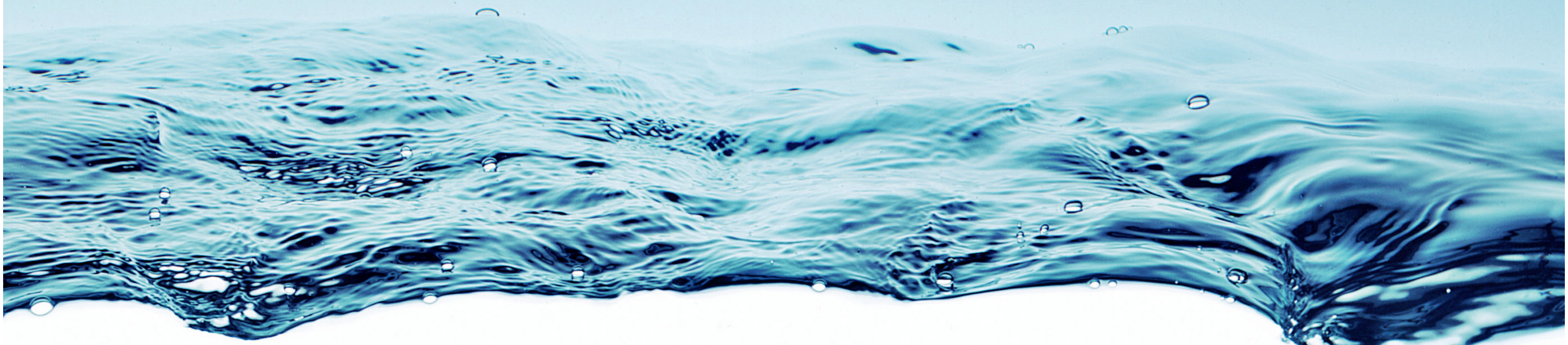
Multiplying investment and retirement knowledge

PROJECT M

GLOBAL PENSION ATLAS 2011

SPECIAL REPORT

Half empty of half full? Rapidly increasing longevity may be cause for celebration, but is financial security in retirement suffering?



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Allianz Global Investors

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THREE PERSONAL QUESTIONS CONCERNING RETIREMENT

Pension and retirement experts regularly gather with investment professionals and high-ranking government officials at conferences around the globe to discuss the status quo of national pension systems and ongoing reform efforts. This is hardly surprising. Pension policy is a critical issue confronting governments in both the developed and emerging worlds.

Worldwide life expectancy has advanced throughout the latter half of the 20th century from an average of 48 years in the 1950s to 68 today. While this development should be a cause for celebration, it is also a concern because this very success is undermining one of the tenets of modern life that many individuals hold dear – income security in retirement.

David Blake, professor of pension economics at Cass Business School in London and the director of the Pensions Institute, has compared growing longevity to Schopenhauer's glass. Individuals see the glass half full if they look forward to a healthy, active and well financed retirement. If they are concerned about fragility, decline in cognitive and physical abilities, as well as an increasing struggle to make ends meet, then they see it half empty.*

Yet, Blake suggests, the critical question is not so much "half full" or "half empty," but rather "who is picking up the tab?" Whereas, say in 1960, the average man who reached retirement age could expect to spend 13.4 years in his "golden years," according to UN projections, he can expect 20.3 years in retirement by 2050. Women can expect 24.5 years on average. Yet, as the population ages and more citizens become pensionable against a shrinking base of taxpayers, ever greater pressure is placed upon state finances.

"Now people are retiring at 65 and living up to 30 more years. You have to ask, how will this be funded?" says Blake.

THE DILEMMA OF GOVERNMENTS

Governments in developed countries have in recent decades reacted to this question with a wave of reforms of the pension system. In emerging economies, governments have concentrated on building pension systems from scratch or extending coverage to a broader base of the population. But the one issue all governments have in common when it comes to pensions is the dilemma between balancing the *affordability* of pension systems with the *adequacy* of pension benefits.**

So, it is no wonder that experts gather at conferences to exchange views and seek solutions

* "Half empty, half full – or who's paying," an interview with Dr. David Blake in *PROJECT M* #03, 2/2009 (Allianz Global Investors, 2009).
** *OECD Pensions at a Glance 2011: Retirement-Income Systems in OECD and G20 Countries*, page 9, OECD Publishing (2011)

and best practices to help resolve this issue. What is surprising is that, while there is in-depth information on individual pension systems, relatively few studies formally compare the different systems. This is understandable. Comparing systems in any meaningful manner can be challenging as they differ substantially – almost bewilderingly so – in form.

Allianz Global Investors believes pension adequacy and affordability is one of the most important social policy issues of our times. The way it is addressed will not only fundamentally affect state finances, it will also have a direct and deep impact upon the lives of hundreds of millions of people worldwide.

We have a team of researchers dedicated to researching pension and retirement issues, investment experts specializing in the needs of pension funds and future retirees, and have created a Behavioral Finance Center. This center consists of psychologists, consumer behavior experts and behavioral economists – all leaders in their respective fields – dedicated to seeking practical and workable solutions for policy makers, the financial industry and individuals to address the retirement challenge.

In this spirit, we are now launching the *Global Pension Atlas 2011*. Building on and extending comprehensive reports provided by our researchers in the International Pensions team, the Global Pension Atlas seeks to provide a valid, quick-glance reference to the current global pension landscape and major trends as they evolved after the wave of reforms of the 1990s and early years of this century. We believe it is a valuable tool to enhance appreciation of the pension landscape and increase transparency and understanding of the pensions and retirement issues that confront us all.

Yours sincerely,

Brigitte Miksa

Brigitte Miksa, September 2011

CONTENT

FIRST PILLAR: TOWARDS A WORLD OF SUSTAINABLE PENSION SYSTEMS

Population aging is an issue that caught national governments off guard. This is understandable, as it surprised almost everyone else as well. Today, we are seeing the consequences of what has been described as the First Longevity Revolution, an unprecedented period when advances in medicine, health, education, sanitation and social conditions are enabling a larger proportion of the human population to live longer than any time in history.*

This, combined with plummeting birth rates in many countries, is having a dramatic impact on societies. The natural age structure – replicated across species – is a pyramid rising from a base that represents a large number of children and tapering to an apex of the few individuals who lived into ripe old age, but all this changed after the Second World War.

Unusually high birth rates, the "baby boom," were recorded around the world, but particularly in Western countries, in the decades after the mid 1940s. As this boom slowed, it left an indentation in the base of the pyramid. This, combined with a decline of death rates at middle and older ages, has had a deep impact, transforming the age structure so it is beginning to resemble a rectangle – with social consequences that are still being realized.**

Pension systems have been particularly affected. The traditional approach of many countries was a pay-as-you-go (PAYG) system based on the pyramid age structure with a wide base of workers supporting a smaller segment of retirees.*** But with a shrinking labor force required to support a growing segment of older, nonworking dependents, the result has been described as a "demographic time-bomb."

While this will hit all regions, it has particular implications for individuals expecting a comfortable retirement based on first pillar (social security) systems. With a significant portion of the population in developed countries living up to 30 years or longer than the global life expectancy of 67.88 years (*UN World Population Prospects 2010*), social security schemes are becoming unsustainable.

These demographic changes will also affect recently industrialized countries in the process of building up pension asset schemes, such as South Korea, and developing economies, like China, seeking to establish a broad-based social security system. Both countries will gray dramatically in the next few decades.

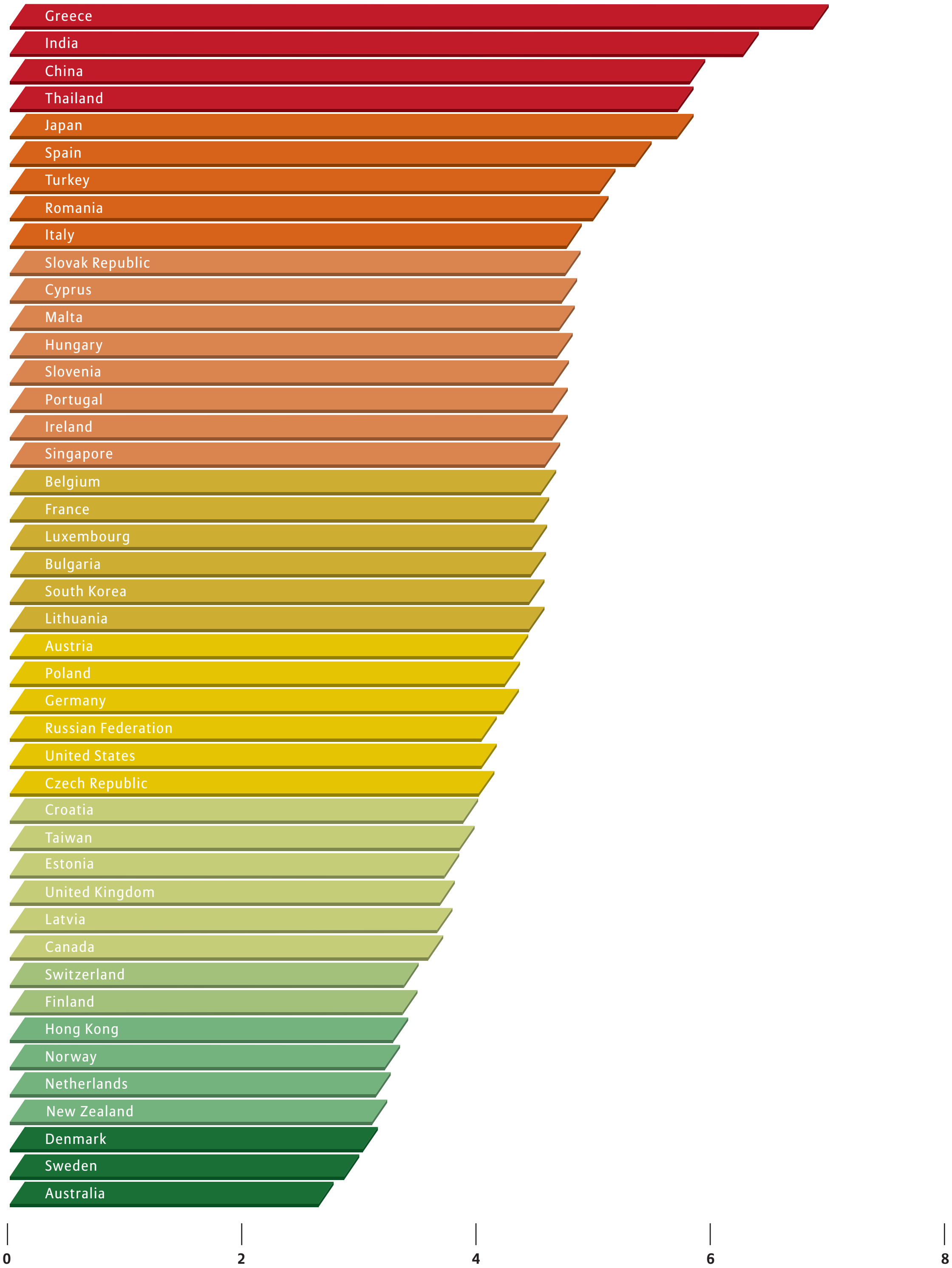
In the past two decades, governments have undergone a frenzy of activity on matters relating to pensions and retirement as they realized the implications of the demographic trend. They have trimmed state pensions. They have increased the retirement age. They have redefined eligibility, changed indexation rules and emphasized capital funding and individual savings all in an effort to ensure the stability of first pillar (public) systems overburdened by demographic changes and increasing life expectancy.

