewarding the past rather than investing in the future.

If reform merely cuts benefits, countries risk exchanging a cost problem for a poverty problem.

conclusion

LESSONS FOR LEADERS

The public pension systems in the developed world cannot survive the age wave without fundamental reform. Most countries will have to scale back pay-as-you-go benefits and develop new funded alternatives. Although some countries are well on the road to reform, in many countries the journey has barely begun.

Ironically, it is the developing countries that are undertaking the most ambitious reforms. The economies of the former Soviet Bloc are busy rebuilding pension systems that collapsed during the transition from communism. Many are introducing funded second tiers into their pay-as-you-go systems. Meanwhile, Latin America remains a laboratory for pension reform. The personal accounts experiment that began in Chile in the early 1980s has inspired half a dozen "second generation" plans, each with its own special advantages and disadvantages.

To be sure, there are success stories in the developed world too. Two of the English-speaking countries—Australia and the UK—have largely solved their long-term cost problem. From Amsterdam and Vienna to Rome and Berlin, continental European countries are beginning to restrict access to early retirement, trim overly generous indexing formulas, and eliminate work disincentives. Many are setting up or expanding private-sector pension systems. And two—Germany and Sweden—have added funded second tiers to their public pension systems.

In most of the developed countries, however, public pension promises remain unsustainable. The seriousness of the challenge is masked by the official projections, which assume a remarkably favorable series of turnabouts in the underlying economic and demographic trends. The alternative "historical trends" projection developed by CSIS shows that total public retirement spending, including public health-care benefits for the elderly, is on track to grow to 23 percent of GDP in the typical developed country between now and 2050. This is twice today's average level and twice the growth that the European Commission and the OECD project.

According to Moody's, it's a question of "when," not "if," the developed countries will default on their pay-as-you-go pension promises.

To the extent that reforms have merely reduced future costs, moreover, governments may be exchanging a fiscal and economic problem for a social problem. According to the OECD, six developed countries have already enacted reforms that will cut future benefits by 20 percent or more relative to wages.* Some of the countries that have scheduled the deepest cuts—for instance, Italy—have made the least progress in putting in place alternative sources of old-age income support.

The countries of the world have much to learn from each other. Australia, Canada, Chile, Singapore, and the UK are all exploring different ways of moving toward greater funding. Italy, Poland, Sweden, and a few others are pioneering a new notional accounts model that makes unfunded systems function more like funded ones. The United States and Japan excel at finding ways to help the elderly remain active contributors, far and away the most important "out-of-system" strategy for controlling the growth in public retirement benefits.

Worldwide diversification of pension assets may become a key component of retirement security.

* *Fiscal Implications of Ageing: Projections of Age-Related Spending,* Economics Department Working Papers no. 305 (OECD; 2001).

In the end, of course, there will be as many "solutions" to the global aging challenge as there are countries. As leaders assemble these solutions from their own national experience and from experience abroad, they should keep in mind several lessons:

- **Pay-as-you-go is the new source of retirement insecurity.** Pay-as-you-go public pensions can no longer provide the guarantee of a secure retirement they once did. In fact, well within the expected lifetime of today's typical 50 year old, governments in most developed countries are sure to default on their benefit promises. According to Vincent Truglia, the managing director of Moody's responsible for government bonds, "It's not a question of 'if,' but 'when.'"* Ironically, today's pay-as-you-go model originally gained dominance during the early postwar decades because workers trusted government more than they trusted the financial markets. Today, a growing number of workers in countries around the world feel just the opposite. They understand that pay-as-you-go pensions are revocable promises, but that government cannot easily take away personally owned savings invested in the real economy.

- **Retirement policy is no longer just about retirement.** Savings, investment, productivity, labor markets, immigration, and capital flows all need to be a part of the retirement policy debate. The days when public pension systems could be established and expanded without regard to the state of the overall economy are long over. So are the days when retirement policy could ignore developments beyond national borders. In today's "global economy," the failure of even a few major countries to reform their retirement systems could destabilize financial markets. The prospect of slower growth in the developed economies also promises to make worldwide diversification of pension assets a key component of retirement security. To control risks, governments may need to become more "meddlesome" in the policies of other countries. But doing so will require them to put their own house in order first.

- **Any solution must transcend partisan ideology.** A social institution that vitally affects every citizen cannot be reformed without broad-based consensus. Wherever pension reform has been successful, leaders have reached out across party lines, wooed and won over potential opponents, and educated the public. Reform proposals can still ignite political firestorms. The old ideological divides, however, are yielding to a new understanding of the urgency of the challenge. In the UK, the funding strategy was initiated by a Conservative government and embraced by Labour; in Australia, it was initiated by Labour and embraced by the Conservatives.

