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State Street Corporation
State Street Financial Center
One Lincoln Street
Boston, Massachusetts 02111–2900
+1 617 786 3000
www.statestreet.com
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For questions or comments about our Vision series,
e-mail us at **vision@statestreet.com.**

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Country Abbreviations

AU Australia
BE Belgium
CH Switzerland
CN China
DE Germany
DK Denmark
ES Spain
FI Finland
FR France
HK Hong Kong
IE Ireland
IT Italy
JP Japan
KR Korea
NL Netherlands
NO Norway
SG Singapore
SE Sweden
TW Taiwan
UK United Kingdom
US United States

Foreword

The global retirement market is large, growing and undergoing significant structural change. Occupational and personal pension savings alone doubled to approximately $24 trillion over the 10 years leading up to 2006, and are expected to exceed $34 trillion by 2011.[1]

The accrual of retirement savings is evident on every continent, and various successful reforms have been introduced in the last decade in countries as diverse as Chile, Germany and Taiwan. China and the United Kingdom also look set to embark on ambitious new programs in the coming years.

And yet, despite the reforms and staggering growth in assets, most workers in developed and developing countries still have few or no pension assets. Even in the United States and the UK, the world's two largest occupational pension markets, roughly half of the workforce does not participate in a retirement plan. Given that the world's population is both rising and aging, much still needs to be done to address this inadequate coverage.

Governments, employers, financial services providers and unions will all have a role to play in addressing this challenge in the years to come. Today, few countries are in a position where they don't need further reform, and while there is $24 trillion saved in retirement plans, the world's total liabilities are estimated to be more than six times that or approximately $163 trillion.[2]

Most of these liabilities stem from promised government benefits rather than occupational pensions, illustrating that the burden of reform rests squarely on the shoulders of government policymakers. In the face of rising welfare bills, nations have already begun to lower their liabilities in a variety of ways, such as reducing benefits and increasing retirement ages. From Norway to South Korea, nations are also

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[1] Cerulli Associates Global Market 2007.

[2] Estimate based on calculations made by Erkki Liikanen, Govenor of the Bank of Finland, in a speech given at the International Conference of Social Security Actuaries and Statisticians in Helsinki, May 22, 2007.

increasingly investing in assets as a means to meet future liabilities, rather than relying solely on fiscal revenues. Furthering these policies will help avert a pensions crisis.

Capitalized government plans such as the Canada Pension Plan symbolize the shift from unfunded to funded retirement provision. The world is set to save more to receive adequate income in old age. Pay-as-you-go systems, wherein taxes received one month go to pay benefits the next, do not work well in aging societies. The shift to funding will lead to a greater emphasis on private provision and capital markets. Although governments around the world are likely to remain the major providers of retirement income, the role of employers and individuals is already on the rise.

Pension assets will continue to grow beyond the $34 trillion expected by 2011, albeit in a variety of different arrangements. In many countries the impact of changing accounting rules and greater solvency requirements will lead to defined benefit (DB) plans closing to new members and gradually maturing. They will increasingly seek to mitigate volatility and secure income by means of structured products. Liability-matching and return-seeking investments will be distinguished in separate portfolios. Keeping in line with regulators' more stringent funding requirements, DB plans will behave more like insurers. Yet the size and sophistication of large segregated plans will continue to attract innovation in all aspects of investing, from asset allocation overlays to collateral pooling. Those countries that retain the DB model are in many cases linking final payout to some measure of actual contribution, while maintaining a collective approach to longevity and return risk.

Defined contribution (DC) plans, wherein investment risk is borne by employees rather than employers, present a greater challenge than DB. In many established occupational pension markets, where DB plans are closed and replaced by DC schemes, employers and fiduciary boards will continue to play a guiding role. However, it is up to each individual worker to decide how much to contribute and how to allocate his or her assets between funds. Such widespread responsibility requires assistance and education. Governments, employers and commercial providers have to help individuals make effective decisions by means of attractive fiscal incentives, easy-to-understand information, and good products and services. Individuals will only welcome more freedom and responsibility in planning their financial affairs if they are adequately supported throughout the process.

There is no single solution that is right for every country. Some have more than a century of funded pension provision behind them. Others still have fundamental political objections to the role of capitalized savings in society. However, funded retirement plans are generally expected to grow, and based on the experience of existing schemes, policymakers will likely have to pay close attention if individuals are left to make major financial decisions for themselves. Where there is an absence of compulsion or paternal care from governments, employers and fiduciary boards, individuals are challenged to make the best choices for themselves. In the US, for example, approximately half of the workforce doesn't currently participate in occupational plans. Further evidence from established voluntary DC markets suggests that individuals who do invest often rely too heavily on default funds.

This can be addressed by simple measures such as more efficient default funds, which invest in a range of assets rather than low-yielding money market funds. Successful strategies can turn behavioral traits such as excessive caution from a disadvantage into an advantage. In the last decade DC has already come a long way in aligning participants' behavior and motives with better financial planning. This trend will continue as sponsors and their advisors find more effective ways to encourage individuals without taking their interest in company benefits for granted.

Such paternalism will be key to the success of retirement provision in the 21st century. Fiduciaries and their advisors have demonstrated sound governance of occupational pension plans over the past half century. In DB plans they have been aided by the sharing of risk across the membership. That risk mitigation and facility to draw on sound investment advice have to be reconfigured to reach members of individualized DC plans. Maintaining some kind of fiduciary board to make the major investment decisions in DC plans is one viable means of upholding some of the best traditions of occupational pension provision.

In preparing for the future, one should never lose sight of the fact that employer-related retirement plans have proved to be one of the great success stories of 20th century finance. More than any other single investment product, pension plans have helped workers in all sectors to profit from the world's economic growth and live comfortably in retirement. There is also evidence that employers enjoy greater return on investment from better plans, in the form of increased employee retention and engagement. Occupational plans are not merely a "gift" from organizations to workers; they bring benefits to both sides that take effect long before retirement itself. Sensible reform can continue this mutual success story throughout the 21st century.

With $15.3 trillion in assets under custody and $2.0 trillion in assets under management as of December 31, 2007, State Street is the world's leading provider of financial services to institutional investors, providing investment management and investment servicing for more than $4.8 trillion in pension assets. We're proud to count 10 of the world's 20 largest pension funds among our customers, providing a broad range of capabilities, including transition management, liability-driven investment strategies, performance and analytics, foreign exchange, securities lending and proprietary research services.

In addition to providing our services to public and private pension schemes, State Street partners with government policy and industry groups around the world to facilitate the development of pension systems at the country level. As funded retirement provision around the world grows and becomes more complex, investment service providers will increasingly look to meet these demands by developing leading technologies and producing innovative solutions. State Street has the experience and expertise necessary to help.

Chapter I

GLOBAL PENSION DEVELOPMENTS

Global Pension Developments

Retirement and pensions are set to become two of the greatest issues facing society in the 21st century. As the generation born after World War II begins to retire, there will be profound ramifications for savings markets and economies around the world. Populations will start to “gray” as the number of pensioners rises while the generations that follow focus on work and their own education, and birthrates decline. In many countries, wealth preservation will become more significant than accumulation as savers demand greater guarantees and lower volatility in their portfolios.

The convergence of rising longevity and declining birthrates is not just an issue for wealthier regions such as North America and Western Europe, but in countries with fast-growing economies as well. In South Korea, for example, the ratio of the elderly to those of working age is set to rise from 1:10 at the start of this century to 7:10 by 2050. The World Bank has warned that the combination of increasing longevity and declining birthrates is even starker in developing nations than in developed ones. Figures 1 and 2 below illustrate the ratio of working age populations in Europe and Asia-Pacific that are 65 years of age or older in 2000 versus 2050.

Adequate retirement provision is thus a global challenge, and in spite of regional, cultural and economic differences, many similar observations can be made for most countries. For convenience, pensions policymakers often refer to three pillars to encompass the retirement savings spectrum: Pillar I represents government provisions, Pillar II covers occupational pensions savings and Pillar III represents private savings.[3] Historically, Pillar I has been unfunded and typically comprises defined benefit (DB) schemes, leaving the risks associated with meeting these liabilities to governments. The first of these risks is being able to afford the benefit, which is typically funded from fiscal receipts. The second is longevity, i.e., the risk that participants will live longer, and cost more, than expected. Many government pensions also rise in line with prices, thus adding a third risk: inflation.

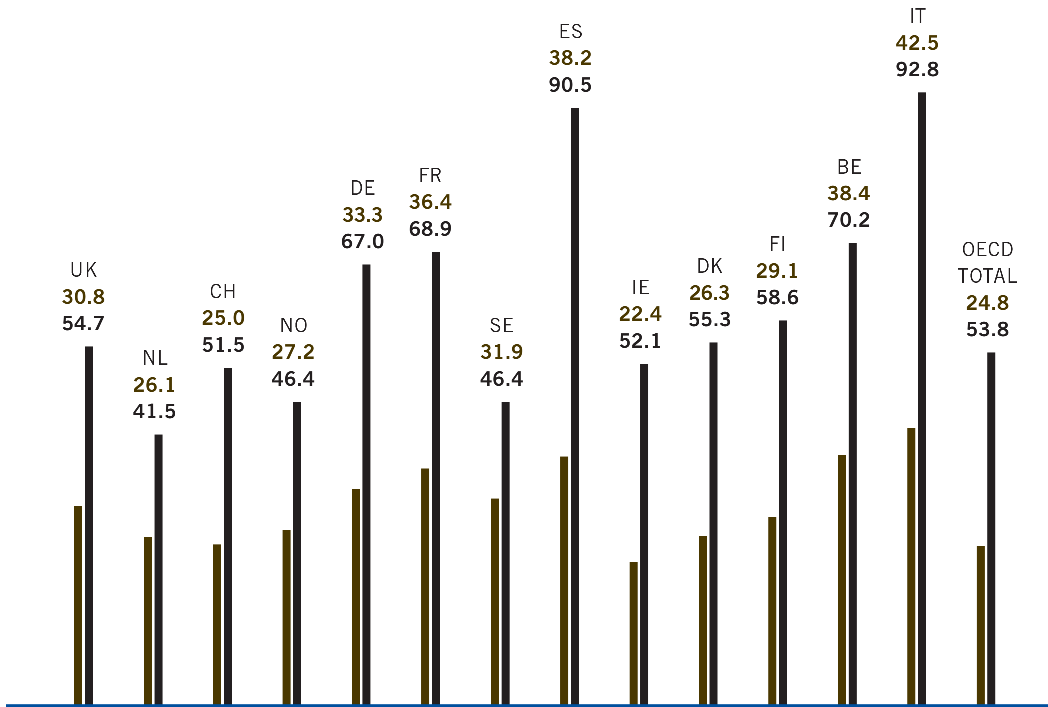

Figure 1

Dependency Ratios, Europe

Population aged 65 or more as a percentage of the working age population (15-64)

2000
2050

Source: *OECD Factbook 2007: Economic, Environmental and Social Statistics*, The World Bank Group.