STILL UNDER PRESSURE – THE PENSION SUSTAINABILITY INDICATOR (PSI)

How successful have governments been in establishing the stability of the first pillar systems? Allianz Global Investors regularly analyzes the ongoing worldwide reforms in a cross-country comparison known as the Pension ☞

* *The Quest for Immortality*, S. Jay Olshansky and Bruce A. Carnes (2001), pp 111-115
** Ibid
*** Olshansky and Carnes note (pp114-115) that when the Social Security program in the United States was launched in 1935, it was based on the premise that the number of people able to draw benefits would never exceed 25 million. By 2000, the number of recipients reached 38 million beneficiaries. Americans aged 65+ (15% of the population) could grow to 88.5 million in 2050 (20%) according to projections by the Congressional Research Service based on data from the US Census Bureau (*The Changing Demographic Profile of the United States*; March, 2011).

ALLIANZ GLOBAL INVESTORS – PENSION SUSTAINABILITY INDEX



Scale from 1 to 10: 1 minor need for reforms, 10 high need for reforms

Source: Allianz Global Investors

Sustainability Index.* The latest version shows there is still substantial pressure on many countries to continue reforms.**

Greece, India and China are considered to be the countries in greatest need of reform. In the two Asian countries this is due to poor pension coverage. In addition, adequate reforms have not yet been implemented. With its extremely low retirement age of 55 and sporadic coverage, Thailand is another Asian country that ranks high.

Greece tops the ranking as it faces major debt problems, which is putting the country's sustainability to the test. Although it has started reforms within the pension system as requested by the support package from the IMF, the generous system still has high replacement rates and a low retirement entry age. Above all, Greece is facing high old-age dependency ratios well above the European average.

At the other end of the spectrum is Australia, whose pension system is considered to be under the least amount of pressure, followed by Sweden, Denmark, New Zealand and the Netherlands. The European countries have established comprehensive pension systems based on strong funded pillars. New Zealand has modest aging coupled with relatively low debt ratios, a pension system design that is adequate without being overly generous and where people work even beyond statutory retirement age.

Compared to the *Pension Sustainability Index 2009*, the increase in public debt mostly influenced the rankings of European countries and the US. In particular, countries that ran into severe debt problems after the financial crisis score the worst. Apart from Greece, these include Ireland, Italy and Portugal. In comparison, Asian countries only recorded minor increases in debt ratios, so maintained their ranking.

Central and eastern Europe was hit hard by the downturn. As a response, some countries (Estonia, Hungary, Latvia, Lithuania, Poland and Romania) reversed or halted pension reforms to strengthen their immediate fiscal outlook.

For example, the Baltic countries cut the state's contribution rate to the second pillar. Poland has frozen government contributions to the second pillar. Hungary used pension assets to reduce government debt by forcing employees and their pension fund assets back into the first pillar. Pension planning requires confidence instilled by long-term consistency and this retrograde move cast doubts upon the system.

France and Spain initiated further reforms, but these had no significant effect on the ranking as they were counterbalanced as other sub-indicators worsened.

PENSION SUSTAINABILITY INDEX

- **The Allianz Global Investors Pension Sustainability Index* focuses on the sustainability of the first pillar of a country's public pension system. It uses a wide range of sub-indicators such as demographic developments, public finances and pension system designs to systematically measure the need for further pension reform. These sub-indicators are weighted and added to derive a ranking of countries in terms of the fiscal sustainability of their pension systems.**
- **As part of the creation of the *World Pension Atlas 2011*, this Pension Sustainability Index has been extended to include Canada, Cyprus, Luxembourg, Malta, New Zealand, Russia and Turkey.**

* *Pension Sustainability Index 2011*; International Pension Papers, Allianz Global Investors (forthcoming)

* *Pension Sustainability Index 2009*; International Pension Papers, No. 5 /2009, Allianz Global Investors
** *Pension Sustainability Index 2011*, International Pension Papers, Allianz Global Investors (forthcoming)

SECOND PILLAR: STARTING TO BALANCE RETIREMENT SYSTEMS

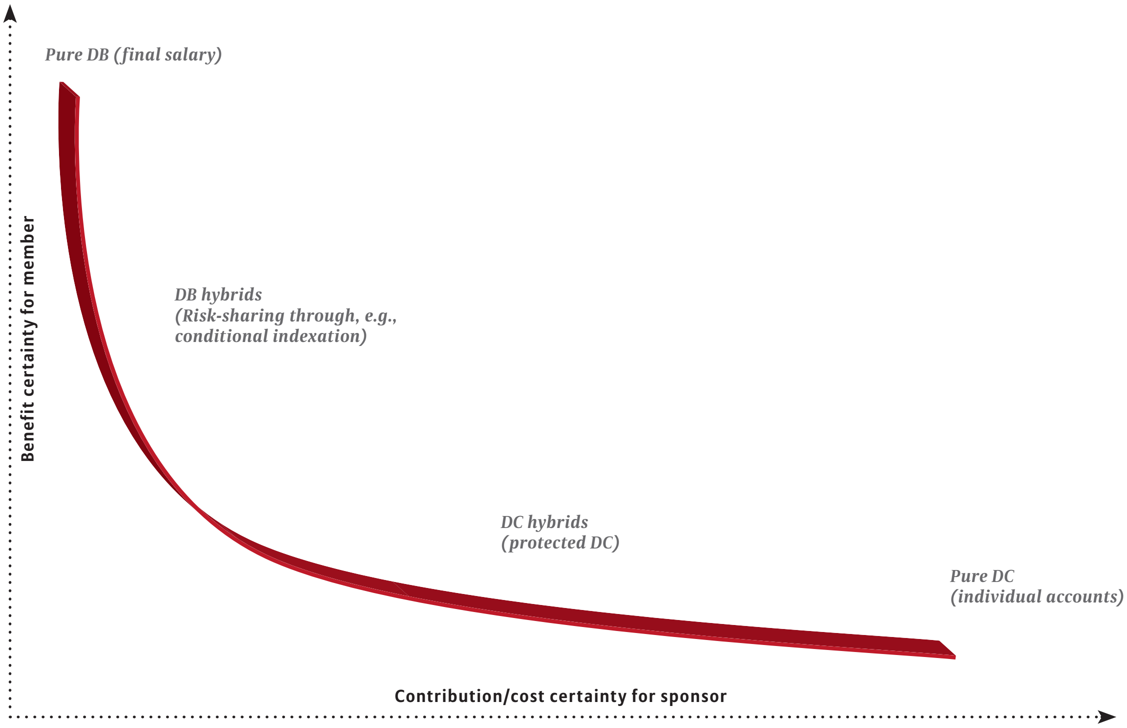
From the 1990s onwards, many countries responded to population aging by introducing structural changes to retirement systems to compensate for the declining benefits paid out by the first (public) pillar. As part of these changes, governments tried to strengthen funded pensions so that more balanced pension systems develop.

For example, in most central and eastern Europe (CEE) countries mandatory second pillar schemes with fully funded individual defined contribution (DC) accounts were set up. As shown in the timeline (see pp. 16-17), Asia also saw a wave of funded pension schemes introduced in the late 1990s. A trendsetter was Australia, which introduced a mandatory DC scheme in 1992 and is often considered a role model (see "Australia's super idea," p 15).* ☞

*In November 1980, Chile became the first country to introduce a DC system as its major old age provisioning system. Singapore introduced the Central Provident Fund in 1955 to provide retirement income security for private sector employees, but it has developed into a multi-purpose fund used for everything from healthcare and home ownership to insurance schemes for family protection

BALANCING THE RISK

Beyond defined benefit and defined contribution: risk-sharing features will result in approximations and hybrids of DB and DC.



Source: Allianz Global Investors

THE WORLD BANK PENSION MODEL

First pillar: publicly managed, financed by general taxes or social security contributions, pay-as-you-go (PAYG) and defined benefit

Second pillar: privately managed, funded and mandatory (defined contribution)

Third pillar: privately managed, voluntary retirement savings

According to the model's latest formulation, there are two additional pillars: a **zero pillar** to provide a minimum level of protection and a **fourth pillar** that consists of intra-family support.

Not only have funded pensions gained importance, structural changes within the retirement market are also underway. Over the last decades, there has been a substantial shift in funded pension designs: namely from defined benefit (DB) to DC plans.

TO DB, OR NOT TO DB: THAT IS NO LONGER THE QUESTION

Traditionally, most countries had a second pillar approach based on DB plans that played an important role in supplementing modest state social security.

Under such schemes, workers pay regularly into a company-sponsored system and the company commits to paying workers a defined amount upon retirement for as long as they live. Under such an approach, companies carry the risks and costs associated with the longevity of retired individuals, and to ensure that both adequate assets and a comprehensive investment strategy exist. Yet, the inverting age structure, where retirees are living longer than foreseen, means such promises are proving unsustainable.*

To reduce costs and risks, companies worldwide have been moving towards DC plans. With DC plans, individual workers shoulder far more – or even all – of the risk. The final payout is not promised by the employer but rather dependent on the value of the fund at retirement. The individual can only be certain about their rate of contribution during their working years, but cannot know how their plan will perform in the lead up to retirement. **

The risk tradeoffs between DB and DC schemes are illustrated in the chart on page seven: pure DB plans are at one extreme, while pure DC plans are at the other. In between, a range of combinations exist that alter the proportion of risk individuals and plan providers share.

Guarantees are already built into some DC pension and retirement systems. In Germany, workers are assured of receiving at least their contributions back upon retirement from funds introduced under the Riester reforms. In Belgium, Slovenia and Switzerland, plans must provide a pre-defined annual minimum return.

In some countries, such as Chile and Denmark, plans must meet a relative return guarantee defined in

* Amin Rajan, CEO of Create Research, commented on the release of the *2010 Create Research Global Survey* that after the financial crisis DB pension plans worldwide have seen funding levels fall to an average of 72%, but some are languishing at 32%, making them effectively bankrupt. In the UK, companies, such as many FTSE firms, have pension deficits exceeding their total market cap. US public pension plans have accumulated deficits of $2 trillion, while in the UK it is £200 billion (almost $300 billion).