- **There is only a narrow window of opportunity.** With large postwar Baby Boom generations now in midlife and relatively small generations born during the Great Depression retiring, the countries of the English-speaking world are experiencing a kind of "Demographic Indian Summer" in which the pace of aging has temporarily slowed. Even in Japan and continental Europe, which are now aging more rapidly, the share of the population in its working years is at an historical high. Within the next five to ten years, the demographics will shift—and the window of opportunity will close. Leaders need to act before it's too late.

The advantages of early action are immense. Planning for retirement, after all, is a lifelong project. People need time to adjust their expectations. New attitudes toward work and savings are not forged overnight, nor are new public institutions. Early action can still allow the developed world to reform its public pensions without undue hardship for young or old. If countries delay too long, they will find themselves reforming pensions anyway—but amid economic and social crisis.

* Vincent J. Truglia, "Can Industrialized Countries Afford their Pension Systems?" *The Washington Quarterly* (Summer 2000).

The developed countries still have time to reform public pension systems without undue hardship for young or old—but only if they act soon.

appendix

APPENDIX

Appendix I-a

A NOTE ON DATA AND SOURCES

This report draws on a wide array of sources: government and international agency reports, academic monographs and articles, conference proceedings and trade and industry studies, magazine and newspaper stories, and interviews with country experts. A complete bibliography would run to many pages—without, however, doing much to orient the reader. This note simply indicates the most important data sources used in the report and calls attention to a few of the most important studies.

The place to start is with the demographic statistics. Almost all the figures cited in the report, both historical and projected, come from the UN Population Division.[*] These include total population, population by age bracket, dependency ratios, median ages, total fertility rates, and life expectancy at birth. Historical data for life expectancy at age 65 and age 80 come from the Berkeley Mortality Database (on line at www.demog.berkeley.edu); historical data for age-specific fertility rates come from the US Census International Database (on line at www.Census.gov).

The report uses the UN's latest (2000 Revision) "medium variant" population projection, which is the benchmark relied on by most demographers. The reader should bear in mind that the UN medium variant assumes that fertility rates will gradually rise in most developed countries and that improvements in longevity will slow. If historical trends continue, the elder share of the population will grow even more—and the working-age population will decline even further—than the UN projects.

All of the broad fiscal and economic indicators for the developed countries, from the total tax burden to the unemployment rate, come from standard OECD statistical sources, many of which are available on line. The detailed numbers on labor-force participation, by age and by sex, come from the OECD Labour Force Statistics Database (on line at www.oecd.org); the detailed numbers on public health-care spending, including real per capita growth rates, come from the OECD Health Data 2001 database (on CD-ROM).

The "official" pension projections cited in this report are the latest (2001) projections by the European Commission (EC) and the OECD. The official health-care projections for the EU countries come from the same source; the health-care projections for the other developed countries come from an earlier (1996) OECD study.[†] All of these cost

* *World Population Prospects: The 2000 Revision,* 2 volumes and CD-ROM (UN, Population Division; 2001).

† For pensions see, *Budgetary Challenges Posed by Ageing Populations: The Impact of Public Spending on Pensions, Health and Long-Term Care for the Elderly* (EC, Economic Policy Committee; 2001); and *Fiscal Implications of Ageing: Projections of Age-Related Spending*, Economics Department Working Papers no. 305 (OECD; 2001). For health care, see *Budgetary Challenges Posed by Ageing Populations*, op. cit.; and *Ageing in OECD Countries: A Critical Policy Challenge*, Social Policy Studies no. 20 (OECD; 1996).

projections are discussed in detail in *Appendix II: A Note on the Projections*, as are the CSIS "historical trends" pension and health-care projections. Note that throughout the report figures for spending in the "typical" developed country are unweighted averages of spending in all of the developed countries.

The reader should be aware of a number of definitional issues with the data on payroll tax rates, replacement rates, and retirement ages.* The payroll tax rates cited in the report include both the employer and employee shares and are measured as a percent of "net" wages—that is, of wages excluding employer social insurance contributions. In those countries where the employer share is much larger than the employee share (for example, France, Italy, and Spain), the payroll tax rate measured as a share of "gross" wages is significantly lower. The "typical" replacement rates cited in the report are stylized measures that refer to full-career workers earning average wages. Average replacement rates for all workers, which are sometimes cited in the literature, are lower because they factor in the rates of part-time workers, of workers with incomplete careers, and (at times) of survivor and disability beneficiaries. In general, the average retirement ages cited in the report refer to the age of "complete withdrawal" from the labor force, rather than to the age of first pension receipt, which may be either lower or higher.