[3] The World Bank has recently developed a five-pillar system, which divides the traditional Pillar I into Pillar 0 for social assistance schemes and Pillar I for unfunded, pay-as-you-go plans. Pillar II in the new model refers exclusively to funded, mandatory, individual accounts while other occupational plans constitute Pillar III. Nevertheless, most pensions professionals continue to refer to the old three-pillar system as does this report, counting mandatory, nationwide schemes in Pillar II.

Pillar II is generally far more funded than Pillar I. In DB plans, most of the risks are carried by employers, although innovative arrangements are now introducing longevity and inflation risk-sharing. As with Pillar I benefits, costs have been rising for sponsoring employers. However, unlike most governments, many private-sector employers have been able to react by closing DB arrangements to new members. Most new employees in occupational plans are instead offered defined contribution (DC) arrangements, whereby they alone bear the risk inherent in investing for a secure retirement.

Pillar III refers to private savings, such as personal pensions and similar long-term investment products. Its importance will grow as individuals bear more and more responsibility for financing their retirement, drawing on household savings and other pools of capital.

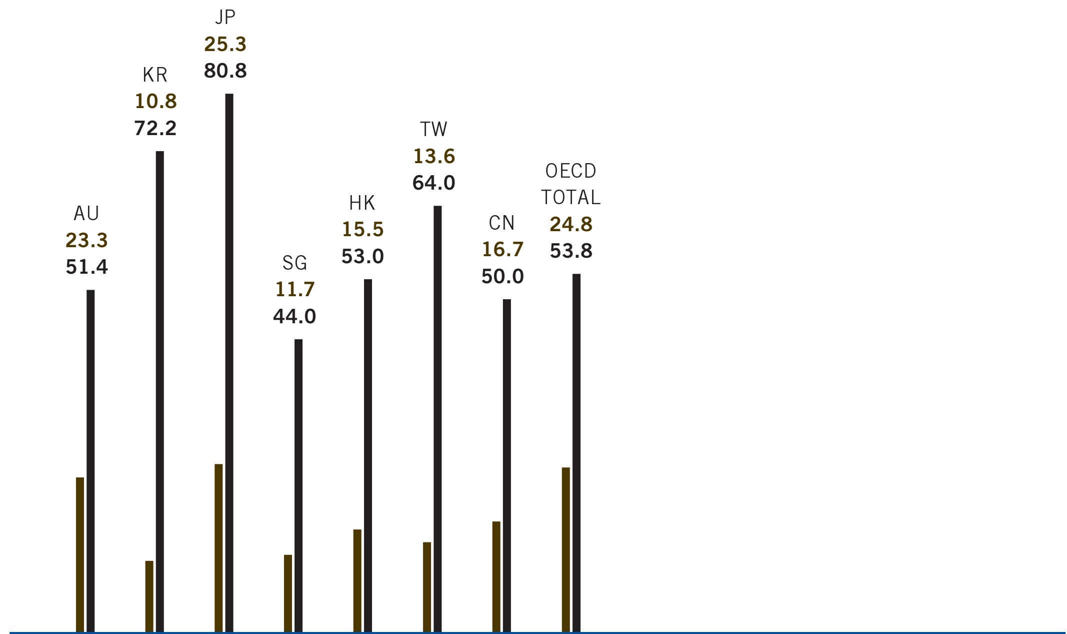

Figure 2

Dependency Ratios, Asia-Pacific

Population aged 65 or more as a percentage of the working age population (15-64)

2000
2050
Source: *OECD Factbook 2007: Economic, Environmental and Social Statistics*, The World Bank Group.

Repairing the Weakest Pillar: Pillar I

Despite differences in approach to retirement models, most policymakers agree that the growing ratio of pensioners to workers cannot be sustained by an unfunded Pillar I alone. Relying on taxes to pay pensions will impair most national economies within three decades based on current demographic predictions. Figure 3 shows the population of people aged 65 or older as a percentage of the working age population.

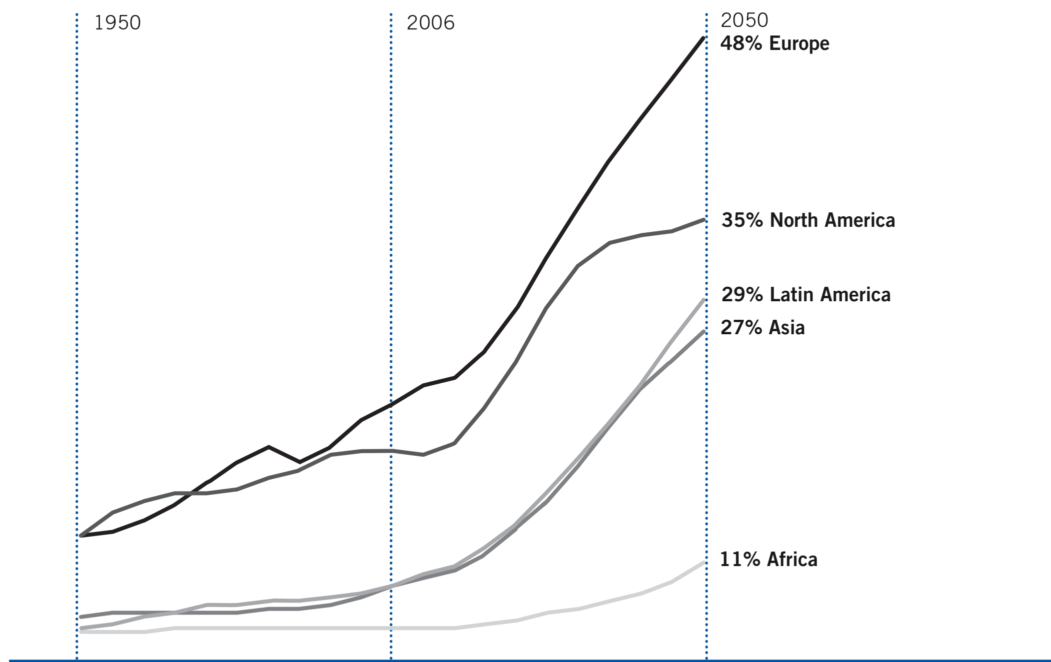

Figure 3

Aging and Dependency Ratios

World population aged 65 or more as a percentage of the working age population (15-64)

Source: UN Population Division: World Population Prospects 2006 Revision. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2006 Revision and World Urbanization Prospects: The 2005 Revision, http://esa.un.org/unpp, November 15, 2007.

Today it is very difficult to value public retirement liabilities, which reflects governments' political expediency regarding the magnitude of this problem. At a time when corporate sponsors are under considerable regulatory pressure to better fund the liabilities for their employees' retirement, it is significant that most countries don't note their unfunded liabilities in their national reports. The sums of these liabilities are huge, and yet electorates are left to rely on the media and private sector to get a sense of their future effects on society and the economy. If governments were to clearly articulate the cost of future pensions, that would give individuals a realistic appreciation of their personal responsibility in meeting those liabilities. Otherwise the misassumption prevails that current retirement systems are sustainable, with no need for reform or extra savings.

For the world's richest 30 countries, annual pension spend is approximately $3.5 trillion, or almost 8 percent of Gross Domestic Product (GDP).[4] Italy, for example, spends almost $200 billion, or almost 14 percent of its GDP, on pensions alone (its other welfare benefits exceed this figure).

In the face of rising longevity, what proposals have been made to help contain spending? In 1994, the World Bank proposed a new model wherein a leaner universal government pension was supplemented by mandatory, funded personal retirement accounts. Other forms of private savings would in turn supplement these new accounts. The fall of communism in Central and Eastern Europe offered a laboratory in which to introduce the World Bank model. Today, it is the prevalent system in that region. Poland alone has accumulated €30 billion ($42 billion) in personal retirement accounts since 1999.

The establishment of mandatory accounts and the influence of the World Bank will ensure that these products supply major pools of retirement savings in the coming decades. They will help alleviate the burden on Pillar I by shifting liabilities to Pillars II and III, and could be considered in developed as well as developing countries. But mandatory accounts alone are not an adequate reformation of state benefits.

Normal retirement ages are likely to rise further. Although this is a sensitive matter for governments, there is compelling evidence for such reforms. In mature economies, people used to spend less than one-fifth of their adult life in retirement. Today the proportion is close to one-third and only continues to rise as longevity increases.[5]

Few attempts have been made to incorporate this trend into the value of government benefits. The growing disparity between longevity and the value of Pillar I benefits has left governments and taxpayers to fund increasingly generous pensions. A bold but fair policy would be to explicitly link the value of retirement benefits to changes in longevity.

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[4] Based on OECD data, Pensions at a Glance — Public Policies across OECD Countries 2007 Edition.

[5] First Report of the UK Pensions Commission, Table 2.8, p. 35. Data based on UK figures from 1950 to 2005.

Occupational Pensions Taking Different Paths: Pillar II

Occupational pension funds were worth $16.2 trillion in 2006, and are expected to become more important in the years to come.[6] The composition of these Pillar II schemes is broadly set to divide between maturing DB arrangements and younger DC plans. The former have become far more focused on risk, especially as a growing number of them close to new members. Regulators are exacting greater funding requirements and the gap in behavior between pension plans and life insurers is narrowing.