** For employers, DC is attractive as it limits risk and provides calculable costs. DC plans also allow individual workers greater flexibility when it comes to labor mobility and changing industry structures. However, it also means plan members, often with often limited financial appreciation, are left alone to make sophisticated long-term investment decisions about exposure to a variety of financial market risks, including return volatility, the effects of inflation and the dangers of outliving one's assets. This will be beyond the ability of many, perhaps the majority, and could prove disastrous. Finding ways to assist individuals to plan wisely for retirement will be one of the industry's greatest challenges ahead.

relation to a benchmark or industry average. In the US, similar guarantees are only available to workers who individually purchase a guaranteed income contract (GIC) offering a fixed rate of interest on the savings.

The exact DB / DC arrangement that exists in a country may also be determined by legislative requirements and, not to be underestimated, historical practice. DC plans can be based on individual accounts and individual choice, as in the US, but they may also feature only one of these characteristics, as in many European DC schemes.

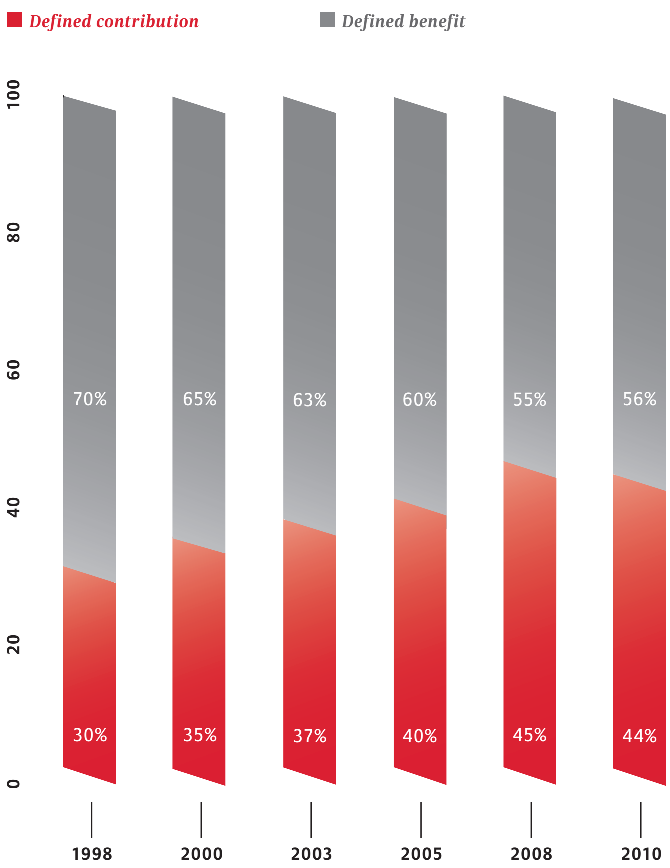
INCREASING COVERAGE OF DC PLANS

The shift towards DC is evident worldwide (see chart opposite) and is occurring in both new and old pension markets. Almost all new pension plans being introduced are DC in nature. Additionally, there is a shift from DB to DC schemes in developed pension markets.

However, the degree to which DC is making inroads in particular markets differs significantly. Many emerging Asian countries and CEE countries immediately established DC schemes when they formalized their pension systems. The US also has a long tradition in DC plans, which explains the strong presence of DC versus DB plans in that country today. DC plans have grown from 67% of all plans in the US in 1975 (26% of all participants) to 93% in 2005 (64% of all participants).

However, western European systems are adapting DC at varying speeds. This is not necessarily driven by the maturity of the funded pensions: Mature markets like the UK, Switzerland and Sweden predominantly have DC pension plans. Other mature and large pension markets, such as the Netherlands, are still more DB driven, while others are only tentatively experimenting with DC. France has introduced tax-sponsored DC-type schemes, the PERCO plans, which provide an initial introduction into the DC world. The difference between countries often lies with pension traditions or legislative requirements.

DB AND DC CONTRIBUTIONS ASSET SPLIT IN 7 LARGEST MARKETS*



* Australia, Canada, Japan, Netherlands, Switzerland, UK, USA

Source: Watson Wyatt Worldwide

THIRD PILLAR: NUDGING PEOPLE IN THEIR OWN BEST INTERESTS

The shift from the first (public) pillar has not only affected the second (occupational) pillar. It has also affected the third pillar – private savings, which includes assets such as cash, bonds, equities, insurance products and real estate. With the burden of financing retirement now placed more firmly on individuals, personal savings is becoming an integral part of old-age income to support or partially replace social security benefits.

By itself this is not necessarily a problem. However, evidence suggests that individuals have problems with: first, deciding to participate in a private pension plan; second, the amount to contribute and; third, how to invest pension plan savings.

Zvi Bodie, professor of finance at Boston University, has summarized the situation. He comments that most people work, raise families spend time with friends, volunteer in the local community and so on.

"Yet, on top of all that, they're supposed to know how to allocate investment assets for when they retire up to 30 years from now. I don't think that is realistic, even for people who may be brilliant in their own fields of endeavor. If defined-contribution investing was medicine, we'd effectively be saying, 'Insurance no longer covers surgery, so you'll have to do it yourself after reading this brochure." (*PROJECT M* #4, 3/2009).

INERTIA, ONE OF NATURE'S MOST POWERFUL FORCES

One of the most powerful forces facing people in retirement planning is inertia, which is the inability to undertake action that may be in their own best interest or that they have agreed to do.

For example, several countries have introduced private pension plans: Riester plans in Germany, 401(k)s and IRAs in the US, PERCO in France and NEST in the United Kingdom. Most of these plans offer financial incentives in the form of subsidies or tax advantages to encourage participation. Despite these encouragements, results indicate that individuals often suffer inertia.*

Germany introduced Riester private pension plans in 2001. In the first year, only about a million Germans (3% of the 20-60 year old population) closed a contract. Apart from the first year, the largest growth rates were recorded between 2005 and 2007, five years after the introduction of the Riester plan and after a simplification of the opaque structure. Growth rates then slowed. Today, 10 years later, contract numbers are only approaching 15 million, or 30% of the 20-60 year old population.**

Why do people exhibit inertia? The answer is complex. Rational reasons, or what may be considered rational, may lie behind it, such as uncertainty surrounding the future of newly introduced pension schemes. There may also be psychological barriers. Retirement may be too far away for individuals to imagine, so they consequently do not save. However, once a critical mass of pension plans are signed by neighbors and friends, they often follow.

WHERE'S THE INCENTIVE?

There is a strong link between the generosity of the public (and occupational) pillar and private pension plan participation (see "Growing pension assets" on pages 13-14). OECD data on participation in private pension plans (see graph on page 12) shows participation in private pensions is highest in the Czech Republic, Canada and New Zealand. Not

* Also see Choi, Laibson – *100 Dollar Bills on the Sidewalk* on suboptimal investments in 401(k) plans by employees.

** The group of people eligible for Riester schemes is smaller than the overall possible working population as it is limited to people contributing to the social security system and their spouses.

TREND IN PRIVATE PENSION COVERAGE IN GERMANY

Source: Bundesministerium für Arbeit und Soziales, 2011

coincidentally, these countries also have the least generous public and occupational pensions.

The United States and the United Kingdom score low with regard to voluntary private pensions even though their role of public pensions is based on "avoiding poverty" rather than "maintaining living standards." However, both countries have strong occupational pillars.

Nevertheless, multiple studies in the two countries have demonstrated that people are not saving enough. To overcome this, many pension plans in the US automatically enrol workers when they enter the work agreement. Similarly, the UK Pension Act 2008, known as NEST, introduced auto-enrolment for all workers from 2012 onwards.

Apart from participation, low contribution rates also endanger many people's hopes for a comfortable retirement. To overcome this, some pension plans in the US use save-more-tomorrow programs, an idea that originated in the research of Bernartzi and Thaler in the early 2000s. In these programs, people contractually agree to allocate part of their future income increases to retirement savings. Evidence suggests that this works.***

Yet, another problem – conditional on participation – is portfolio allocation. People have trouble allocating savings to stocks and bonds in line with their living situation, let alone real estate or complicated derivates. Also, auto- ☞

***"Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving," Richard H. Thaler and Shlomo Benartzi, *Journal of Political Economy* Vol. 112, No. S1, Papers in Honor of Sherwin Rosen: A Supplement to Volume 112 (February 2004), pp. S164-S187 enrolment requires some rules for allocation of savings. As a response, life-cycle funds, which balance weights betweens stocks and bonds in line with individuals' human capital (the type of work and age), have been set up.

DIFFERENT PEOPLE, DIFFERENT PRODS

There is a wide variety of private pension plans across countries. The bottom line in all countries is, however, that people are having difficulties in deciding what is right for them in regards to pensions. To ensure adequate coverage of their citizens, some countries, such as Australia, Chile and Poland have introduced mandatory saving schemes in pillars two.

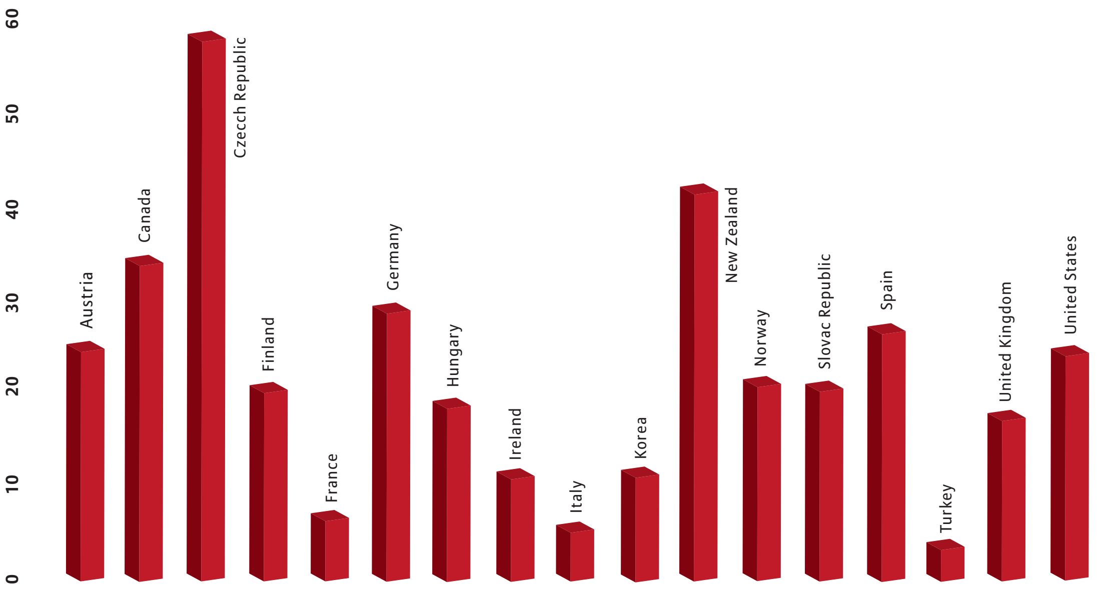
In other countries, where mandatory schemes are less politically acceptable, governments and employers have recently introduced certain tools to increase savings coverage (such as auto-enrolment, save-more-tomorrow programs, or default funds).