Two other types of data require special mention. There is no single standard source for cross-country comparisons of income and poverty. For poverty rates of retirees, sources of retirement income, and the average income of retired households relative to nonretired households, the report relies on recent technical studies by the OECD and the World Bank.† The statistics on pension assets are also problematic, because different sources use different definitions. This report relies on Intersec data tabulated by Goldman Sachs.‡ Note that the Intersec figures exclude personal pensions like 401(k)s and IRAs, and so understate pension savings in some countries.

A number of sources provide especially useful background on the economics of aging and retirement, the design of national pension systems, and the nature of recent reforms. The reader interested in further investigating the issues raised in this report can begin by consulting the following: from the OECD, *Maintaining Prosperity in an Ageing Society* (1998), *Reforms for an Ageing Society* (2000), and the invaluable *Ageing Working Papers* (papers on line at www.oecd.org); from the European Commission, the detailed "country fiches" published in conjunction with the recent EC/OECD projection project (papers on line at www.europa.eu.int/comm/economy_finance /epc-en.htm); from the World Bank, *Averting the Old Age Crisis* (1994), Robert Palacios and Montserrat Pallares-Mirallès, *International Patterns of Pension Provision* (2000), Robert Holzmann and Joseph E. Stiglitz, eds., *New Ideas about Old Age Security* (2001), and the (also invaluable) *Pension Reform Primer* (papers on line at www. worldbank.org); and from the National Bureau of Economic Research, Jonathan Gruber and David A. Wise, eds., *Social Security and Retirement Around the World* (1999) and Martin Feldstein and Horst Siebert, eds., *Social Security Pension Reform in Europe* (papers on line at www.NBER.org).

* Payroll tax rates cited in the report come from *Social Security Programs throughout the World: 1999* (Social Security Administration, Office of Policy; August 1999); retirement ages come from Sveinbjörn Blöndal and Stefano Scarpetta, *The Retirement Decision in OECD Countries*, Ageing Working Papers no. 1.4 (OECD; 1998). The figures on replacement rates are drawn from individual country sources.

† Richard Hauser, *Adequacy and Poverty Among the Retired*, Ageing Working Papers no. 3.2 (OECD; 1998); Axel Börsch-Supan and Anette Reil-Held, *Retirement Income: Level, Risk, and Substitution among Income Components*, Ageing Working Papers no. 3.7 (OECD; 1998); and Edward Whitehouse, *How Poor are the Old? A Survey of Evidence from 44 Countries*, Social Protection Discussion Paper no. 0017 (World Bank; 2000).

‡ See Maureen M. Culhane, *Global Aging—Capital Market Implications* (Goldman Sachs; 2001).

Appendix I-b

A KEY TO SOURCE CITATIONS

The abbreviated citations in the figures and appendix tables refer to the following sources:

- Berkeley Mortality Database (2001) = Berkeley Mortality Database (on line at www.demog.berkeley.edu).
- EC/OECD (2001) = *Budgetary Challenges Posed by Ageing Populations: The Impact of Public Spending on Pensions, Health and Long-Term Care for the Elderly* (EC, Economic Policy Committee; 2001); and *Fiscal Implications of Ageing: Projections of Age-Related Spending*, Economics Department Working Papers no. 305 (OECD; 2001).
- Goldman Sachs (2001) = Maureen M. Culhane, *Global Aging—Capital Market Implications* (Goldman Sachs; 2001).
- Gruber & Wise (1997) = Jonathan Gruber and David Wise, *Social Security Programs and Retirement around the World*, NBER Working Paper no. 6134 (NBER; 1997).
- IMF (1996) = Sheetal K. Chand and Albert Jaeger, *Aging Populations and Public Pension Schemes*, IMF Occasional Paper 147 (IMF; 1996).
- Japanese Ministry of Health and Welfare (1999) = *1999 Actuarial Valuation of the Employees' Pension Insurance and the National Pension* (Japanese Ministry of Health and Welfare; 1999).
- OECD (1996) = *Ageing in OECD Countries: A Critical Policy Challenge*, Social Policy Studies no. 20 (OECD; 1996).
- OECD (1998) = Sveinbjörn Blöndal and Stefano Scarpetta, *The Retirement Decision in OECD Countries*, Ageing Working Papers no. 1.4 (OECD; 1998).
- OECD (2001a) = *OECD Labour Force Statistics* (on line at www.oecd.org).
- OECD (2001b) = *OECD Health Data 2001* (on CD-ROM).
- Schieber/Hewitt (2000) = Sylvester Schieber and Paul Hewitt, "Demographic Risk in Industrial Societies," *World Economics*, I:4 (October-December 2000).
- Urban Institute (1994) = C. Eugene Steuerle and Jon M. Bakija, *Retooling Social Security for the 21st Century* (Urban Institute; 1994).
- US Social Security Administration (1999) = *Social Security Programs throughout the World: 1999* (Social Security Administration, Office of Policy; 1999).