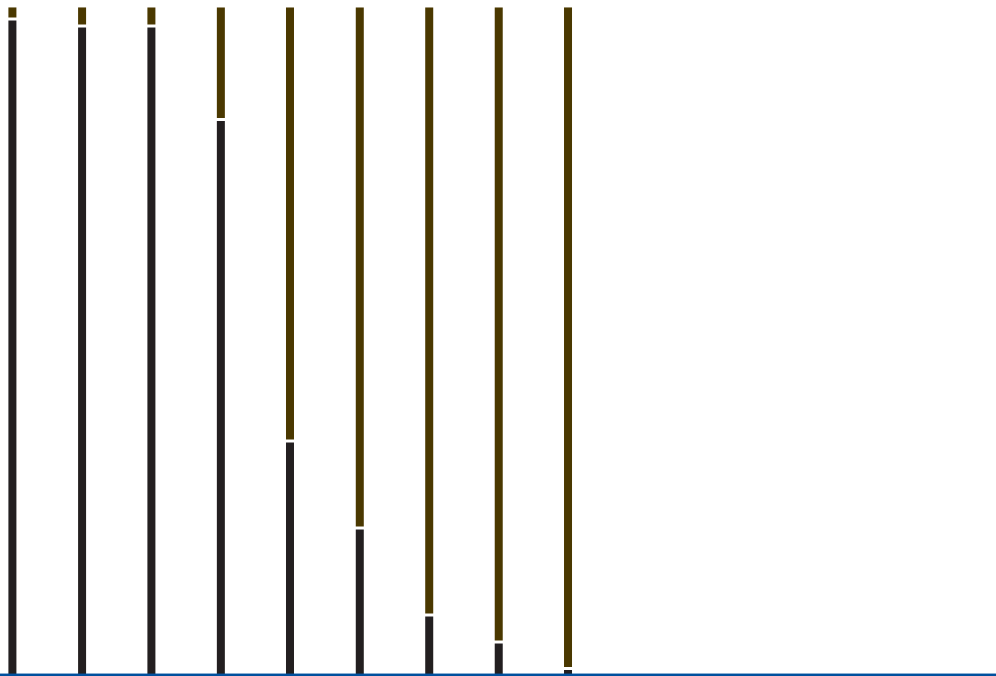

Figure 4

The Shift from DB to DC — Countries Have Different Combinations of DB and Assets

Percentage share of occupational pension assets

Defined Benefit

Defined Contribution

Source: OECD, October 2006.

[6] OECD Pension Markets in Focus, November 2007, issue 4. Note, figure excludes occupational pension savings provided via banks and investment management companies or held in pension insurance contracts or book reserves.

Globally, DC schemes are rapidly catching up with DB arrangements in terms of assets under management, up from 34 percent of the global total 10 years ago to 42 percent at the end of 2006.[7] Figure 4 above illustrates the combinations of DB and DC schemes throughout various countries around the world.

Although much of this wealth is concentrated in US-based arrangements, DC is now a prevalent model worldwide and will be the most common vehicle for pension savings in the century ahead. However, the model varies considerably from country to country and even from sponsor to sponsor. For policymakers everywhere, the challenge will be to ensure that both participation and contribution rates are adequate. For providers, it will be to offer the best available investment strategies at competitive prices.

DB will continue as a form of pension provision, though only for a minority of workers. As a result of the recognition of longevity and inflation-linked costs — now widely recognized immediately on the corporate balance sheet — employers are closing plans to new members and, in some cases, future accruals by current members. The Netherlands is one of the few countries that maintains a widespread, sustainable DB system. It has achieved this by implementing greater risk-sharing between members and sponsors, a policy that could be emulated elsewhere. The Dutch have typically employed two measures to ease the burden on sponsors. First, inflation-linked benefits have become optional, depending on the assets available, and second, most workers have accepted career-average rather than final salary as the basis for their retirement income. Elsewhere, members of DB plans have agreed to share the longevity risk by adjusting contributions and benefits in line with changes in mortality.

These pioneering developments suggest how DB can evolve and ease the burden of investment and longevity risks on employers without a wholesale switch to DC. Otherwise, DB plans may see their number of active participants gradually dwindle. This will not be a rapid process as the sheer volume of participants ensures global DB assets will exceed $20 trillion before beginning to decline, a process that will last at least until the end of this century.

However, DB assets will increasingly be run on a scheme-specific basis as regulators assess the solvency of each plan on its own position rather than any general measure. Plan sponsors and fiduciaries will no longer rest on comparisons with peer plans or market index returns. Instead, they will be run more like commercial life insurers, with far higher levels of solvency than before and far greater awareness of investment risk. In terms of solvency, UK regulators want to see most plans fully funded within 10 years. US regulators have instigated seven-year timelines, while the Dutch regulators have a three-year window for deficit repairs.

On top of these firm requirements, new accounting standards are putting pension liabilities onto the balance sheet, bringing their size and volatility to the attention of owners and analysts alike.

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[7] Watson Wyatt, Global Pension Assets Study 2007, p. 22.

In reaction to these major reforms, DB plans are looking to better match assets with liabilities. This means buying more bond-like instruments — not just long-dated bonds but their derivatives as well. At the same time, to mitigate longevity risk, plans are diversifying into more sophisticated strategies such as absolute return, private equity and commodities.

The increase in fiduciary understanding of investment risk has been phenomenal. Fiduciaries have risen ably to the arduous challenge that the new regulatory environment presents. Techniques once the preserve of trading desks in investment banks are now being adopted on behalf of even modestly equipped DB pension plans. They are now in the vanguard of institutions looking for the best sources of risk mitigation and the best strategies for generating returns. Although the extant DB entitlements of ordinary workers are now better secured than ever, the expense to employers is so great that few new DB plans are being created anywhere in the world today.

The Future is Defined Contribution

Today almost all countries around the world that are establishing pension systems are doing so on a DC basis. This follows two distinct trends: the influence of the World Bank model, and in more developed countries, employers' reluctance to bear all the costs of retirement benefits under DB. The first step to success in DC will be the degree of obligation placed on contributors. Evidence from the US shows that auto-enrollment alone pushes participation rates up from the low to mid-70 percent range to approximately 90 percent.[8]

Countries elsewhere have decided that for funded pension provision to succeed this century, obligatory arrangements will prove necessary. In Australia, Chile and Singapore, and in countries across central Europe, contributions are mandatory for all workers.

This observation is applicable to DB too. However, the next hurdle after participation is contribution levels. Here there is a difference between DB and DC. Under the former, the scheme actuary can predict expected shortfalls in the ultimate benefit and adjust future contributions accordingly. Under DC, greater care has to be taken over similar shortfalls because it is the individual participants who ultimately decide how to react. This is a great burden on ordinary workers who may have little or no understanding of financial markets.

The Dutch offer one straightforward solution, which is to command total contributions to DC plans in excess of 20 percent of salary. Singapore's Central Provident Fund requires similar levels, although savings here can be used to pay medical bills and mortgage repayments as well as pensions. Such demands may not suit all other countries, which in spite of the challenges inherent in greater individual choice, prefer not to impose high fixed saving quotas on their working populations. In these cases,

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[8] *Enhancing 401(k) Value and Participation: Taking the Automatic Approach,* a report for AARP prepared by Towers Perrin, June 2007, p. 18.

innovative scheme design and means of communication, tailored to each sector of the workforce, are already helping to engender effective decision-making by individuals.

Auto-enrollment, automatic annual contribution increases and target-date funds are just three policies that are already improving voluntary DC plans in the US.

Sensible limitations on investment choices are also likely. But there is widespread evidence that more has to be done. Sweden's PPM menu, for example, which gives all workers the choice of approximately 750 funds in which to invest, has found criticisms at home and abroad. Nine out of every 10 new workers in PPM have ended up in the default fund.[9]

This raises concerns about uninformed individuals' understanding of asset allocation. Without much sense of the difference between bonds and equities, ordinary workers cannot be expected to put their retirement savings to use effectively. Evidence from Sweden and elsewhere reveals that sound asset allocation is impeded by inappropriate risk-aversion, overdependence on immediate past performance and familiar brands.

Other Forms of Retirement Savings

Visions of the retirement savings market can sometimes ignore other forms of wealth that are viable alternatives to a classified pension. Consider Italy, which has a meager occupational pensions sector but one of the highest rates of home ownership in Europe: Eighty percent of Italians own their property. Another example is Japanese households, which are famously thrifty. Together, their assets combine to make one of the largest sums of savings in the world, worth ¥1,555 trillion ($13.5 trillion).[10] However, most of this money currently sits in low-yielding accounts. France, like Italy, has yet to embrace funded occupational retirement plans, although its life assurance market is as large as UK Pillar II pension assets.

The holistic question for policymakers, electorates and the retirement industry is how far such other pools of wealth should be redirected toward pension rather than general savings products.

A Race Against Time

The need for governments to reform their electorate's retirement saving habits is pressing. Policymakers are in a race against time. The world needs to put more aside in savings for retirement or economies will become destabilized as Pillar I benefits literally topple over. Indeed, being able to enact pension reform will become a hallmark of effective government.

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[9] A TIAA-CREF study of 638 401(k) plans in the US suggests that the average participant invests typically in no more than three or four funds (*Capitalizing on Inertia: Automation Boosts Retirement Savings*, TIAA-CREF, 2006). The median on offer among large employers is 14, according to Towers Perrin's Employee Benefit Information Center.

[10] "Japan household mutual fund assets hit new high," Reuters, September 18, 2007.

Welfare policymakers are the most influential fiduciaries in the world. Even in countries with leaner state provision such as the UK, the majority of pension benefits continues to be paid from government coffers. Although these fiduciaries have made reforming steps in recent years as outlined later in this report, more is necessary. Policymakers cannot rely on any of the traditional pillars of provision to sustain such rising debt.

One inevitable policy must be to raise both state and occupational retirement ages. To be fair, this should be linked to changes in longevity. In some countries, actuaries are still using mortality tables with data that are two decades old, leading to an underestimation of pension liabilities and their cost.

In the private sector, the era of early retirement is over and governments and employers have to take steps to promote the value of older people in the workforce.

Where DC is the model of the future, far more effort is required to ensure that participation and contribution rates are adequate. There is significant evidence that most individuals have little ability to allocate their savings among assets prudently. Even where workers have choices, governments, employers and financial providers should be on hand to offer advice.

It is often remarked that investments are sold, not bought. Few workers prepare for their retirement without the help of professionals. Where DC plan participants do not enjoy the guidance of a fiduciary board, a suitable substitute has to be found.