This is typified by KiwiSaver in New Zealand and NEST in the United Kingdom. These tools help guide individuals to overcome their own human-but-error-prone decision-making process in relation to the complex questions revolving around private pensions so the individuals can get closer to an adequate retirement income.

That is, as Richard Thaler and Cass. R. Sunstein describe it in *Nudge* (2008), "choice architecture" is being used to nudge people to make beneficial decisions without restricting their freedom of choice. This is a trend that can be expected to continue even as governments continue to encourage citizens to privately save for their retirement.

COVERAGE OF VOLUNTARY PERSONAL PRIVATE SCHEMES IN SELECTED OECD COUNTRIES

Participation in voluntary personal (as opposed to public and occupational) private pension schemes as a share of the respective 16-64-year-old population in selected countries. Datapoints are based on numbers between 2006 and 2009.



Source: *Pensions at a Glance*, OECD, (2011)

GROWING PENSION ASSETS

The development of funded pension systems in many countries has resulted in a steady buildup of worldwide pension assets. Historically, countries like the Netherlands, the United Kingdom, Switzerland and the United States had strong funded pillars, so these mature markets hold asset volumes compared to GDP that are substantially higher than, for example, countries in central and eastern Europe, where funded pillars were only recently established (see chart below).

The generosity of the first pillar and the size of funded pensions found in the second and third pillars of pension systems show a negative relationship, as can be seen in the chart on the next page. Simply expressed, countries with a high replacement rate* tend to have citizens with far less personal retirement assets.

Greece is an extreme example. There, a generous first pillar pays citizens a replacement rate of almost 100%, providing people with little incentive to accrue pension assets during working years. At the other end of the spectrum are the Netherlands, the United Kingdom, Switzerland and the United States with strong funded pensions and, simultaneously, low replacement rates provided by public pensions.

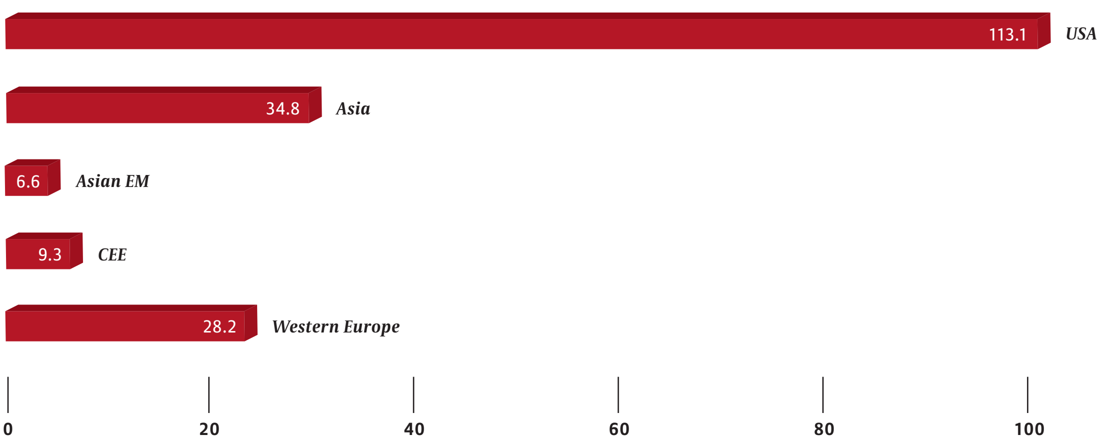
For retirees in other countries, second and third pillar savings have assumed increasing importance as public pensions have shrunk. Given the reform pressure facing public systems, Allianz Global Investors expects pension assets to grow further in the future with higher growth rates recorded in countries striving to catch up.** The most dynamic pension asset growth can be expected in the emerging economies of Asia and central and eastern Europe.

Emerging Asian countries could see an annual growth rate of approximately 16.8% to grow to a total estimated volume of €2.2 trillion by 2020 (the size of the United Kingdom's market in 2008). Similar dynamics can be expected in central ☞

* The proportion of retirement income derived from public funds in comparison to income earned during working years.
** *On the rise again*, International Pension Papers, 3/2010, Allianz Global Investors,

PLAYING CATCH-UP

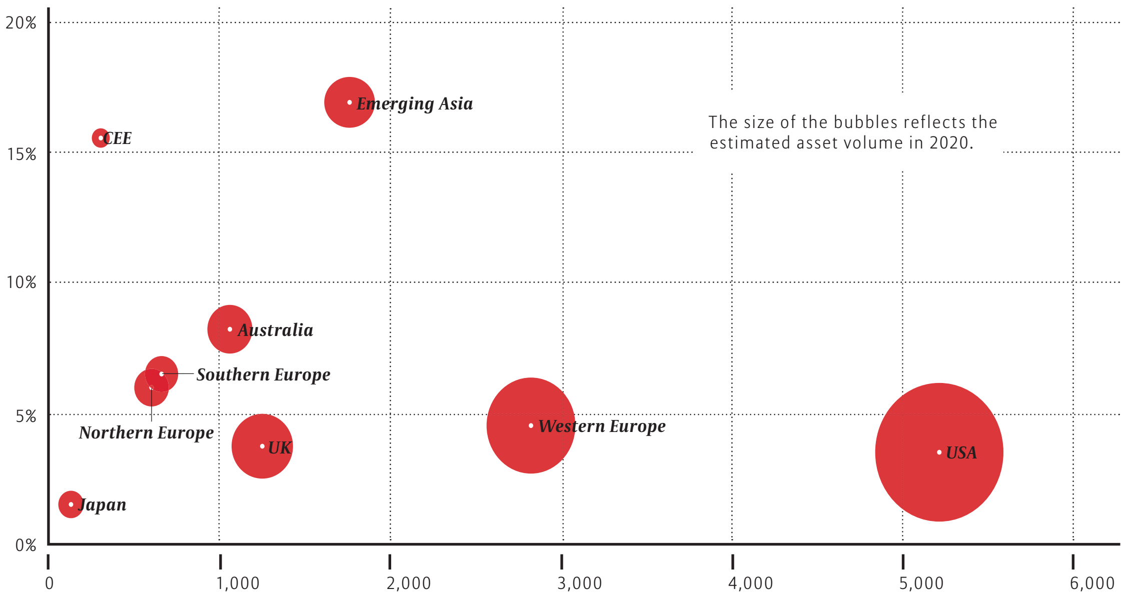
Pension assets as % of GDP



Source: Allianz Global Investors, International Pensions; IMF

RETIREMENT ASSETS UNTIL 2020 – WORLD REGIONS

Compound annual growth rate 2009-2020



Asset increase from 2009 to 2020 (€ billion)
Southern Europe: Italy, Spain, Portugal, Greece; Northern Europe: Denmark, Finland, Sweden, Norway; Western Europe: the rest, excluding UK

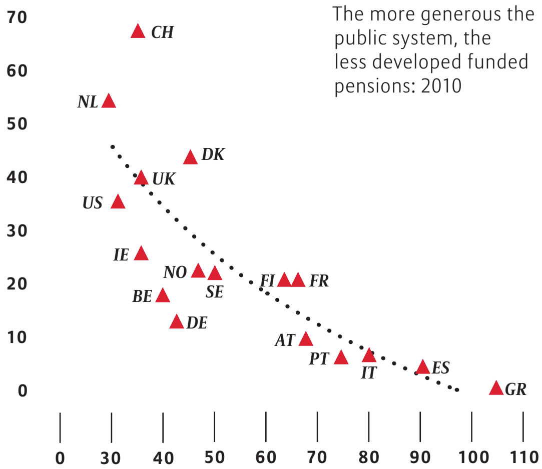
Source: Allianz Global Investors, International Pensions

and eastern European economies with an annual growth rate around 15.5% projected by 2020. Even so, by then the total amount in CEE countries will probably not equal the volume of Switzerland's market today.

Due to their size and maturity, large retirement markets in developed economies are not expected to realize such high growth rates. Growth is likely to be driven by a need to compensate for falling state pension benefits as governments grapple with the costs of providing for aging populations. Because of its sheer size, the US retirement market can still be expected to dominate the world pension market until the end of the decade, even though it may only increase by a 3.6% compound annual growth rate (CAGR). Despite low growth, such a net increase in the United States during this period could equal the total volume of continental western Europe today.

REPLACEMENT RATE VS. RETIREMENT ASSETS

in thd. Euro



Replacement rate (gross pension of average earner to individual income before retirement)

Source: Central Banks, National Statistical Offices, Eurostat, EU Commission, AGI own calculations, 2010.

OVERVIEW OF THE GLOBAL PENSION ATLAS

Although countries are moving in the same general direction – towards balancing the three pillars of the pension system – the pension landscape remains extremely heterogeneous, a fact reflected in the patchwork of colors represented on the Global Pension Atlas.

Presented in the following pages, the Global Pension Atlas schematically presents the information contained within this paper for a quick glance overview of the state of worldwide pension trends.

The maps capture the maturity of funded pension schemes (measured by the size of pension assets as a percentage of GDP) and the progress and rate of transition towards a DC system. Each dimension is divided into three categories.* This allows for the systematic assessment of the relative positions of each country in terms of maturity and DC advancement.

Prior to the global financial crisis, the question confronting pension systems was "sustainability" and the extent to which a multi-pillar pension system was established within each country to support this. As described in previous sections, countries responded by strengthening or establishing funded pensions. This resulted in a build up in pension assets. The maps clearly illustrate the different developments amongst countries today. It is particularly evident that most western European and Scandinavian countries have attained a substantial level of pension assets as measured by percentage of GDP.

The other major trend within pension systems, the swing from DB to DC, was inspired by underlying demographic risks. Countries that had the opportunity to redesign their systems, such as those in central and eastern Europe or Asia, relied heavily on DC models. The map reflects this, particularly when compared to established retirement markets, such as Germany and Italy, where DB arrangements or strong reliance on state funded pensions are still to be found.