Appendix II

A NOTE ON THE PROJECTIONS

The "official" pension projections cited in this report were prepared as part of a joint project directed by the European Commission (EC) and the OECD.* Each member country made its own projection using its own pension model.† The EC and OECD, however, established a common set of demographic and economic assumptions to which all countries adhered.

In general, the projections include all publicly financed old-age pensions (both retirement and survivors' benefits), all minimum or "social assistance" pensions, and all special early retirement pensions. In a few countries, however, there are significant omissions. The biggest are for the Netherlands (early retirement benefits), the UK (civil service pensions), and the United States (state and local employee pensions).

CSIS examined the projections for twenty countries: Australia, Canada, Ireland, New Zealand, the UK, and the United States (the English-speaking countries); Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Spain, and Sweden (the continental European countries); and Japan. Table 1 provides a summary comparison of the official public pension projections and the CSIS "historical trends" projection; Table 2 presents detailed results for the CSIS projection.

The CSIS "Historical Trends" Pension Projection

The premise behind the CSIS projection is that "baseline" spending projections should always be based on established historical trends—*unless there is a compelling reason to depart from the rule*. In developing its projection, CSIS started with the official pension projections. It then adjusted them to reflect its different assumptions about unemployment, labor-force participation, fertility, and longevity. All of the adjustments were made on the basis of a sensitivity analysis of the official projections published by the EC and the OECD. The specific adjustments are as follows:

UNEMPLOYMENT

The official projections assume that unemployment will fall beneath its recent historical average in every developed country except Japan. (See Table 3.) The EC and OECD offer no explanation for this development—and CSIS disallows it. Unemployment has been chronically high in many countries for decades, especially in Europe. Most economists agree that the problem is caused by rigid labor markets, high labor costs, and easy access to generous unemployment, disability, and early retirement benefits. Few think large reductions are possible without fundamental reforms. In its projection, CSIS assumes that unemployment rates will stabilize at their 1990-2000 averages. This raises projected pension costs significantly in a number of countries, with the biggest increase in Spain (2.3 percent of GDP

* The projections are published in *Budgetary Challenges Posed by Ageing Populations: The Impact of Public Spending on Pensions, Health and Long-Term Care for the Elderly* (EC, Economic Policy Committee; October 2001); and *Fiscal Implications of Ageing: Projections of Age-Related Spending*, Economics Department Working Papers no. 305 (OECD; 2001).

† CSIS did not use the projection for Japan because it includes unlegislated "fiat" savings. Incredibly, benefits are simply assumed to be cut at five year intervals by whatever amount is necessary to keep the system solvent. The "official" projection for Japan cited in this report is published in the *1999 Actuarial Valuation of the Employees' Pension Insurance and the National Pension* (Japanese Ministry of Health and Welfare; 1999).

TABLE 1

Official Projection versus CSIS Projection:
Public Pension Spending, as a Percent of GDP

	2000	Official Projection 2050	CSIS Projection 2050	Official Change 2000-50	CSIS Change 2000-50
All Developed Countries*	8.8	13.2	15.8	+4.4	+7.0
Continental Europe*	10.8	15.6	18.9	+4.8	+8.1
English-Speaking Countries*	4.8	7.9	8.8	+3.1	+4.0
G-7 Countries:					
Canada	5.1	11.0	13.0	+5.9	+7.9
France	12.1	15.6	19.4	+3.5	+7.3
Germany	11.8	16.9	18.6	+5.1	+6.8
Italy	13.8	14.1	18.0	+0.3	+4.2
Japan**	7.9	14.2	17.5	+6.3	+9.6
UK	5.5	4.4	4.9	-1.1	-0.6
US	4.6	6.7	7.4	+2.1	+2.8

Source: EC/OECD (2001) and CSIS (2002)
* Figures are unweighted averages.
** "Official" projection is by Japanese Ministry of Health and Welfare (1999).