Chapter II

THE FUTURE OF PENSIONS: A REGIONAL OVERVIEW

The Future of Pensions: A Regional Overview

A universal vision of pensions is hard to realize because retirement systems are inextricably bound with tax incentives and social policies that operate on a national level. Even in apparently unified economic blocs such as the European Union, member states retain fiscal sovereignty. This explains why pan-European pension plans have gone no further than investment pooling.

It also explains why countries have taken a variety of approaches to tackling the pensions issue. Few still deny that their welfare systems need reform and, in fact, the Organization for Economic Cooperation and Development (OECD) has praised Italy, Austria and other countries for their policies that curb high levels of public spending.

The strongest theme is the variety of governance and character within the burgeoning DC world. Although DB plans are undergoing momentous change, there is a great deal of similarity in their regulation from country to country.

The UK: Resting Hopes on a National Scheme

The UK is home to the second largest pool of occupational savings assets in the world, worth more than $3 trillion today and estimated to surpass $5 trillion by 2011. Growth is likely to be even stronger beginning in 2012 when the new National Pension Savings Scheme (NPSS) takes effect. Currently, half of the working population has no employer making provision for its retirement using any kind of pension product. The NPSS will provisionally enroll all workers who currently don't belong to an occupational scheme, hopefully pushing the UK toward better coverage.

The NPSS will be vital to the sustainability of the UK system because of the uneven distribution of current pension wealth. Fewer than one in five private-sector workers are active members of DB schemes.

The NPSS is predicted to grow to £200 billion ($406 billion) by 2040.[11] As such, it will become one of the world's most important retirement institutions and by far the largest pool of assets in the UK. Huge competition for mandates is likely to be handled by an experienced executive board.

DB schemes in the UK are becoming a test bed for innovative forms of risk management. Their maturity has sparked interest in a range of fixed-income derivatives to better align assets and liabilities. Approximately 10 percent of occupational assets are now managed under liability-driven investment strategies. From a proud tradition of high-equity allocations, UK plans have embraced the need for absolute returns and are now looking for means to hedge the outstanding risk of longevity.

Some sponsors have gone further and agreed with fiduciaries to sell plan liabilities to so-called "buy-out" insurers. Although this market is nascent, interest is high. A survey in March 2007 by Watson Wyatt of human resource and finance directors found 42 percent willing to fund a buy-out if the cost was between 110 and 120 percent of liabilities on the accounting standard. Another pioneering solution has been for a financial house to buy the sponsor primarily to manage the pension liabilities. In effect, the sponsor hands over responsibility to financial experts. This kind of activity symbolizes the changing role of UK employers in retirement provision.

[11] The UK Pensions Commission Final Report, p. 286.

North America: Following Europe's Lead

In DB pension regulation, the US looks set to emulate European markets as stricter rules on the solvency levels of DB plans are introduced. US employers are set to become far more aware of interest, inflation and longevity risk as a result of the Pensions Protection Act (PPA), whose ultimate rationale is to avoid more liabilities arriving at the door of the ailing Pension Benefits Guaranty Corporation, the federal provider of retirement income to employers of insolvent sponsors. A recent State Street survey of institutional investors suggests recognition has already begun. Among plan sponsor and plan manager executives, liability mismatch is considered the prime risk in the plan by 45 percent of respondents, ahead of investment risk (42 percent). See the appendix of this report for full survey results.

The new funding rules coincide with possibly an even greater catalyst for change for larger sponsors: new accounting standards. These upgrade retirement liabilities from a footnote to a major line item in employers' financial statements. The volatility of pension obligations will become clearer to all stakeholders and interested parties in a company. Managing that volatility will require addressing those very risks identified in the survey. It is likely that the US swaps markets will grow exponentially in coming years, for example, following the European trend in more tailored liability management. Asset managers, investment banks and custodians face a major reformation of institutional portfolios as the $6 trillion DB market aligns with new regulations and reporting.

A minority of US plans, like their UK peers, are vulnerable to underfunding. Given that the PPA introduces penalties for funds that fall below acceptable funding levels, risk mitigation will not be the only driver of restructuring in these cases. Fiduciary boards will also look to absolute-return-seeking strategies to repair deficits efficiently. Demand for dynamic asset allocation, multi-strategy returns, 130/30 strategies and active currency management is likely to grow as a result.

On the back of rising costs due to longevity, more pressing funding and greater accounting transparency are likely to speed the closure of more DB plans. This should boost participation in DC plans, which is expected to grow to $5.4 trillion by 2010. These figures alone indicate that the US will remain by far the world's largest retirement market by assets. See Figure 5 below for an illustration of the US' retirement assets under administration by plan type.

Canada has a successful mix of regionally sponsored and employer-sponsored occupational funding. The Canada Pension Plan and Quebec Pension Plan together have assets worth CA$250 billion ($270 billion) and form a solid base to Pillar II. Together they equate to a national savings scheme with four decades of experience, whose assets are predicted to more than double in the next 10 years. On top of this, employer-sponsored provision helps make Canada the world's fifth-largest retirement market.

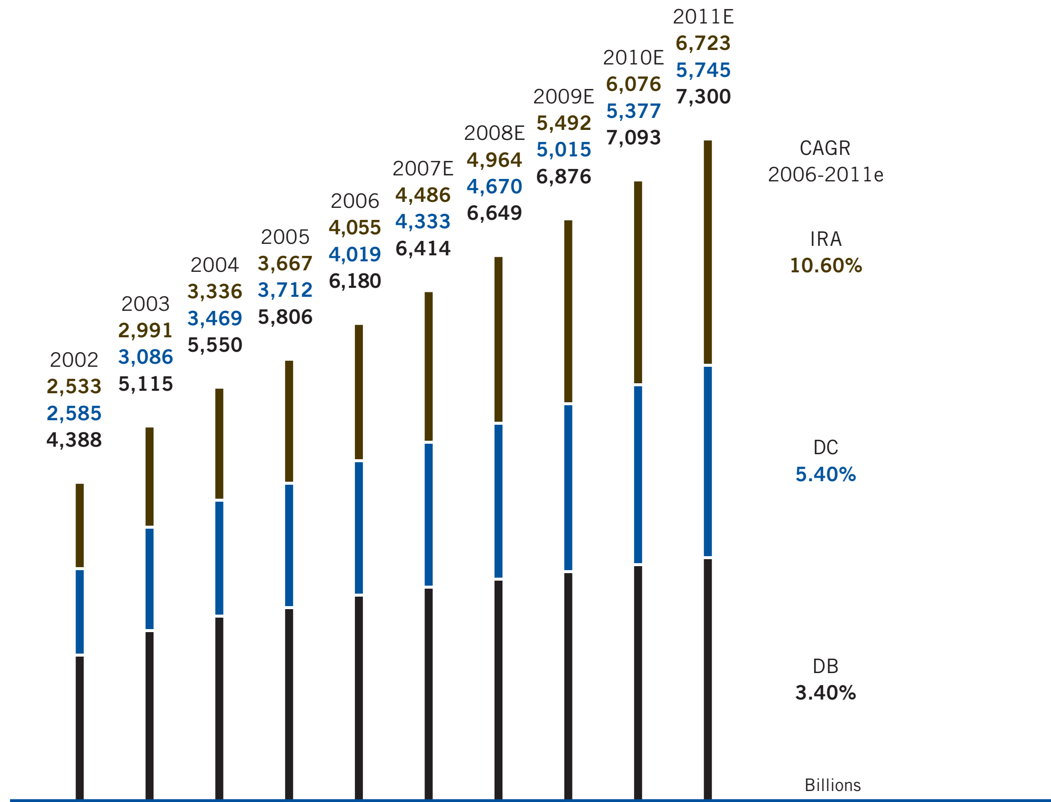

Figure 5

US Retirement Assets Under Management by Plan Type, 2002–2011E

Source: Cerulli Quantitative Update: Global Markets 2007.

The European Union: Traveling at Different Speeds

The European Union continues to disappoint supranational bodies such as the World Bank because of the tardiness of its pension reform. Such generalizations do not fairly represent every European country. The Netherlands and Switzerland both have pension assets in excess of annual GDP. While some trumpet the UK as Europe's largest occupational pensions market, Switzerland has half as many assets to support a population one-eighth the size of the UK. As such, several European nations have robust, sustainable retirement systems in which best practices are evident. See Figure 6 for an overview of European pension assets by pillar.

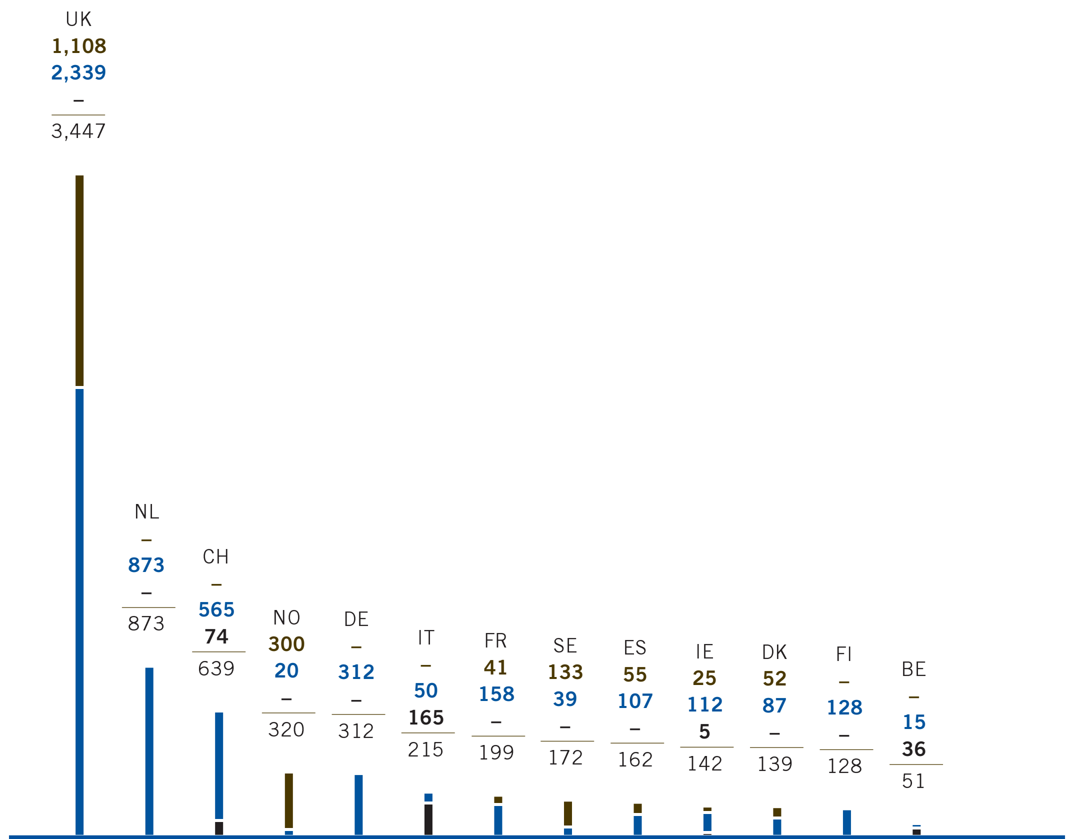

Figure 6
European Pension Assets by Pillar

Pillar I
Pillar II
Pillar III
Source: OECD, October 2006.