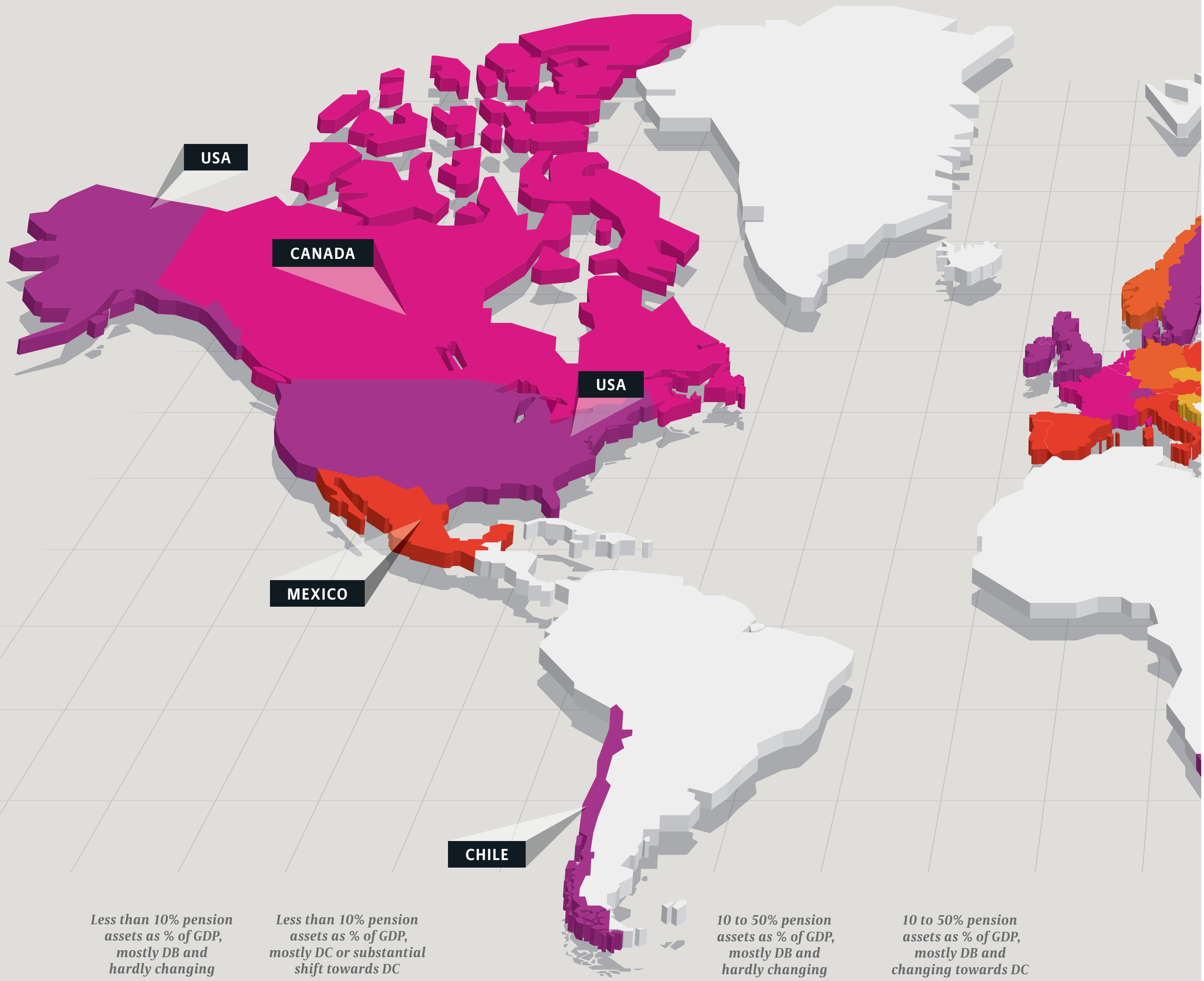
AUSTRALIA'S "SUPER" IDEA

- **The Australian Superannuation system is considered** by many experts to be worthy of study for any nation considering pension reform. Referred to as "Super" by laconic Australians, Superannuation is a compulsory retirement program requiring a percentage of salaries and wages to be paid into a fund. The money is invested into individual accounts privately managed in the marketplace and which receive significant tax concessions.
- **The system is in addition to a safety net pension** available to eligible Australians (currently AUS$658.40 per month for singles and AUS$496.30 each for a couple). In 1985, only 39% of the workforce had Super. Access depended on age, gender and occupation. Women and blue-collar workers were least likely to have access.
- **With research showing that there would be** insufficient taxpayers to meet the cost of supporting the pensions of retiring baby boomers, unions responded with a campaign for compulsory, universal superannuation. In 1992, the Keating Labor Government introduced the "Superannuation Guarantee." Businesses were required to put aside 3% of each employee's salary into a superannuation scheme. Contributions gradually rose to 9% by 2002.
- **Combined with voluntary contributions,** the average worker now has 12% of earnings going into Super, usually a mix of shares, bonds and property. Upon eligibility, money can be taken as a lump sum payout or rolled over to another system, such as a steady income payout.

* A detailed explanation of the logic underpinning the map can be found on page 20.

THE GLOBAL RETIREMENT LANDSCAPE

Despite a gradual move towards balancing the three pillars of the pension system, countries around the world still find themselves in very different stages of development.



Less than 10% pension assets as % of GDP, mostly DB and hardly changing

GREECE

Less than 10% pension assets as % of GDP, mostly DB and changing towards DC

LUXEMBOURG

Less than 10% pension assets as % of GDP, mostly DC or substantial shift towards DC

BULGARIA
CROATIA
CZECH REPUBLIC
ESTONIA
INDIA
LATVIA
LITHUANIA
ROMANIA
RUSSIA
SLOVAKIA
SLOVENIA
TURKEY

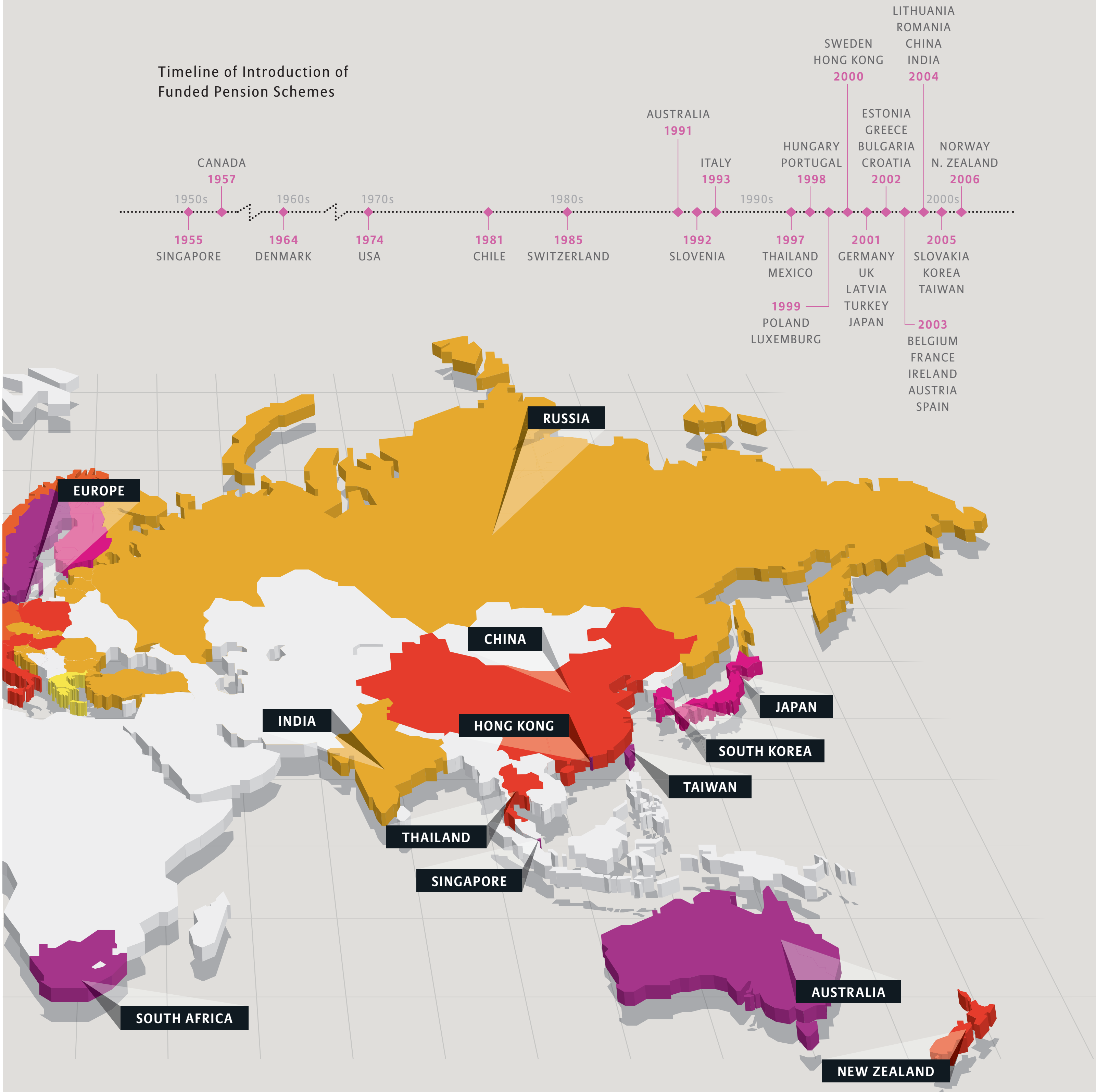
10 to 50% pension assets as % of GDP, mostly DB and hardly changing

N/A

10 to 50% pension assets as % of GDP, mostly DB and changing towards DC

GERMANY
NORWAY

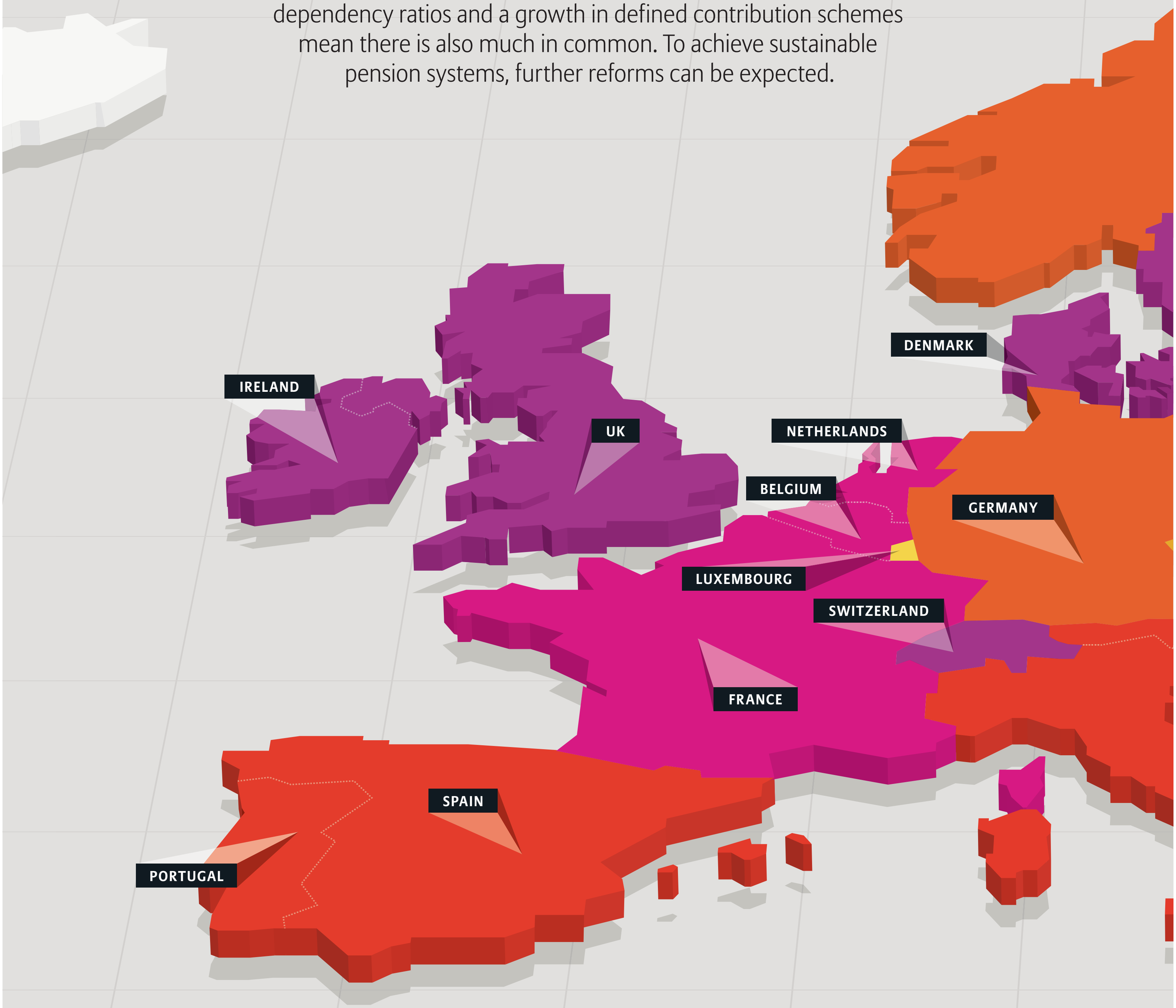
Timeline of Introduction of Funded Pension Schemes