TABLE 2

CSIS Projection, 2000-2050:
Public Pension Spending, as a Percent of GDP

	2000	2010	2020	2030	2040	2050
Australia	3.9	4.1	4.9	5.4	5.8	6.0
Austria	14.5	15.2	16.8	19.7	20.7	20.0
Belgium	10.0	10.2	12.0	14.8	16.0	16.3
Canada	5.1	6.3	8.2	10.7	12.0	13.0
Denmark	10.5	12.9	14.8	16.1	16.1	15.8
Finland	11.3	11.9	13.6	16.1	17.7	18.0
France	12.1	13.7	16.3	18.2	18.8	19.4
Germany	11.8	11.4	12.9	16.3	17.8	18.6
Greece	12.6	13.0	16.4	22.1	28.5	31.3
Ireland	4.6	5.1	7.0	8.1	8.9	9.8
Italy	13.8	14.4	15.9	17.8	18.9	18.0
Japan	7.9	11.2	13.0	13.7	16.3	17.5
Netherlands	7.9	9.4	11.8	14.5	16.2	16.2
New Zealand	4.8	5.2	7.0	9.5	11.0	11.4
Norway	7.3	9.2	12.3	15.8	18.7	19.2
Portugal	9.8	12.0	13.5	14.5	15.1	14.9
Spain	9.4	9.4	11.1	15.4	21.4	25.2
Sweden	9.0	9.8	11.1	12.5	13.2	13.0
UK	5.5	5.2	5.1	5.5	5.4	4.9
US	4.6	4.8	6.2	7.2	7.4	7.4

Source: CSIS (2002)

by 2050). The results are similar if unemployment rates are assumed to stabilize at their longer-term 1980-2000 averages.

LABOR-FORCE PARTICIPATION

The official projections assume that female labor-force participation will rise—sometimes greatly—in every developed country except Norway. (See Table 4.) The CSIS projection assumes that women's work patterns will remain unchanged, except to allow for a possible "cohort effect." In some countries—Austria Belgium, Canada, Greece, Ireland, Italy, the Netherlands, Portugal, and Spain—younger women now work at higher rates than older women. In its projection, CSIS assumes that women aged 40-54 in these countries will eventually work at the same rate as women aged 20-39. This raises the overall female participation rate, though much less than in the official projections. In the other developed countries, however, women under forty work at *lower* rates than women over forty. Here CSIS assumes that there will be no cohort effect. If there were a cohort effect in these countries, a consistent projection would show a *declining*—not a rising—overall participation rate.

In some countries, the official projections also assume that labor-force participation will rise among older men. This increase is a response to recent pension reforms, and so CSIS generally allows it. In two cases, however—Austria and Italy—the projected increase is far greater than can be explained by policy changes. In Austria, the participation rate among men aged 55-64 is projected to rise by 55 percent; in Italy, it is projected to rise by 38 percent. In these two countries, the CSIS projection F the increase at 20 percent.

FERTILITY

The official projections assume that fertility rates will rise in most developed countries, with the biggest percentage increases in those countries that currently have the lowest rates. (See Table 5.) The EC and

TABLE 3

Unemployment Rate:
Historical Experience versus the Projections

	1990s Average	Official Projection 2050
Australia	8.4	4.9
Austria*	3.9	4.0
Belgium	8.3	6.6
Canada	9.3	6.5
Denmark	7.2	5.8
Finland	11.7	7.0
France	11.0	6.1
Germany	7.8	5.6
Greece	9.3	5.5
Ireland	5.0	5.0
Italy	11.2	6.9
Japan	3.2	4.0
Netherlands	6.0	4.0
New Zealand	7.8	6.0
Norway	4.7	3.8
Portugal	5.5	5.6
Spain	19.1	6.0
Sweden	7.3	5.1
UK	7.8	5.6
US	5.6	5.1

Source: OECD (2001a) and EC/OECD (2001)
*Refers to 1994-1999 only

OECD offer no justification for this assumption—and CSIS finds none in the data. In a number of countries, to be sure, age-specific fertility rates are now rising among women in their thirties and early forties, suggesting that some women have merely been postponing having children rather than reducing the total number they plan to have. The impact of this timing shift, however, is relatively small—and in any case, it is being offset by continuing declines in fertility among younger women. In some of the countries where the EC and OECD project the largest fertility rebounds, moreover, there is no evidence of a timing shift at all. In Italy, Greece, Austria, and Spain, fertility rates are declining or flat across every age bracket and have been so for decades. The CSIS projection therefore assumes that fertility rates will remain constant at their 1995-2000 averages.