Nowhere is this more true than in Denmark, where membership in occupational pension systems is quasi-compulsory. Moreover, Denmark is the birthplace of liability-driven investing. The country's largest funds were the first in the world to implement interest rate swaps to reduce the mismatch between assets and liabilities. They were also the first to formally divide assets into liability-matching and return-seeking portfolios.

Europe has its fair share of sophisticated investors and sustainable, funded pension systems. The challenge is for the remaining countries to begin funding for retirement. France, for example, has a central savings fund that is estimated to grow to $200 billion by 2020. Like Italy, it has also trimmed the pay-as-you-go system to become more affordable. But Greece, Spain and Portugal are all paying out more as a percentage of GDP on Pillar I pensions than they did in 1990. Private and occupational retirement funds across all three countries are restricted to major banks and utilities.

Ten years ago, Germany relied mostly on unfunded state and occupational benefits. Since then it has reacted to the aging crisis in two major ways: by encouraging companies to fund their pension liabilities externally and by establishing new DC plans for other workers. By 2010, Germany may surpass Switzerland as Europe's third-largest pension fund market. Nearly two-thirds of the liabilities of DAX-30 companies are now funded — this could rise to 100 percent by 2010, according to Towers Perrin.

As in the UK and the US, international accounting standards have played their part in galvanizing pension reform in Germany. Multinational companies in particular don't want large, volatile figures reported on their balance sheets.

Asia: The Fastest-Growing Savings Market

Asia is the most dynamic market for pension growth in the world. The expansion of economies in this region, coupled with a sharp rise in the dependency ratio, suggests rapid funding in the next 15 to 20 years. In contrast to the complexities of democracy in Europe, the centralized authority in countries such as China may further aid reform. See Figure 7 for an overview of pension assets by pillar in Asia-Pacific.

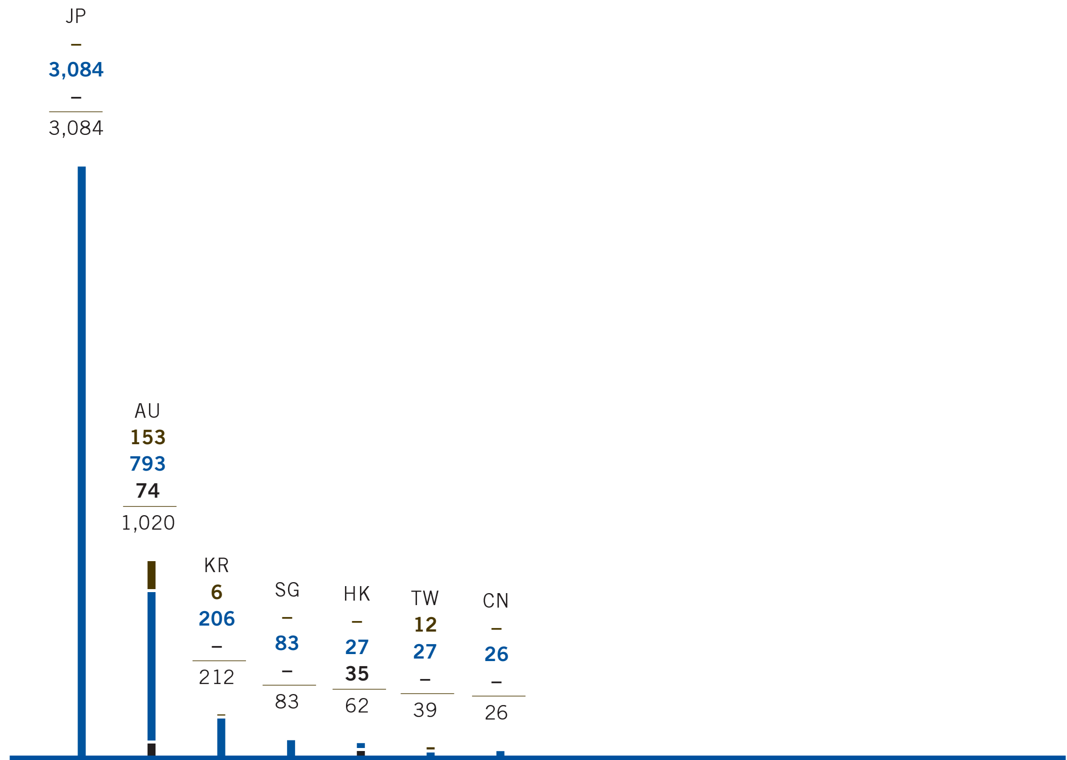

Figure 7
Asia-Pacific Pension Assets by Pillar

Pillar I
Pillar II
Pillar III
Source: OECD, October 2006.

Until now, the bulk of Asian pension provision has been via state benefits, paid out from fiscal receipts. The few mandatory savings schemes that do exist haven't achieved great returns on investments. Many allocate to domestic bonds and other cautious forms of investment. Reliance on this kind of provision has to change, although so far evolution has been faster among smaller nations than with the region's giants: Japan, China and India.

Although both China and India are experiencing double-digit economic growth, China is also "graying" as fast as many post-industrial countries. By 2040 it is expected to be paying pensions to 397 million people.[12] The country has already responded by establishing Personal Retirement Accounts for urban workers, as well as a central fund. But these will not appreciate in time to meet the next generation of retirees' expectations.

The challenge for China will thus be to create a system that enables wealth accumulation and wealth preservation contemporaneously. Chinese financial services companies will undoubtedly seek to acquire expertise in these areas. International diversification will be essential, alongside the sophistication of domestic securities markets. In terms of wealth preservation, providers will have to develop structured guarantees. These will enable older investors to enjoy some of the upside of riskier assets while preserving capital.

Medium-term prospects for India are more challenging. Its population is set to overtake China's at some point before 2030, yet its fertility rate has already started to fall. In terms of pension reform, India has introduced a New Pension System for new civil servants, with mandatory contributions of 20 percent. But certain politicians are opposed to the scheme and it is unlikely to have a regulator before 2009. Private sector occupational plans are voluntary and coverage is patchy.

These pessimistic projections contrast sharply with developments in smaller Asian markets, notably South Korea. While Korea faces an even more severe aging problem than China, it has already introduced a new Employee Retirement Security Act that will help double total long-term savings to $500 billion by 2011. This will crystallize South Korea's position as the fourth-largest retirement market in Asia.

Asia's biggest markets for retirement savings are likely to remain Australia and Japan, worth $770 billion and $2.5 trillion, respectively. Australia has had an enviable DC system in place since 1999 and is likely to reach $1.1 trillion by 2011. A solid base of mandatory employer contributions of 9 percent guarantees growth. Competition among providers — not-for-profit and commercial — ensures the system is attractive to ordinary workers.

[12] Richard Jackson and Neil Howe, "The Graying of the Middle Kingdom: The Demographics and Economics of Retirement Policy in China" (Washington, DC: Center for Strategic and International Studies, 2004), p. 2.

The significant "graying" of the Japanese population has been recognized as a challenge for a considerable time and the government has enacted a number of reforms to initially stabilize the pension market. Two major changes that have been implemented are *Daiko Henjo* and corporations' ability to manage pension assets in so-called new DB schemes and DC plans. *Daiko Henjo* has seen funds return to central government assets they had managed covering Pillar I liabilities. By 2012, the government is expected to end DB tax-qualified pension plan (TQPPs) as part of a campaign to instead nurture DC, which currently has only small market share. Such changes have also allowed pension plan sponsors to review investment strategies and have fostered a growing interest in investment diversification, which is expected to increase in the years to come.

The Need for Transparency

Most of the assets saved in the 21st century, including occupational retirement savings, will be readily measurable in personal accounts. These reflect greater individualization and workforce mobility in every society. In a world of growing democracy and capitalism, they also reflect governments' desire to appear accountable to their electorates. If individuals see their retirement accounts benefit from stocks and shares in foreign lands, pension reform will proceed far more smoothly. Transparency will play a key role in convincing people of the advantages of investing for themselves, and overcoming resistance to the idea of the need to save more.

The day may even come when globalization encourages similar countries to merge their pension systems to their mutual economic advantage, or at a minimum, when major DB providers offer annuity-style security to non-members from a DC environment. Such levels of efficiency, and the attractiveness of transparent individual savings, requires the existence of sophisticated administration systems. Retirement providers and technology companies will have to rise to this formidable challenge. But the trend has already begun and some countries have retirement fund valuations — covering all sources of income — available to everyone online.

More wealth of all types is being monetized and finding its way into individual accounts. This revolution in information provision will make retirement savings seem more manageable and less of a distant prospect, which should boost participation rates.

Chapter III

THE RISE OF ABSOLUTE RETURN INVESTING

The Rise of Absolute Return Investing

The nature of pension fund investing changed following the dot-com bubble and subsequent rise of hedge funds. The end of the world's longest equity bull run in 2000 gave investors reason to question the use of market indices as their benchmarks. The tradition of buying and holding securities is no longer the only way to manage assets.

Hedge funds suggested an alternative: absolute returns. Today, some pension plans report their returns in cash only to emphasize the end of index influence. However, hedge funds offer more than a change in metrics. They encourage institutional investors to seek the best strategies for making money wherever possible. Now equity managers don't just hold stocks they like, they also profit by shorting stocks they believe will depreciate. Almost 60 percent of DB plans are using or seriously considering 130/30 funds that facilitate long-short investing.