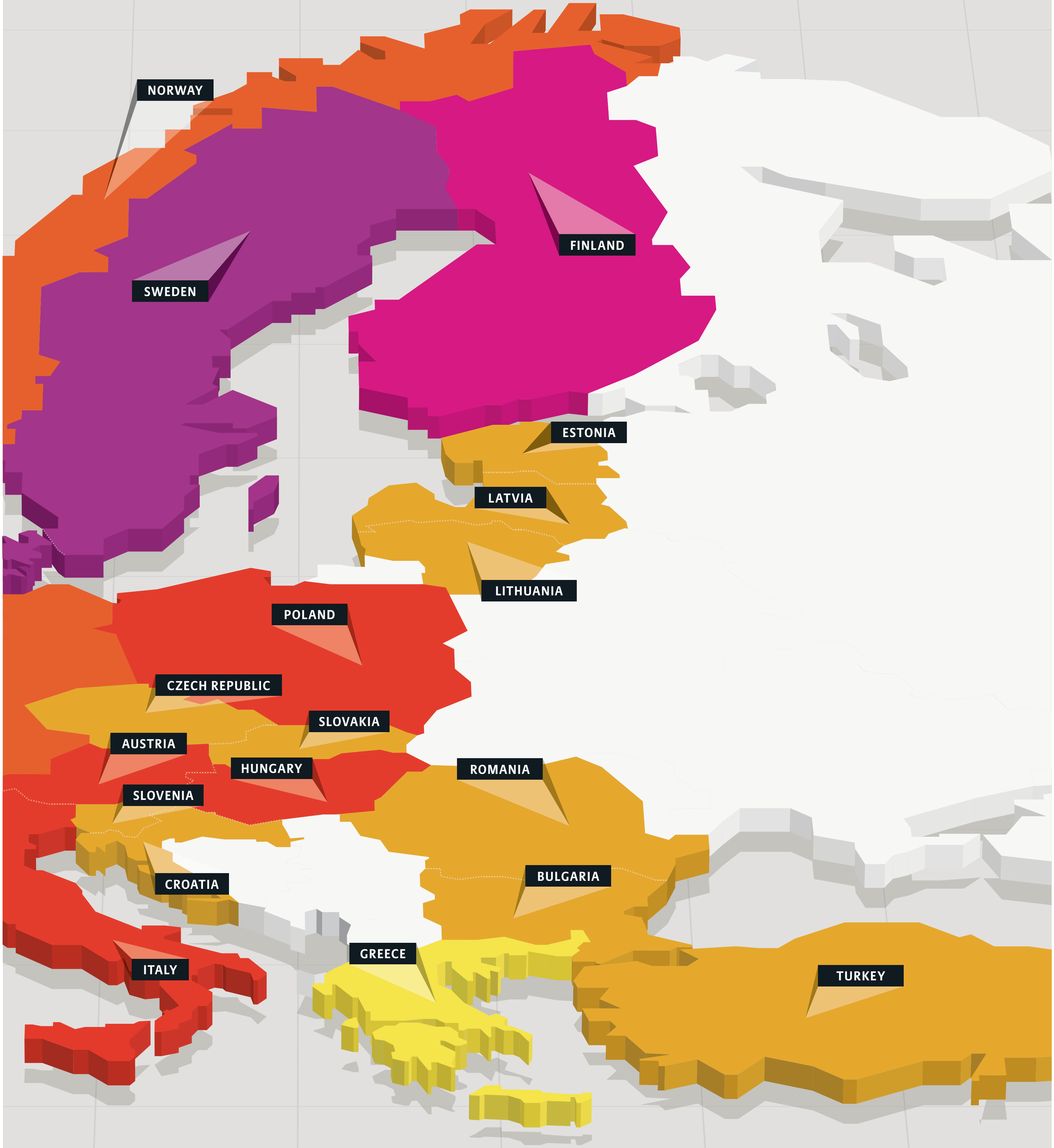
10 to 50% pension assets as % of GDP, mostly DC or substantial shift towards DC	*More than 50% pension assets as % of GDP, mostly DB and hardly changing*	*More than 50% pension assets as % of GDP, mostly DB and changing towards DC*	*More than 50% pension assets as % of GDP, mostly DC or substantial shift towards DC*
AUSTRIA	N/A	BELGIUM	AUSTRALIA
CHINA		CANADA	CHILE
HUNGARY		FINLAND	DENMARK
ITALY		FRANCE	HONG KONG
MEXICO		JAPAN	IRELAND
NEW ZEALAND		NETHERLANDS	SINGAPORE
POLAND		SOUTH KOREA	SOUTH AFRICA
PORTUGAL			SWEDEN
SPAIN			SWITZERLAND
THAILAND			UK
			TAIWAN
			UNITED STATES

EUROPE'S RETIREMENT LANDSCAPE

Europe has a diverse retirement landscape, but rising old-age dependency ratios and a growth in defined contribution schemes mean there is also much in common. To achieve sustainable pension systems, further reforms can be expected.



Less than 10% pension assets as % of GDP, mostly DB and hardly changing	*Less than 10% pension assets as % of GDP, mostly DB and changing towards DC*	*Less than 10% pension assets as % of GDP, mostly DC or substantial shift towards DC*	*10 to 50% pension assets as % of GDP, mostly DB and hardly changing*	*10 to 50% pension assets as % of GDP, mostly DB and changing towards DC*
GREECE	LUXEMBOURG	BULGARIA CROATIA CZECH REPUBLIC ESTONIA LATVIA LITHUANIA ROMANIA SLOVAKIA SLOVENIA TURKEY	N/A	GERMANY NORWAY



10 to 50% pension assets as % of GDP, mostly DC or substantial shift towards DC	*More than 50% pension assets as % of GDP, mostly DB and hardly changing*	*More than 50% pension assets as % of GDP, mostly DB and changing towards DC*	*More than 50% pension assets as % of GDP, mostly DC or substantial shift towards DC*
AUSTRIA HUNGARY ITALY POLAND PORTUGAL SPAIN	N/A	BELGIUM FINLAND FRANCE NETHERLANDS	DENMARK IRELAND SWEDEN SWITZERLAND UK

EXPLAINING THE GLOBAL PENSION ATLAS

The Global Pension Atlas aligns countries based on a graded scale according to two distinct criteria. The first is the relative size of each country's pension assets with respect to its gross domestic product (GDP). Assets include all investments in fully funded pension and insurance schemes subject to regulation by insurance supervisory authorities, as well as life and pension assets. This enables the maturity of individual markets to be assessed. In the map, countries fall into one of three categories according to their pension assets: less than 10% of GDP, between 10% and 50%, or more than 50%.

The second criterion examines the nature of pension plans within each country. Countries are ranked according to the importance of defined contribution (DC) within their market.

The aggregate longevity risks associated with generous defined benefit (DB) schemes have become untenable for many company and private pension plans, so a decided trend towards defined contribution systems, which place the risks more firmly on individuals, has been recorded. Many pension experts considered this approach more sustainable and it has been increasingly adopted in recent decades.

PROVIDING CLARITY

Under this criterion, the first group is countries that have developed strong DB schemes and shown little intention of changing. The second group is countries that have historically been DB countries, but are in the process of transforming their pension system to DC schemes. The third group consists of those who have firmly embraced DC (as have many central and eastern European and Asian countries, which only recently created or re-created their systems) or countries that historically had DB schemes but that have undergone major change towards DC.

The distinction between pure DB and DC is, by no means, clear cut. Many schemes lie somewhere in between. For instance, a typical version can be found in Switzerland and Germany. There, it is required by law to provide a minimum return guarantee in DC systems. Such schemes are defined within the logic of the map as DC because, even though there is guaranteed flat rate benefit, it is the contributions that are fixed and the actual benefit uncertain.

Given the 3x3 matrix, there are nine categories overall. Each category is color-coded and an explanation provided at the bottom of the map.

LORD TURNER REPORTS

Lord Adair Turner
Chairman of the Financial Services Authority in the UK

As chairman of the Pensions Commission (2003-2006), Lord Adair Turner oversaw a report that ignited intense discussion on retirement income in the United Kingdom. Now chairman of the Financial Services Authority, he notes that indexation rule changes have been a dominant feature in European reforms.

It can deliver significant long-term savings, he argues. "But, I suggest that the way the reforms have occurred have involved doing things, such as changing indexation, that people don't really understand. As they begin to realize what has occurred, tensions will arise within the political process."

Turner concludes, "The challenge will be to see if politicians will stick to it when the consequences slowly become more apparent to people."*

* Quoted in *PROJECT M* #07, 1/2010

CENTRAL AND EASTERN EUROPE: RADICAL REFORMS AND BACKSTEPS

While countries in central and eastern Europe (CEE) confront even more extreme demographic aging than those in western Europe, they had to first surmount an even more pressing problem. After the fall of the Iron Curtain in 1989, CEE countries needed to entirely overhaul their state system to move from communism to capitalism.

Initially, local politicians were concerned to maintain pension income levels to dampen possible protest and to encourage surplus industrial workers to retire early. So, when it came to pension reforms, they stepped lightly even as they initiated far-reaching reforms elsewhere.