LONGEVITY

The official projections assume that the rate of improvement in longevity will slow. While some demographers believe that this is likely, most assume that longevity will continue to rise at its historical pace—or, more precisely, that mortality will continue to decline at its historical pace.

Demographers who expect a slowdown argue that life expectancy cannot keep rising, since medical progress will eventually push everybody up against the "natural limit" to the human life span. This thesis, however, implies a number of consequences that are not borne out by observation. If there is a limit to the human life span, mortality improvements for the oldest elderly age brackets should be slowing relative to those for younger elderly age brackets. At the same time, variations in life expectancy should be narrowing as more people bunch up against the limit. None of this appears to be happening. Over the last couple of decades, the data show little tendency for mortality improvements to slow at advanced ages. Nor are variations in

TABLE 4

Labor-Force Participation Rate of Women Aged 20-54:
Historical Experience versus the Projections

	2000	Official Projection 2050	CSIS Projection 2050
Australia	72.2	77.8	72.2
Austria	72.1	78.7	76.0
Belgium	73.8	82.3	75.4
Canada	77.7	81.2	78.2
Denmark	87.0	91.5	87.0
Finland	85.1	88.3	85.1
France	75.8	85.0	75.8
Germany	76.5	82.6	76.5
Greece*	51.8	72.4	66.4
Ireland*	63.0	81.3	71.5
Italy	55.3	77.5	59.8
Japan	71.0	83.5	71.0
Netherlands	67.0	84.3	77.9
New Zealand	74.9	76.0	74.9
Norway	83.8	83.4	83.8
Portugal	72.8	81.8	76.2
Spain	61.0	80.3	67.7
Sweden	83.3	92.4	83.3
UK	76.1	80.7	76.1
US	76.8	81.2	76.8

Source: OECD (2001a) and EC/OECD (2001)
* Refers to women aged 15-54

TABLE 5

Total Fertility Rate:
Historical Experience versus the Projections

	1980-85	1985-90	1990-95	1995-00	Official Projection 2050
Australia	1.9	1.9	1.9	1.8	1.6
Austria	1.6	1.4	1.5	1.4	1.5
Belgium	1.6	1.6	1.6	1.5	1.8
Canada	1.6	1.6	1.7	1.6	1.5
Denmark	1.4	1.5	1.7	1.7	1.8
Finland	1.7	1.7	1.8	1.7	1.7
France	1.9	1.8	1.7	1.7	1.8
Germany	1.5	1.4	1.4	1.3	1.5
Greece	2.0	1.5	1.4	1.3	1.6
Ireland	2.9	2.3	2.0	1.9	1.8
Italy	1.5	1.3	1.3	1.2	1.5
Japan	1.8	1.7	1.5	1.4	1.6
Netherlands	1.5	1.6	1.6	1.5	1.8
New Zealand	2.0	2.1	2.1	2.0	1.9
Norway	1.7	1.8	1.9	1.8	1.8
Portugal	2.0	1.6	1.5	1.5	1.7
Spain	1.9	1.5	1.3	1.2	1.5
Sweden	1.6	1.9	2.0	1.5	1.8
UK	1.8	1.8	1.8	1.7	1.8
US	1.8	1.9	2.1	2.0	2.0

Source: UN (2001) and EC/OECD (2001)

life expectancy diminishing, whether one looks at the data by country, by region, by income, or by education. For many years, Sweden and Japan have had a sizeable longevity advantage over other developed countries. This difference appears to be persistent. Everywhere, people are living much longer. Yet everywhere, some groups are living much longer than others.

The CSIS projection follows the emerging consensus among demographers and assumes that age-specific mortality rates in the developed countries will continue to decline at their long-term (1950-94) averages. This assumption raises projected longevity in every country, with the gains ranging from an extra six months in Germany by 2050 to an extra nine years in Japan.* (See Table 6.)

Table 7 shows the impact of these changes in assumptions on projected public pension spending. On average, the changes in the unemployment and labor-force participation assumptions together add roughly 1 percent of GDP to projected costs by 2050. The changes in the fertility and longevity assumptions together add nearly 2 percent of GDP. For Japan and some continental European countries, the impact is much larger.