Long-short equity strategies are rapidly being adopted by pension funds because of their value in differentiating market exposure (beta) and manager skill (alpha). The future of retirement asset management will see this distillation become almost universal. Weaker active managers will no longer be able to charge for what the market or asset class has achieved. Providing beta exposure will become a basic service. Conversely, true alpha managers will earn even greater sums than today. And the battle for their talent, and ultimately sustainable alpha, will be won by those with the deepest pockets. Retirement providers will pay for these services because they align reward and performance more accurately than traditional active management.

However, in the minds of some investment consultants, sustainable alpha from any one source doesn't exist. Competition prevents any single competitor from being able to employ a profitable trade or technique for long before rivals copy it. This efficient-market theory means that alpha from any source survives only a short time. Multiple alpha strategies anticipate this dilemma by accepting upfront that no single source of revenue will always be sufficient. Instead, opportunities for alpha have to be perpetually hunted across classes and around the world since they disappear almost as quickly as they appear. Asset managers who can convince clients to permit such flexibility will succeed. In the future, mandates will reflect this new flexibility: Retirement fund clients will permit latitude in return for greater openness, especially on how risks in the strategies are managed.

The pursuit of alpha will not shrink interest in market returns. The first purpose of accessing new asset classes and markets is to earn a premium from being in these markets. The $140 billion that poured into commodities indices in the last five years is evidence of this appetite. For better or worse, most of that money has only sought beta returns. As greater wealth and the rising costs of provision feed pension funds' hunger for higher returns, new investable markets will have to be created. A virtual circle of supply and demand for assets in frontier markets will be just one feature of the financial landscape in the years to come.

Pension funds will no longer rely on investment managers who follow a market benchmark because regulators are looking at scheme-specific funding, and in such an environment, there is little sense in referring to market returns. In the future, beta will be the major source of return for retirement funds but not a measure of their performance.

Derivatives to the Fore

The use of both over-the-counter (OTC) and exchanged-traded derivatives is already proliferating far faster than traditional securities markets. Since 2001, the notional value of outstanding derivatives has more than trebled, growing at a rate roughly three times greater than equity and bond markets. Between 2002 and 2005, the market in interest rate and currency swaps grew by 25 percent.

From index futures to bespoke interest-rate swaptions, derivatives are being used to improve portfolio management. At the start of the century, most retirement plans would have balked at the suggestion of most derivatives, with the exception of currency and market futures. Plans were generally content to rely on long-only equities, bonds and real estate as derivatives were associated with trading rather than long-term investing. In the years to come, some retirement providers will execute their strategies with portfolios that are entirely synthetic. Ironically, it has been the demands of pensions regulators for higher funding as much as the growth of hedge funds that caused the change. The old myth that derivatives only increase risk has been laid to rest.

Regulators, exchanges and banks are going to have to respond accordingly. The greater sophistication of investors this century requires higher standards of custody, administration and functionality. Any exchange, for example, that doesn't offer sufficient liquidity to short stocks will suffer. Slow settlement times and high trading costs will hinder any market as institutions increase portfolio turnover in the search for higher returns. The best providers will offer institutional clients a bespoke, cost-efficient pool of collateral for all the various derivative strategies they employ.

The boom in derivatives usage will be matched by better valuation of synthetics. The credit crunch of 2007 is proof that proper valuations are at the heart of risk management. As the distinction between trading strategies and investment management increasingly blurs, the infrastructure of financial markets must be able to cope with this rise in activity. Greater demand and the resulting invention of new instruments will require greater investment in valuation software. Those financial service providers that cannot only recommend new ideas but also implement and execute them, will emerge as the winners.

Better Matching Liabilities

Derivatives help mitigate risk. The use of interest rate and inflation rate swaps, for example, to better match liabilities is now commonplace among retirement providers in Denmark, the Netherlands, Sweden and the UK. This is the essence of liability-driven investing (LDI). That trend is set to cross the Atlantic as the PPA in the US changes the measurement of liability to a combination of corporate bond yields.

According to one estimate, the initial volume of swaps and swap variants to hedge pension fund liabilities in the Netherlands is already equal to €50 billion ($71 billion).[13] This estimate excludes, however, the two largest plans, Stichting Pensionenfonds ABP and PGGM, for civil servants and health workers, respectively, which account for almost half of the total assets in the Dutch occupational pillar. Using conservative estimates, 20 percent of the Dutch market may thus be using derivatives purely to mitigate risk. While the UK and US bond markets are far broader relative to the size of retirement assets, interest and inflation rate swaps will still be essential for most plans looking to better match their liabilities under new standards. Germany and Switzerland are likely to be the next countries to follow suit.

Swaps in all their forms are not easy to understand and can be costly to unwind. Many plans have turned to pooled LDI funds to save them the complexities of counterparty risk and highly specific legal agreements. The next 10 years will likely see further outsourcing of liability risk management. A recent State Street survey of institutional investors found that technological innovation, increased regulation, an aging population and pension deficits were among the major issues fueling the growth of liability risk management outsourcing.

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[13] Cardano Risk Management, FTfm April 23, 2007, p. 10.

The same survey revealed that LDI funds will be the most popular route for managing longevity risk, with 58 percent of plans in Europe and North America intending to use them. Hedging the risk of an aging population is the greatest demand of any mature plan today. However, LDI funds will need to evolve considerably to meet such demands. Currently they mitigate sensitivity to changes in interest rates and inflation, but not longevity. That must change as a result of demand.

Coping With Old Age

Longevity risk has been described by one leading consultant as "the gorilla in the room."[14] The State Street survey of institutional investors referenced above found it was the second greatest type of risk on the minds of European respondents following investment risk. Yet because longevity is so difficult to predict, a simple, cost-effective solution doesn't exist, even in the derivatives markets. To give some sense of the breadth of estimates, in 2003 the UK's Pensions Commission made low, high and median assumptions for the longevity of a British male aged 65. The spread of outcomes ranged from 74 to 93 years of age.

Some DB schemes have solved the longevity risk problem by linking normal retirement age to longevity. Professor Steve Haberman of City University London believes that longevity swaps will come into being if natural beneficiaries of longevity such as pharmaceutical firms and old-age care providers can be brought to one side of the table and their interests securitized. So far, attempts by investment banks to develop a market for trading longevity have failed due to insufficient buyers.

One holistic solution for longevity and all other sponsor-held risks is for insurance companies to acquire the liabilities and assets of plans: so-called "buy-outs." This can liberate companies from their occupational pension plan responsibilities. But insurers typically want to see assets worth 130 percent of liabilities on IAS 19 standards (part of the International Accounting Standards that pertains to accounting for employee benefits) before considering this type of transaction. Some sponsors may believe this is a price worth paying, in which case pensions management will move further from a trust to an insurance-based model.

For swap providers and asset managers, little changes apart from the legal definition of the customer. The techniques outlined using bond-like derivatives remain the same. Thus far buy-outs, like cures for longevity risk, have been rare. Most large pension funds have preferred to adapt to managing risks under the new regulations themselves, or at least waiting until funding levels improve before considering buy-outs. That is likely to change. Over the next 10 years, DB assets will move out of the hands of company sponsors and fiduciaries and into the hands of insurance companies, banks or similar managers of capital. But these new groups themselves will rely on specialist asset managers to execute risk mitigation. This is evident from the list of advisors to new buy-out specialists in the UK retirement market.

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[14] FTfm, July 23, 2007, p. 10.

Longevity need not cause such a radical upheaval. Members, sponsors and fiduciaries of several forward-thinking plans have chosen to alter the burden of longevity among themselves rather than outsourcing the problem. In essence, members have accepted more of the risk with benefits and contributions now adjusted in line with mortality rates. Participants' acceptance of greater responsibility shows how DB can evolve in the century ahead via scheme design rather than investment strategy.

Bringing Value to Defined Contribution

In the future, most of the world's DC plan participants will be found in new markets, with little experience in more complicated investing. Providers are going to have to supply the right mixture of attractive returns and safety to win business in such markets. Policymakers and regulators can help by ensuring that rules on all instruments, including derivatives, reflect techniques readily available today in leading financial centers. Emerging retirement systems ought not be deprived of the best possible strategies.

The US, as the world's largest DC retirement market, has introduced a number of interesting strategies worth emulating. The fastest-growing products in US DC are target-date funds. These allow investors to fix on a date after which they expect to be receiving income rather than solely accumulating wealth. The fund's portfolio managers decide how best to accumulate that wealth over the prescribed period. The fundamental attraction of target-date funds is that they make workers think about when they wish to retire and on what level of income. Target-date funds can be considered a bespoke version of lifecycle products. The latter acknowledge that the ratio of wealth preservation to wealth accumulation grows as workers near retirement. This is achieved by gradually switching from riskier to less risky assets. However, lifecycle funds do not empower individuals to select their preferred date of retirement, but instead assume participants' normal retirement age as the target date.

Other US plans promise a fixed, cash benefit that leaves both sides clear on the value of the future sum. Such promises are increasingly popular. The promised benefit is rarely much higher than compounded Treasury bond returns and thus poses little investment risk for the sponsor. However, it could potentially leave a great burden on individuals. The advantage of such "cash balance" plans is the certainty they offer to participants, closer in spirit to DB than DC.

To better tailor longevity risk, US providers have devised variable longevity benefits, where clients agree to pay extra up front for living longer, thus taking some of the longevity risk from the insurance company. Such advanced annuities will not be the only solution in this field. Some retirees in DC will share risk among themselves rather than contract with a commercial provider individually. This approach is already being marketed by consultants in the UK and the US. A pool of retirees continues to make allocations to riskier strategies such as public equity to maintain their wealth. As members of the pool die, the strategy is altered to reflect the new profile of survivors. It may even come to pass that DB plans provide this kind of risk pooling to third-party individuals. DB plans, after all, are becoming ever keener in their awareness of longevity and its cost. Regulations on competitive behavior notwithstanding, DB plans could end up providing the remedy to a weakness in DC.

Such risk-sharing is not a characteristic of the World Bank model but may be in the future. Pooling risk collectively is ultimately a more effective means of addressing longevity risk than are individual accounts. DB fiduciaries are already working on better managing long-dated liabilities, and those responsible for DC must do the same. Otherwise, many countries will find that they have implemented a DC system that fails to account for rising longevity and instead ultimately provides inadequate benefits.