Countries such as Poland introduced "shock therapy" market reforms that saw local banks sold to Western players, state-owned enterprise closed or privatized and economies open to the force of globalization. As a result pensioners were initially well insulated against transition shocks compared to groups like the unemployed, single parents and unskilled workers.*

Yet, turmoil resulting from reforms and fueled by external debt and growing fiscal imbalances caused local economic crises, such as those that hit Hungary and the Czech Republic in 1995. Eventually each CEE country undertook substantial first-pillar changes in the mid-1990s. Retirement ages were increased, incentives for early retirement were reduced, a stronger link between contributions and benefits was established and contribution periods increased. However, in some countries reforms went significantly further.

Led by Hungary in 1998 and Poland in 1999, many countries introduced mandatory second-tier schemes with fully funded individual defined contribution accounts. Only the Czech Republic and Slovenia chose not to opt for a mandatory second tier. ** After the reforms, most countries in the region had a reformed state pension complemented by a mandatory second tier made up of funded individual accounts and voluntary pension savings. According to the report *Big and Getting Bigger* (Allianz, August 2010), CEE- ☞

POLES APART

■ **Under the communist regime,** central planning provided a job and guaranteed benefits, including pensions, to all citizens. After the collapse of the Iron Curtain in 1989, Poland initiated a "shock therapy" of quick economic reform. While considered a success, it pushed a wave of workers toward early retirement and placed pressure on the PAYG system in which all benefits were paid from current tax revenue.

■ **Poland was one of the first CEE countries** to reform its pension system. When it introduced a mandatory second pillar and a voluntary third pillar of occupational savings in 1999, it was one of the most radical reforms in Europe.

■ **In addition, Poland overhauled** the state PAYG pension along the lines of Sweden's notional defined contribution (NDC). This mimics funded pensions, as benefits paid from the first pillar depend strictly on contributions deposited into a virtual account throughout a citizen's working life. The final regular payment is also based on life expectancy of the cohort.

■ **In effect, Poland has eliminated** the type of redistribution that existed under PAYG and replaced it with a get-what-you-pay-for system.

* "Perception vs Reality" an interview with Seán Hanley, senior lecturer in politics at the School of Slavonic and East European Study at University College, London featured in *PROJECT M* #07, 1/2011.
** *Central and Eastern European Pensions 2007*, Allianz Global Investors

funded pension assets were growing strongly ever since the reforms were introduced.

ON SECOND THOUGHTS

As noted in the section on the Pension Sustainability Index, central and eastern Europe was hit hard by the downturn. As a response, Estonia, Hungary, Latvia, Lithuania, Poland and Romania reversed their pension reforms of the 1990s and early 2000s to strengthen their immediate fiscal outlook. Countries did this by changing the financing model to freeze or divert contributions back from funded, private sector second-pillar systems to the unfunded public sector.

Hungary even used accumulated pension assets to reduce government debt by forcing employees back into the first pillar. With financial markets on edge across Europe over debt and deficits, the Hungarian government faced budget cuts similar to Greece. However, the government of Prime Minister Viktor Orban effectively seized up to €11.8 billion ($14 billion) in private pensions through threats that unless workers opted back into the first pillar with all their assets they would lose all rights to a state pension on retirement. Although they would be obliged to continue contributions to the pay-as-you-go (PAYG) pension system, they would receive only the returns on their pension investment – estimated to be a quarter of the value of a state pension.

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- *Pension Sustainability Index*, International Pension Papers, Allianz Global Investors (forthcoming)
- *Pension Trends in Emerging Markets – The Rise of DC Plans and Its Consequences*, International Pension Papers 2/2008, Allianz Global Investors,
- *Central and Eastern European Pensions 2007 – Systems and Markets*, International Pension Studies 2007, Allianz Global Investors

* As a response to this unconventional approach, the International Monetary Fund has stated there is an urgent need to design a "pension adjusted budget balanced" fiscal indicator that "avoids providing perverse incentives for governments to undertake policies that might be damaging for their long-term fiscal health and fiscal transparency." *A Fiscal indicator for Assessing First and Second Pillar Reforms* (April, 2011) states "Traditional deficit and debt indicators focus on the health of public finances today, but fail to capture the future impact of different public programs. This weakness is evident in the treatment of pension reforms, which often strengthen the long-term fiscal outlook but do not necessarily improve – and sometimes worsen – fiscal balance and debt indicators in the near term."

** *IPE MAGAZINE* reported ("Poland: Ongoing pensions saga" 4 Jan, 2011) that Poland, Sweden and seven central European countries "asked the European Commission to allow them to net off the cost of the reformed system against public debt as contributions to state pension funds count as revenue under current EU rules, while transfers to second-pillar funds count as spending."

OUTLOOK

Eastern European countries predominantly have low pension assets (apart from Poland and Hungary, assets typically amount to less than 10% of GDP), but systems that embrace DC principles. This reflects the restructuring undertaken on formal pension systems in the region in the last two decades after the collapse of communism. The Global Pension Map illustrates the status of each pension system in terms of the ongoing reforms. Each country is at a different stage, so the pension landscape shows up as a patchwork of colors.

The kaleidoscope of colors evident in central and eastern Europe can be expected to change in coming years as all countries are still undertaking major pension reforms. Changes in the first pillar are still being phased in or have been freshly initiated, and this is being accompanied by a build up of assets in the funded pillar mainly in the DC direction.

However, the recent unconventional approach by governments may have helped reduce immediate fiscal deficits, but it is feared may worsen the longer-term fiscal outlook and the sustainability of the pension system.* ** Pension planning requires confidence instilled by long-term consistency and this retrograde move in many countries sews doubts upon the validity of the system.

EUROPEAN OLD-AGE PROVISION AT A GLANCE

- **Pre-tax public pensions range** from a replacement rate as low as 30% for today's average earners in the United Kingdom, to a high of 96% in Greece.
- **On average,** nearly 50% of an average earner's pay is covered by public pensions. Mandatory private pensions bring the average replacement rates closer to 65%.
- **In comparison,** US workers with an average income receive a replacement rate of 40% from Social Security.
- **Nine of the EU-17 countries have** established reserve funds to partially fund the public pillar; these are crucial players in the financial markets.
- **Pension reserve funds** are driving and strengthening a trend toward socially responsible investing (SRI).
- **Italy and the United Kingdom** are both introducing auto-enrollment.
- **60 million workers (25%)** throughout Europe participate in a DC plan.
- **European DC accounts hold** over a trillion US dollars in assets.

WESTERN EUROPE: BREAKING FROM THE PENSION TRAP

While reform activity has been evident worldwide, it has been particularly marked in western Europe, where almost every country has undergone significant changes in their pension systems since 1995. European nations have a history of state pensions stretching back more than 120 years, but the systems implemented in each country differed substantially in their aims. Some, such as that in the United Kingdom, were designed to protect citizens from absolute poverty. Others, like those in Germany and Greece, aimed to keep citizens living in retirementat a comparable standard to their active years in the workforce.

BISMARCK'S PENSION TRAP

- **Germany was the first modern nation** to introduce an old-age social insurance (pension). William the First wrote to parliament at the request of Chancellor Otto von Bismarck, explaining "Those who are disabled from work by age and invalidity have a well-grounded claim to care from the state."
- **The system,** introduced in 1889, set retirement at 70 years of age. Average life expectancy was then 35.6 years for men, 38.4 for women. In 1916, retirement age was lowered to 65, which has been a default applied in many countries since then.
- **Today, life expectancy in Germany** is 77.3 years for men and 82.5 years for women – and rising. Like many countries, Germany faces the question of how to support growing numbers of retirees without bankrupting the economy. With retirement set at an arbitrary age rather than disability, an increasing number of otherwise fit and active people are withdrawing their human capital from the economy.
- **This has been referred to as** "Bismarck's pension trap." The goal of the Iron Chancellor was actually to purchase social peace through a limited redistribution of income. He personally believed that as long as a person was fit enough to work, he or she should, in principle, arrange for their own protection, regardless of age.

However, as the later decades of the 20th century progressed, European governments realized they faced a common and growing issue that compelled them to undertake fundamental reforms. The issue has sometimes been referred to as "Bismarck's pension trap" (see below left) and a 2010 Green Paper released by the European Commission on pensions, explained the reasons behind the urgency.* Life expectancy in Europe has risen by five years in the last half-century – and a further rise of seven years could occur by 2060.

Combined with low fertility rates, this graying of the population will affect almost every aspect of European society. In economic terms, its impact will be felt from growth and productivity, to demand, infrastructure, innovation and labor markets. Critically, it could also strain public finances as increasing numbers of retirees rely on the public purse for a large portion, or even all of their retirement income.

Reforms undertaken in western Europe were essentially aimed to improve the sustainability of the public pension systems and relieve pressure on public finances. Traditionally, most western European countries were textbook examples of the dominance of public pay-as-you-go (PAYG) pension systems. In an effort to spread the load of retirement income across a wide base, governments initiated the far-reaching reforms to create a multi-tiered structure for retirement provision. Generally speaking, these reforms have been successful and helped place national systems on a much more sustainable footing.

OUTLOOK

Lord Adair Turner, chair of the Financial Services Authority in the United Kingdom, believes the notions of a pension crisis in Europe are now

A QUESTION OF ADEQUACY

■ **With people living longer and in greater numbers,** adequacy (the ability of individuals to maintain their living style to a reasonable level after retirement) is becoming an important question for governments, companies and citizens. In Europe, adequacy was a central theme in the *European Green Paper on Pensions* issued in July 2010.

■ **László Andor,** European commissioner for employment, social affairs and inclusion, told *PROJECT M* that the question of pensions needs to be addressed, because to maintain the successful European model in face of changing demographics will mean the choice between "poorer pensioners, higher pension contributions or more people working more and longer."

■ **The commission believes** states need to consider: increasing retirement age and linking it with life expectancy; reducing early retirement schemes; supporting the development of complementary private savings to enhance retirement incomes; the impact of pension payments on the long-term sustainability and adequacy of public finances.

■ **More than 1700 responses to the Green Paper** revealed a strong message that any interference by the commission into national pension systems is unwanted. In addition, some countries define adequacy differently, as living above the poverty line. The issue is not likely to go away, especially as the Commission plans to publish a *White Paper on Pensions* late 2011.

overstated. According to Lord Turner, "The argument is that Europe is facing a crisis of aging and that it is failing to deal with it. I believe more has happened in the way of reform than we sometimes think and, at least in terms of the figures, a lot of progress has been made." *

Yet, while similar demographic pressures have driven European nations to undertake reforms, the pace of the demographic changes differs significantly within each country. In turn, this has affected the tempo of the reforms within each country and means the variety of pension systems in Europe still remains bewilderingly diverse.

This is clearly reflected in the Global Pension Atlas, which shows European governments responded to the question of sustainability with a decided move from PAYG systems to funded systems in most western European and Scandinavian countries. Consequently, a substantial amount of pension assets (at least 10%, if not more than 50% of GDP) has been accumulated into funded assets, and a strong move from DB to DC practices has also been recorded in the region.