Two other major economic and demographic assumptions affect the official pension projections: net immigration and labor productivity. The CSIS projection does not adjust these assumptions. The official projections assume that immigration will rise sharply in some countries and fall sharply in others, presumably in accordance with policy objectives. While it would be

* The CSIS projection is based on historical trend projections for the G-7 countries prepared by Shripad Tuljapurkar of Morning View Research and published in Sylvester Schieber and Paul Hewitt, "Demographic Risk in Industrial Societies," *World Economics*, I:4 (October-December 2000). The historical trend longevity projections for other countries were estimated based on the G-7 average.

TABLE 6

Life Expectancy at Birth:
Historical Experience versus the Projections

	2000	Official Projection 2050	CSIS Projection 2050
Australia	79.5	85.2	86.7
Austria	78.1	83.5	85.2
Belgium	78.4	83.0	85.5
Canada	78.4	82.0	86.6
Denmark	77.0	81.3	84.0
Finland	77.5	82.5	84.6
France	78.8	83.5	87.0
Germany	77.8	82.5	82.9
Greece	78.5	83.0	85.6
Ireland	76.7	81.5	83.7
Italy	78.8	83.5	86.5
Japan	80.8	83.0	91.9
Netherlands	78.2	82.5	85.3
New Zealand	77.7	82.5	84.7
Norway	78.6	82.3	85.7
Portugal	75.6	81.0	82.5
Spain	78.5	82.0	85.6
Sweden	79.7	84.0	86.9
UK	77.6	82.5	84.5
US	76.8	81.3	83.2

Source: EC/OECD (2001), Schieber/Hewitt (2000), and CSIS (2002)

TABLE 7

The Impact of Changes in the Assumptions:
Official Projection, Adjustments, and CSIS Projection as a Percent of GDP

	2000	Official Projection 2050	Plus Unemployment Adjustment	Plus Labor-Force Adjustment	Plus Fertility Adjustment	Plus Longevity Adjustment	CSIS Projection 2050
Australia	3.9	5.6	+0.2	+0.0	-0.2	+0.3	6.0
Austria	14.5	17.0	+0.0	+0.9	+0.9	+1.2	20.0
Belgium	10.0	13.3	+0.4	+0.3	+1.0	+1.3	16.3
Canada	5.1	11.0	+0.3	+0.2	-0.3	+1.8	13.0
Denmark	10.5	13.3	+0.2	+0.2	+0.1	+2.0	15.8
Finland	11.3	15.9	+0.8	+0.2	-0.1	+1.3	18.1
France	12.1	15.6	+1.0	+0.9	+0.2	+1.7	19.4
Germany	11.8	16.9	+0.4	+0.5	+0.5	+0.3	18.6
Greece	12.6	24.8	+1.0	+0.8	+2.1	+2.7	31.3
Ireland	4.6	9.0	+0.0	+0.3	-0.2	+0.7	9.8
Italy	13.8	14.1	+0.4	+1.7	+1.2	+0.5	18.0
Japan*	7.9	14.2	-0.1	+0.6	+0.5	+2.3	17.5
Netherlands	7.9	13.6	+0.3	+0.2	+0.3	+1.8	16.2
New Zealand	4.8	10.6	+0.2	-0.1	-0.1	+0.8	11.4
Norway	7.3	16.9	+0.2	+0.0	+0.0	+2.1	19.2
Portugal	9.8	13.2	+0.0	+0.4	+0.5	+0.7	14.9
Spain	9.4	17.3	+2.3	+1.4	+2.5	+1.7	25.2
Sweden	9.0	10.7	+0.2	+0.6	+1.1	+0.4	13.0
UK	5.5	4.4	+0.0	+0.1	+1.1	+0.3	4.9
US	4.6	6.7	+0.1	+0.1	-0.2	+0.7	7.4

Source: EC/OECD (2001) and CSIS (2002)
* "Official" projection is by Japanese Ministry of Health and Welfare (1999).

preferable to project future immigration based on historical trends, it is often unclear what the "trend" is, since immigration in many countries has also risen and fallen sharply in the past, sometimes over the span of just a few years. As for labor productivity, the official assumption—a long-term growth rate of 1.75 percent—is roughly in line with the historical average in most countries.

The CSIS "Historical Trends" Health-Care Projection

The "official" projections for public health-care spending cited in this report are drawn from two sources. For the EU countries, CSIS cites projections recently published as part of the joint EC/OECD project; for the other developed countries, it cites projections published in a 1996 OECD study.*

The official projections assume that (age-adjusted) per capita public health-care spending will grow at the same rate as per capita GDP. The CSIS projection is identical to the official projections, except it assumes that per capita spending will grow one percentage point faster than per capita GDP. For most countries, the CSIS assumption is close to the historical trend of the past thirty years—though for a few countries, notably the United States, it is still well beneath it. (See Table 8.)