Smarter Investing for Retirement

What unites modern investors, whether in 10-year mandates or momentum trading strategies, is a search for better returns. Pension plans have broken out of the compartmentalization of returns by asset class, overseen by incomplete risk management. The lesson that applies to physical and synthetic investing post-hedge funds is that market returns as a comparator are irrelevant.

In their stead, liabilities are the new benchmark. Assets are there to ensure liabilities are met and so fiduciaries and sponsors increasingly see the world in terms of risk. Almost half the respondents to a State Street survey of institutional investors said they now spend 21 to 40 percent of their time on managing risk rather than investment return. Securities markets are already reacting to such changes in behavior by creating more assets to suit long-term liability needs. Longevity swaps are one type of instrument that would address the final risk of plans.

If risk comes first, excess return cannot be ignored. Many plans still need to make their assets work harder to reach secure funding levels. Efficiency is vital in the search: More and more fiduciaries are becoming familiar with absolute risk measures such as Value-at-Risk (VAR), semi-standard deviation and Sharpe ratios. Their demands on suppliers will become higher and analysis of investment products more vigorous. Pension plans and their advisors have learned from the purveyors of absolute-return strategies. They have adopted the same valuation metrics, and as clients, will both understand more and expect more. Finally, in the world of investment return, the distinction between exposure to assets — in the form of beta — and exposure to strategies — in the form of alpha — will grow stronger.

Ironically, the tougher requirements from national pension regulators have ensured that DB plans work harder and more imaginatively in investments. But the greater danger is that nascent DC schemes don't emulate occupational DB plans. Even if the savings accounts are individualized, DC schemes should try to find ways to include sophisticated absolute return strategies. Otherwise, they risk providing members with second-rate investment choices. This would be a great step backwards in funding retirement globally and can be avoided by paying attention to the governance structures of DC.

Chapter IV

PENSION FUND GOVERNANCE

Pension Fund Governance

Pension provision can only progress to meet the challenges ahead if policies are implemented and well managed. This applies at all levels, not just within government or occupational plans. Good governance in pensions begins with acknowledging that these are long-term matters. Consider, for example, that widows' benefits from the US Civil War were still being paid out in 1950, nearly a century after the conflict had ended. Thus, decisions made this decade could potentially have ramifications for people born in the next century. While this possibility may not have been fully recognized in the minds of the architects of the earliest retirement systems, it is most definitely familiar to those responsible for them today.

This change in mentality is due to aging societies and the resulting increase in the costs of pensions. Global retirement liabilities are expected to almost double from $163 trillion to $307 trillion by 2050 if

longevity and birthrates continue their current trends.[15] This growth is itself a result of the benefit policies in place since World War II. Governance in the 21st century thus inherits a major challenge: how to alter long-standing traditions with new policies that are more than temporary measures. “Quick-fix” solutions usually prove to be no solution at all when dealing with pensions and can often prove a hindrance yielding hasty new regulations.

Preparing strong foundations for the decades ahead requires consensus-building, gathering and maintaining support from stakeholders, electorates and the workforce. This can be a delicate and even perilous process. Several governments, for example, have been ousted because of the unpopularity of their proposed pension reforms. Voters don’t always share or sympathize with plans that do not personally offer them any clear and immediate incentive. Unions might prefer to champion the rights of their current members rather than future joiners.

Pension policy has to be supported by all relevant parties if it is to stand a chance of lasting success. Reform that has worked tends to be understood by the members and electorates it affects. Different means work in different situations, but one UK company scheme, for example, avoided using the word “pension” altogether because research showed workers did not like the word and associated it only with retirees. New Zealand has made a conscious effort to make its government pension simple and intelligible to lay people. The relevant legislation runs just 12 pages in its entirety.

Both examples suggest that the manner in which policies are communicated is half the battle. Clear policies are likely to be understood and supported while voters or employees will rarely back legislation that confuses them. Clarity is imperative in an era when greater financial responsibility is being passed on to individuals. Workers’ lack of interest in planning their retirement can be remedied by removing as much of the jargon as possible surrounding the topic. A case in point is the Danish health workers’ scheme when it embarked on liability-driven investing. The scheme’s investment committee had decided on a new derivative instrument with complex underlying mechanics but a simple effect. This instrument was preferred to others because the effect could be easily understood and appreciated by the lay members of the scheme’s governance board.

This anecdote leads to another element of good governance: the proper allocation of responsibilities. The various tasks that comprise effective management of retirement plans should be duly assigned without ambiguity over roles. Research by Russell suggests that even major retirement providers can improve their governance to the benefit of participants. In separate studies it found a median “excellence shortfall” of 66 basis points per annum among large US plans and 50 basis points among large UK plans.

Given the desire of commercial and not-for-profit retirement providers to wring efficiency out of investments, these apparent shortfalls need to be redressed. Having the right people in the right posts is an obvious place to start. Beginning with lay fiduciaries, the Danish anecdote shows that there is still a role for them in pensions governance. They have an essential part to play in establishing and approving long-term policies and goals.

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[15] Estimate based on calculations made by Erkki Liikanen, Govenor of the Bank of Finland, in a speech given at the International Conference of Social Security Actuaries and Statisticians in Helsinki, May 22, 2007.

In recent times, the role of lay fiduciaries has come under great scrutiny, given the growing complexity of financial markets and media focus on the performance of pension plans. Questions have been raised about their competence. Such doubts are misplaced. As representatives of plan beneficiaries with no vested commercial interest in other aspects of plan management, lay fiduciaries act just as non-executives would on the ideal company board or governors in the ideal educational college. Governors do not give lectures and fiduciaries do not have to be able to manage money. They are there to hold the professionals, from actuary to trader, accountable.

This doesn't mean that emerging pension systems will or ought to replicate the fiduciary system. Governance has many different forms. However, the voice of the people needs to be represented on any national or employer body as a symbol of trust and connection between the executives and beneficiaries. In some respects this representation is more important in emerging funded retirement markets where systems are fledgling and thus more vulnerable to experimentation and expediency.

It should be emphasized that experimentation per se is not a bad thing; innovation and progress rely on testing new ideas. But this should be the task of executives rather than a board of governors. The latter evaluates experimentation in the context of long-term policy, not daily or even monthly results.

Managing the Plan

Governing and managing retirement schemes are separate activities. This is increasingly being recognized by sophisticated plans around the world and will be emulated by others. Management is a day-to-day activity and first and foremost involves devising and monitoring strategy, both on benefits and investments. One of the major causes for the shortfall in returns discovered by Russell's research was the limit on managers' ability to act without sign-off from the full governing board. This impediment is absent from the best-run plans where executives are empowered to pursue strategies as their own professional opinions see fit. Variations on such empowerment include the creation of a small investment committee of the governing board, whose members have suitable investment experience and who can meet at short notice. Indeed, subcommittees with relevant experience in all disciplines of pension management exist at major plans. The purpose of such variations is to smartly avoid unnecessary bureaucracy, delay and attendant opportunity costs.

Plan executives themselves are unlikely to be handling operations, which range widely from the actual payment of pensions to the trading of portfolio stocks. These activities are increasingly being outsourced as employers focus on their core business. The outsourcing process is a fundamental aspect of good governance; a rising trend in mature markets is the variety of organizations looking to advise executives here. Investment banks and money managers are increasingly offering asset-liability modeling and manager selection. In the Netherlands, fiduciary management, whereby an asset manager performs these roles, has developed from nothing five years ago to claim 24 percent of the occupational market today.

Perhaps this trend reflects the growing complexity of pensions and the financial resources needed to comprehend all aspects of scheme management. It would be welcome if all plans and state retirement systems could simplify their regulation to a dozen pages as New Zealand has. However, the likelihood is that rules governing pensions will grow longer, thus necessitating the need for more experts.

This may be a good thing so long as the presence of expert advisors facilitates more efficient saving. Fiduciary managers in the Netherlands, for example, would argue that they have been hired to improve the risk-return ratio of clients' investments.

Buffers Hit the Markets

A commentary on pension plan governance would not be complete without reference to the new state buffer funds, a variation on sovereign wealth funds, which have sprung up across the globe as a rapid response by central governments to the rising costs of long-term state benefits. Few buffer funds are expected to meet Pillar I liabilities in their entirety. They are buttresses rather than replacements for pay-as-you go systems, albeit of a size that is already worth $500 billion and destined to grow fast.

Buffer funds have looked to hire the best domestic minds for their management. Although these people are running public money, most have the autonomy of commercial asset managers. In some ways, they have more because there are no shareholders applying short-term pressures. Most buffer funds are transparent about their holdings, strategic policy, agents and performance, but at the same time they are genuine long-term investors because by definition they are preparing to pay out income in the future. They bear no immediate liabilities.

Buffer funds typically represent the best form of governance in pension provision today. The boards are motivated by the interests of their clients, who are ultimately ordinary individuals. In recognition of this public duty, they are transparent, with much of their investment and policy information available on the Internet. Such clear proclamations reflect the straightforward, unambiguous policy targets set for most buffer funds.

Executive management tends to comprise experienced professionals who competently select effective combinations of financial providers to earn results. They are quick to research and implement new ideas to capture market trends. They have neither the short-termism of politics nor the regulatory burdens of occupational plans. In their unique position, buffer scheme executives face both the world of investment and the ordinary people who finance the fund and should ultimately benefit from it. This means they are motivated by the need to generate returns without the complications of commercial profit or ambition. At the same time, they can and do exploit the best that commercial providers offer.

State buffer funds tick all the boxes for good governance in pensions: Their policies are genuinely long-term and easily understood; their management is of a high caliber; their communication is a match for any occupational plan and surpasses most information on retirement from governments themselves. Perhaps buffer funds are a sign that pension reform can be achieved quickly and effectively when its need is understood.

END NOTE

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End Note

Retirement systems around the world are already adapting to the substantial challenges that lie ahead. The rapid appearance of buffer funds is just one example of how mounting liabilities for old age are likely to be tackled in the decades ahead. In every region of the world, countries are cognizant of the need to ensure provision of decent income for the elderly as an effective part of sustainable economic development rather than its brake.

Although state benefits will continue to provide the majority of pension income to retirees in the decades ahead, the role of private savings is set to increase. Pay-as-you-go systems provide a universal "safety net" but with costs already averaging eight percent of GDP for wealthy countries, alternatives are required.[16] To make greater funded provision a success, governments must be honest with their electorates about the task ahead. There are a variety of ways to recognize that individual workers will have to do more for themselves in saving for the future. In Singapore this is already explicitly recognized by high employee contribution rates. In the Netherlands participants in collective plans have taken on risks previously borne by the sponsors.