* Quoted in "Paradigm Lost" *PROJECT M* #07, 1/2011

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- *Defining the Direction of Defined Contribution in Europe*, International Pension papers 4/2009, Allianz Global Investors
- *Western Europe: Fiscal pressures – ageing costs still on the horizon* International Pension Issues 3/2009, Allianz Global Investors
- *Funded Pensions in Western Europe*, International Pension Studies 2008, Allianz Global Investors

ASIA: AGING QUICKER THAN YOU THINK

Asia may have escaped the financial crisis relatively unscathed, yet there is a challenge building in the East that has gone largely unnoticed by the West. The population in emerging Asian economies, although still young, will age so fast that, within the next decades, many Asian nations will become older than the West.

Developed Asian countries already face unfavorable demographic changes. In fact, Japan is the oldest society in the world and South Korea among the most rapidly aging. But, countries such as China are also aging – and at an astounding rate. China can expect to be old within one generation. By 2050, the median age there will be higher than in the United States. More strikingly, by 2035, one single cohort in China, those 60 and over, will be larger than the entire US population.

Aging is not the only factor having a major impact on Asia's pension systems. Industrialization and urbanization play an important role, particularly in emerging economies. Both developments have uprooted traditional, family-based structures of old-age provision. In the past, a retiree's children provided a substantial part of retirement support in many countries.

As this informal system of old-age support came under pressure in recent decades, Asian governments sought ways to compensate. Yet, the demographic and social changes created a set of challenges for Asian pensions that are distinctly different from Western industrialized countries.

While aging in the West set in when retirement systems were mature and well established, retirement systems in emerging Asia, like those in central and eastern Europe, are a more recent creation. In fact, some countries only recently started from scratch and are racing to build up sustainable systems before the nation becomes old.

While Singapore created its Central Provident Fund in 1955, South Korea introduced its public pension system only in the late 1980s and reformed its corporate pension system in 2005. China introduced public pensions in 1997 and a new corporate pension system in 2004, while Hong Kong established the Mandatory Provident Fund scheme in 2000. Taiwan completely restructured its corporate pension system in 2005 and reformed the public system in 2008.

Pension system design in the wider Asia-Pacific region differs from country to country; there is no single coherent model in operation.* However, it can be said that there is a widespread trend towards the multi-pillar model advocated by the World Bank, even though each country has a different starting point and approach, although all (with the

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* For instance, with regard to the combinations of public, occupational and private pillars and the degree of involvement (mandatory / voluntary) and the degree of insurance coverage.
** *Allianz Demographic Pulse* (August 2010)

SHAPE OF ASIAN PENSION SYSTEMS

Country	Public pensions		Occuptional pensions		
	Social insurance	Multi-purpose Provident Fund	Mandatory occupational pensions	Voluntary occupational pensions	Tax-favored voluntary pension savings
AUSTRALIA	Means tested		•		Voluntary contributions to superannuation, Retirement Savings Accounts
CHINA	•		•	•	Life insurance
HONG KONG	Means tested		•		Voluntary contributions to MPF
INDIA	Means tested		•	•	Public Provident Fund
JAPAN	•			•	Mainly life insurance
SINGAPORE		•			Supplementary Retirement Scheme
SOUTH KOREA	•			•	Private Personal Pension Plans
TAIWAN	•		•		Life insurance
THAILAND	•			•	Retirement Mutual Funds

exception of New Zealand and Korea) are almost exclusively DC in nature.

OUTLOOK

With regard to pension market size, the mature markets in the Asia-Pacific region are clearly Australia, Japan and Singapore, whose pension assets exceed 50% of GDP. India also stands out, but for a different reason. There, pension assts are negligible, amounting to far less than 10% of GDP, since the majority of the population is still unable to save for retirement.

In between are other Asian countries, such as China and Korea, that are intent on building up their pension assets. This focus can be expected to increase retirement assets. According to Allianz Global Investors projections, assets in the Asian emerging markets could grow by up to 17% per year between now and 2020. The growth rates in China and South Korea may be up to 20% yearly, mainly due to the introduction of new occupational systems.

The stress that aging populations place on public pension systems makes it likely that public pension benefits will remain moderate in emerging Asia. Future pensioners will need to build a nest egg and will depend heavily on funded retirement savings for their well-being in old age.

The Taiwanese retirement market is projected to achieve 15% growth per year, while the more mature systems of Hong Kong and Singapore may see a yearly increase of 9% and 6%, respectively. **

The Allianz Global Investors Pensions Sustainability Index, which measures the sustainability and need for further reform of pension systems, mainly in terms of fiscal sustainability, shows that Hong Kong, with its strong reliance on the fully funded Mandatory Provident Fund, has the soundest pension system among this group of countries, along with Australia. Reform pressure in Taiwan, South Korea and Singapore is in the medium range, while China and India come last. The main reason is the sparse coverage offered for the rural population.

AMERICAS: WASHINGTON'S D.C.

The Americas can claim to be the birthplace of defined contribution schemes. Chile's radical switch in November 1980 from a pay-as-you-go (PAYG) to a fully capitalized system run by private pension funds sparked much discussion about DC plans. But it was the United States' strong adoption of the 401(k) plan (named after a section of the Internal Revenue Code) after 1981 that helped inspire the worldwide swing towards DC.*

Citizens of the United States traditionally viewed retirement as a three-legged stool comprising payouts from an employer-sponsored DB retirement plan, their own investments and assets, and Social Security. If this was ever true (even at the height, only 28% of private sector employees participated in a DB scheme), it is certainly now history.

Olivia S. Mitchell, professor of insurance and risk management at the Wharton School of the University of Pennsylvania and director of the school's Pension Research Council, believes the consequences of these trends are clear. "Past generations were fortunate in having reliable old-age security. The story is quite different for baby boomers. I think retirement is becoming a more fraught and riskier period of life."

This is especially true as another leg of the stool, Social Security, which provides a quasi-retirement income, is in bad shape, according to the *2011 Annual Report of the Social Security Board of Trustees*. And with approximately 78 million baby boomers (those born between 1946 and 1964) coming into retirement age (currently there are 37 million retirees receiving payments), Social Security is under increasing stress. Last year, expenses exceeded tax receipts for the first time, although this had been predicted not to happen for several more years. The fund is projected to be depleted by 2036.

But at the same time that the foundations of Social Security have appeared shaky, a shift occurred in occupational pensions from DB to DC schemes. According to the Employee Benefit Research Institute (EBRI), 28% of private sector employees in the United States had a DB pension scheme in 1979 and 7% participated in a DC scheme. In 2008, 31% participated in a DC scheme and only 3% in DB. At the heart of this shift lies the 401(k) plan and it is a primary reason why the United States remains by far the largest retirement market. In 2009, it accounted for slightly over 50% of the world's retirement assets.

The Canadian Pension System is substantially different to its southern neighbor. The public system, dating from 1927, consists of a flat-rate

THE GOLDEN COHORT

- **It may not seem like Fortune smiled if you were born in the Depression and raised during World War II, but comparatively, you may be part of the luckiest generation in history. Often referred to as the Golden Cohort, the generation born in the 1930s grew up in a period when childhood diseases such as diphtheria and polio were virtually eradicated.**
- **It was a time when diet and housing underwent substantial improvement, education became general and many demanding industrial jobs were being phased out and replaced by those in the service sector.**
- **This generation also reaped the benefits of the welfare state, including soft retirement with index-linked pensions and, afterwards, reasonable health services. "Through one thousand generations of civilized life on this planet, we have never seen anything like this before," says Professor David Blake. "And you have to begin to wonder how long it can continue in its current form."**

* See footnote on page 7 concerning Singapore's DC scheme
** *Latin American Economic Outlook 2008*, OECD

pension and an earnings-related component. In 1965, the system was reformed with the introduction of the Canadian Pension Plan (CPP). The CPP is a compulsory social insurance plan, in which employees and employers contribute towards a wage-related retirement pension.

Occupational pensions are voluntary and can be sponsored by employers. Both single and multi-employer plans are possible. In the pension market, DB is the most common plan, however, DC plans are on the rise.

Chile, the country that pioneered the path to DC, saw its 1980 pension reform itself undergo reform in 2008. There is a tendency to see Chile's radical approach as consisting of one pillar of DC accounts, however, this is not the case. This system is complemented by a means-tested basic pension and a supplementary pension for those contributors to the DC system whose pension is lower than a certain amount.

The pension reforms of 2008 strengthened these public pension provisions with the aim of increasing pension coverage, promoting greater gender equality within the pension system and lowering management cost and prices. The result is a system that has become far more redistributive than originally designed.

Mexico was one of the Latin American countries that followed Chile's lead. In 1997, Mexico replaced its pay-as-you-go (PAYG) system with mandatory individual DC accounts for private sector employees. Workers and employers contribute to the individual accounts and this includes a government contribution as well.

The Mexican system is complemented by a minimum pension, equal to the minimum wage. Employers can provide voluntary occupational plans, either alone or in groups, however, these plans cover only a small minority of employees.

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- *The Global Crunch and its Long-term Impact on US Retirement Investing,* International Pension papers 4/2010, Allianz Global Investors
- *Retirement at Risk II: Challenges for US Baby Boomers Approaching Retirement*, International Pension Papers 3/2009, Allianz Global Investors
- *Retirement at Risk: The US Pension System in Transition,* International Pension Papers 3/2008. Allianz Global Investors

OUTLOOK

The increasing shift of emphasis to personal responsibility for adequate retirement funds has resulted in a strong shift to DC plans in the Americas that could have run its course.

In the United States, DC plans are well established, but concerns about adequate coverage of broad sections of the population may mean occupational retirement plans will be further extended, possibly through mechanisms inspired by behavioral finance, such as automatic enrolment and save-more-tomorrow schemes.

At the national level, nine Latin American countries have since followed Chile's example in establishing PAYG systems, although without the same positive results for fiscal consolidation and by increased national saving.** In Chile, it has also contributed to financial development.

CONCLUSION

The reform path towards funded pensions has been stress-tested by the recent financial crisis. The downturn reduced individuals' retirement assets substantially. Those close to retirement now have little time to make up the shortfall. They face the decision to continue working into their retirement years – if work can indeed be found – or retiring on substantially less than they planned.

Worryingly, worldwide surveys show that most individuals are ill-equipped to handle their financial responsibilities prudently. Financial illiteracy can clearly worsen a standard of living in old age that has already been ravaged by market downturns.

This development has raised a broad and intense public discussion around the adequacy of retirement income in Europe, the US and elswhere. It is not surprising that the OECD states that better-empowered consumers are an important factor in efficient financial markets and economic growth.*

Some countries have already started to apply an approach derived from behavioral finance results: auto-enrollment, save-more-tomorrow programs, carefully designed default options and DC guarantees are a few examples that are proving to help increase individuals' welfare. Such approaches may now determine a newer pathway to future pension reforms.

For individuals, the growing need for retirement savings has one crucial implication. Saving and investment decisions will significantly determine the living standards in retirement and, naturally, they have only one shot at getting them right.

* *Financial Literacy and Consumer Protection: Overlooked Aspects of the Crisis* (June 2009)

AUTHORS


Alexander Börsch


Renate Finke


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