In effect, the official projections isolate the pure "demographic" effect of aging—how much spending can be expected to rise due to the growth in the number of elderly and the rising average age of the elderly, *provided that per capita costs grow no faster than per capita incomes*.† But in the past, costs have grown much faster, due primarily to the ongoing adoption of new medical technologies and to the more intensive use of existing technologies. The CSIS projection allows for a continuation of this persistent trend. As Table 9 shows, the impact on public health-care spending is dramatic.

* For the EU countries, see *Budgetary Challenges Posed by Ageing Populations*, op. cit.; for the other developed countries, see *Ageing in OECD Countries: A Critical Policy Challenge*, Social Policy Studies no. 20 (OECD; 1996). CSIS normalized both sets of projections to total public health-care spending in 1999 and extended the OECD projection from 2030 to 2050. More recent projections of public health-care spending published by the OECD (see *Fiscal Implications of Ageing*, op. cit.) could not be used because of large inconsistencies in methodology and assumptions in the projections for different countries.

† The EC and OECD only project total public health-care spending. To estimate public spending on the elderly alone, CSIS used historical age-specific spending data published in Gerard F. Anderson and Peter Sotir Hussey, "Population Aging: A Comparison Among Industrialized Countries," *Health Affairs,* XIX:3. (May-June 2000).

TABLE 8

Average Annual Growth in Per Capita Public Health-Care Spending in Excess of the Growth in Per Capita GDP: 1970 to 1999

Australia*	+1.0
Austria	NA
Belgium	+2.1
Canada	+1.0
Denmark*	+0.6
Finland	+0.4
France	+2.1
Germany	+1.4
Greece*	+0.6
Ireland	+0.7
Italy	+0.8
Japan	+2.1
Netherlands*	+0.5
New Zealand	NA
Norway	+2.0
Portugal	+0.9
Spain*	+1.5
Sweden	+0.3
UK*	+0.6
US	+2.7
Developed World**	+1.2

Source: OECD (2001b)
* Refers to 1975-1999
** Figure is unweighted average.

TABLE 9

Official Projection versus CSIS Projection: Total Public Health-Care Spending, as a Percent of GDP

	1999	Official Projection 2050	CSIS Projection 2050
Australia	6.0	8.6	14.1
Austria	5.6	8.2	13.5
Belgium	7.3	9.7	15.9
Canada	6.6	10.0	16.5
Denmark	6.9	9.1	15.0
Finland	5.2	7.5	12.4
France	7.3	9.0	14.8
Germany	7.8	9.7	16.0
Greece	5.8	8.0	13.1
Ireland	5.2	7.2	11.9
Italy	5.5	7.5	12.3
Japan	5.8	8.1	13.4
Netherlands	6.0	8.6	14.1
New Zealand	NA	NA	NA
Norway	7.0	9.3	15.2
Portugal	5.1	5.8	9.5
Spain	5.5	7.2	11.8
Sweden	6.6	8.9	14.6
UK	5.8	7.5	12.4
US	5.7	8.0	13.1
Developed World: All Ages*	6.1	8.3	13.7
Developed World: Elderly*	2.1	4.6	7.6

Source: OECD (1996), EC/OECD (2001), and CSIS (2002)
* Figures are unweighted averages.

ACKNOWLEDGMENTS

The author would like to thank a number of people for their contributions to the report. He owes a special debt to Neil Howe, collaborator on many past projects, for his invaluable advice at crucial junctures in the research and writing. At CSIS, he is grateful to Paul Hewitt, the Director of the Global Aging Initiative, whose many insights helped shape the concept and content of the report. He would also like to thank Robin Niblett, the Executive Vice President of CSIS; Robert Stowe England, who contributed to the sections on France, Germany, and Italy; Peri Edelstein and Michael Bright, who helped with the research; and Mana Zarinejad and Craig Romm, who helped with everything else. At Citigroup, he would like to thank Robert Shepler for believing in the report; Steve Cone for overseeing the stunning design; Holly Weaver for shepherding it through the production process; and Lionel Johnson, Carole Roberts, and Neil McPherson for their thoughtful comments on more drafts than they may care to remember. The report also benefited from discussions with demographers, economists, industry experts, and government officials too numerous to mention. The author collectively acknowledges their contributions to the report while retaining responsibility for its shortcomings.

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