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[16] Based on OECD data, Pensions at a Glance — Public Policies Across OECD Countries 2007 Edition.

These trends are likely to be emulated in other countries, but their success will depend upon acceptance by the electorate or workforce. In a world of increasing liberty, individuals will have to be persuaded rather than coerced. Technology can play a role here as easy access to information about savings heightens workers' interest in the system. Communication in 21st century benefit provision is not an optional extra; it will prove the difference between prosperity and failure for some reforms. For those who remain reluctant in spite of the right messages, techniques such as auto-enrollment and auto-escalation of contributions together make a virtue of procrastination.

These developments are already well rooted in the US, the world's largest retirement market. Scandinavian systems across all pillars also demonstrate an admirable degree of clear communication on expected benefits and portfolio values to participants. Emerging retirement markets should be able to select and emulate the best features from such regions to nurture their own systems in the near future.

Pension assets doubled in the last 10 years, and greater action by both governments and workers will see that figure increase substantially in the decades to come. Across all regions, as they evolve and grow, service providers will play a role in ensuring effective management, servicing and transitioning of assets. State Street already works with 10 of the world's largest 20 pension funds. We welcome the challenge ahead that retirement provision in all its many forms will present.

APPENDICES

Appendices

Appendix A $ billions

Top 70 of the *Pensions & Investments* 300 Ranking of Pension Funds

Rank	Fund	Country	Total Assets
1	Government Pension Investment	Japan	$ 935,569
2	Government Pension	Norway	285,625
3	ABP	Netherlands	273,904
4	California Public Employees	US	218,214
5	National Pension	Korea	203,232
6	Federal Retirement Thrift	US	188,086
7	GEPF	South Africa	177,559
8	California State Teachers	US	149,008
9	New York State Common	US	144,289
10	Local Government Officials (**)	Japan	136,845
11	Postal Savings Fund	Taiwan	128,194
12	Florida State Board	US	124,450
13	Ontario Teachers	Canada	120,981
14	General Motors	US	118,992
15	New York City Retirement	US	114,598
16	Pension Fund Association (**)	Japan	106,767
17	PGGM	Netherlands	106,526
18	Canada Pension	Canada	100,738
19	Texas Teachers	US	100,717
20	New York State Teachers	US	94,347
21	Employees Provident Fund	Malaysia	82,256
22	Wisconsin Investment Board	US	80,853
23	IBM	US	79,567
24	National Public Service (**)	Japan	77,993
25	General Electric	US	76,039
26	New Jersey	US	75,544
27	BT Group	UK	75,202
28	Ohio Public Employees	US	73,572
29	ATP	Denmark	73,206
30	Boeing	US	72,848
31	AT&T	US	71,556
32	Central Provident Fund	Singapore	70,468
33	North Carolina	US	70,016
34	Ohio State Teachers	US	67,965
35	Verizon	US	62,639

(*) Global Figure (ex-US)

(**) Japanese pension fund valued at March 31, 2006

Note 1: Ranked by $ billions

Note 2: US fund data is from the *Pensions & Investments* 1,000, published on January 22, 2007. Japan fund data is as of March 31, 2007 except where shown, Australia fund data are as of June 30, 2006, and all other fund data as of December 31, 2006.

Appendix A (cont.) $ billions

Top 70 of the *Pensions & Investments* 300 Ranking of Pension Funds

Rank	Fund	Country	Total Assets
36	Alecta	Sweden	$ 62,113
37	Public Schools Employees (**)	Japan	60,345
38	Washington State Board	US	60,045
39	Michigan Retirement	US	59,988
40	Universities Superannuation	UK	59,017
41	Oregon Public Employees	US	58,549
42	Pennsylvania School Employees	US	58,490
43	Ford Motor	US	57,282
44	University of California	US	54,433
45	British Coal Pension Schemes	UK	53,456
46	Ontario Municipal Employees	Canada	51,979
47	Virginia Retirement	US	51,340
48	Royal Dutch Shell(*)	Netherlands	50,469
49	Previ	Brazil	49,580
50	Bayerische Versorgungskammer	Germany	49,063
51	Georgia Teachers	US	48,675
52	Minnesota State Board	US	48,214
53	Fondo de Reserva Seguridad	Spain	47,179
54	Lucent Technologies	US	44,825
55	Lockheed Martin	US	44,721
56	Massachusetts PRIM	US	43,535
57	Royal Mail	UK	42,382
58	Metaal/Tech. Bedrijven	Netherlands	41,446
59	AMF Pension	Sweden	41,441
60	FRR	France	41,258
61	Electricity Supply Pension	UK	40,733
62	Public Institute/Social Security	Kuwait	40,482
63	Quebec Government & Public	Canada	37,898
64	Colorado Employees	US	37,868
65	Illinois Teachers	US	37,361
66	Organization for Workers (**)	Japan	37,231
67	Royal Bank of Scotland Group	UK	37,139
68	Hospitals of Ontario	Canada	36,835
69	National Social Security	China	36,195
70	PFA Pension	Denmark	36,110

(*) Global Figure (ex-US)

(**) Japanese pension fund valued at March 31, 2006

Note 1: Ranked by $ billions

Note 2: US fund data is from the *Pensions & Investments* 1,000, published on January 22, 2007. Japan fund data is as of March 31, 2007 except where shown, Australia fund data are as of June 30, 2006, and all other fund data as of December 31, 2006.

Appendix B

Summary of State Street North American (June 2007) and European (July 2007) Pension Conference Surveys

In the summer of 2007, State Street surveyed a variety of North American and European asset owners to gather their insights into the issues impacting the rapidly evolving pension plan environment. Respondents to the survey stemmed from a variety of organizations, including corporations, endowments, and nonprofit and public institutions, among others. The results of the survey, shown below, helped to inform this Vision paper by capturing participants' perceptions of what can be done to manage the opportunities and challenges currently facing the industry.

A Breakdown of the Participants

	North America	Europe	Combined
A Corporate	38%	52%	43%
B Endowment	4%	2%	3%
C Nonprofit	16%	2%	10%
D Public	26%	29%	27%
E Other	17%	15%	16%

1. What percentage of your time and resources is focused on managing the risk inherent in the fund versus the returns of the fund?

	North America	Europe	Combined
A 0% to 20%	26%	46%	34%
B 21% to 40%	49%	39%	45%
C >41%	25%	15%	21%

2. Has the time you focus on longevity risk increased, decreased or remained the same over the past three years?

	North America	Europe	Combined
A Increased	65%	75%	69%
B Remained the Same	35%	25%	31%
C Decreased	0%	0%	0%

3. How concerned are you with the longevity risk facing the fund(s) you manage?

	North America	Europe	Combined
A Concerned	67%	64%	66%
B Neutral	24%	26%	25%
C Not Concerned	9%	10%	9%

4. Do you agree or disagree with pension managers' growing concerns that longevity risk will increasingly fuel the move from DB to DC plans?

	North America	Europe	Combined
A Agree	66%	63%	65%
B Neutral	18%	35%	25%
C Disagree	15%	3%	10%

5. What is the greatest risk in managing your plan?

	North America	Europe	Combined
A Investment Risk	42%	51%	46%
B Liability Mismatch	47%	20%	36%
C Longevity Risk	5%	24%	13%
D Operational Risk	6%	5%	6%

6. For those managing pension funds, have you transferred any of the longevity risk to a third party?

	North America	Europe	Combined
A Have	6%	3%	4%
B Have Not	87%	88%	87%
C Don't Know	8%	10%	9%

7. Will you transfer any of the longevity risk to a third party within the next one to five years?

	North America	Europe	Combined
A Will	9%	20%	13%
B Will Not	58%	34%	48%
C Don't Know	33%	46%	39%

8. For those managing pension plans, what approach would you use in the future to manage longevity risk?

	North America	Europe	Combined
A Liability Driven Investing	57%	59%	58%
B Lifestyle Funds	19%	3%	13%
C Longevity Bonds	19%	28%	22%
D Annunity Provider	4%	7%	5%
E Enhanced Transfer	0%	3%	1%

9. For those managing pension funds, have you transferred any of their investment risk to a third party?

	North America	Europe	Combined
A Have	15%	5%	11%
B Have Not	80%	90%	84%
C Don't Know	5%	5%	5%

10. Will you transfer any of the investment risk to a third party within the next one to five years?

	North America	Europe	Combined
A Will	15%	13%	14%
B Will Not	59%	44%	53%
C Don't Know	26%	44%	33%

11. Which factors are most important in fueling the growth of pension plan risk outsourcing?

	North America	Europe	Combined
A Technological Innovation	16%	35%	24%
B Aging Population	22%	30%	25%
C Pension Deficits	20%	20%	20%
D Increased Regulation	31%	13%	23%
E Shareholder Pressure	12%	3%	8%

Note that due to rounding, not all of the totals add up to 100 percent.

Contact Information

If you have questions regarding State Street's services and capabilities for pensions, please contact:

Investment Services

Jörg Ambrosius
+49 89 55878 133
jambrosius@statestreet.com

Jay Carty
+1 617 664 2444
jlcarty@statestreet.com

Lee Jones
+1 617 664 9524
lbjones@statestreet.com

Wade McDonald
+44 20 7668 3005
wdmcdonald@statestreet.com

John Sin
+852 2978 9216
jsin@statestreet.com

Simone Vroegop
+31 20 718 1075
svroegop@statestreet.com

Investment Research and Trading

Justin Balogh
+81 3 4530 7560
jbalogh@jp.statestreet.com

David Goodman
+44 20 7864 7541
dgoodman@statestreet.com

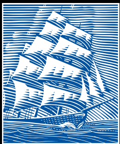
Ross McLellan
+1 617 664 1865
rimclellan@statestreet.com

Investment Management

Gerry Kelly
+1 617 664 2916
gerard_kelly@ssga.com

Kanesh Lakhani
+44 20 7698 6004
kanesh_lakhani@ssga.com

Bernard Reilly
+852 2103 0188
bernard_reilly@ssga.com



STATE STREET.

State Street Corporation
State Street Financial Center
One Lincoln Street
Boston, Massachusetts 02111–2900
+1 617 786 3000
www.statestreet.com

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