



# PENSION MARKETS IN FOCUS

November 2007, Issue 4

## In this issue

Highlights .....	2
Section 1: Overview of Assets Accumulated in Funded Pension Arrangements.....	3
Section 2: Sovereign and Public Pension Reserve Funds: An Overview .....	15
News in Brief .....	21
Recent and Forthcoming OECD Meetings and Publications on Funded Pensions .....	23

**Financial Affairs Division of the OECD Directorate of Financial and Enterprise Affairs.**

Please address all correspondence to:

[pensionmarkets.newsletter@oecd.org](mailto:pensionmarkets.newsletter@oecd.org)

If you wish to subscribe to Pension Markets in Focus please send an email with your full contact details.

Pension Markets in Focus can be downloaded at:

[www.oecd.org/daf/pensions/pensionmarkets](http://www.oecd.org/daf/pensions/pensionmarkets)

This publication was prepared by the Private Pensions Unit with information provided by the OECD Task Force on Pension Statistics, sub-group of the OECD Working Party on Private Pensions

Editors:

Jean-Marc Salou, Juan Yermo

Research:

Yu-Wei Hu, Stéphanie Payet

Publishing:

Edward Smiley

2006 saw a continued, steady expansion of pension funds in OECD and selected non-OECD countries. Funded arrangements are playing an increasingly important role in delivering retirement income security in many countries and reforms to encourage the safe development of private pensions are now in place in many countries. In numerous OECD countries where pension fund markets are still currently in their infancy, there is a huge potential for growth.

The global pension landscape is also expanding with the emergence of new sovereign and public pension reserve funds (SPFs) and rapid growth of existing ones. These funds, which this publication has been monitoring since 2005, are becoming a key financing element of pension systems. They are expected to witness rapid growth over the next years as policymakers attempt to better protect social security systems from the effects of population ageing. SPFs have become a very useful tool for future public pension reforms, and in this respect, may also call for appropriate regulatory framework, along the lines of those provided for private pension funds.

As in previous editions, this fourth edition of 'Pension Markets in Focus' also reviews recent trends in long-term and retirement savings, their size and economic significance, and trends in asset allocation. As of 2006, there was a slight shift to bonds recorded by the OECD Global Pension Statistics indicators.

We also report that pension funds are increasingly diversifying their portfolios and looking to enhance returns through more sophisticated strategies, including through the use of a range of alternative investments. Nevertheless, despite the increasing popularity of alternative investments in the pension investment community, a number of key issues should be addressed carefully if fiduciaries and sponsors are looking for a long-term solution to funding shortfall problems. These include more transparent investment disclosure, better understanding and confidence on the part of pension fund fiduciaries, and more consistent performance measurement.

André Laboul

*Head of the Financial Affairs Division,  
Directorate of Financial and Enterprise Affairs, OECD*

---

# Highlights

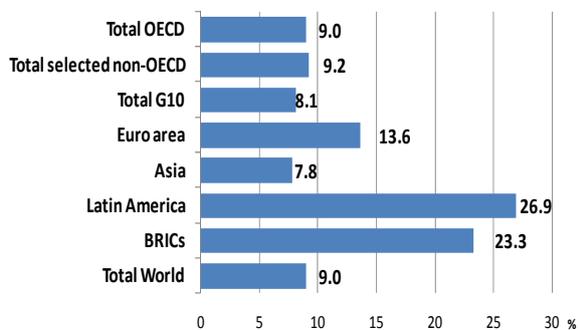
## Section 1: Pension fund markets in OECD and selected non-OECD countries

### Total pension fund and retirement assets in 2006

- In 2006 the total OECD funded pensions market, including both occupational (workplace-related) and personal arrangements, was valued at approximately USD 24.6 trillion (EUR 19.6 trillion). Of this, 66.1%, valued at USD 16.2 trillion (EUR 12.9 trillion), was held by pension funds, 17.7%, worth USD 4.3 trillion (EUR 3.4 trillion), was held in retirement products provided by banks or investment management companies, 14.1% (USD 3.5 trillion or EUR 2.8 trillion) was held in pension insurance contracts – run by life and pension insurance companies – and 2.1% (USD 0.5 trillion or EUR 0.4 trillion) were “book reserves”, a form of identified reserves or provisions for pension payment purposes in the balance sheet of the sponsoring company.

### Growth in world's pension fund assets

Average growth rate by region, 2004-2006



- Large pools of pension assets have also been accumulated in non-OECD economies. In terms of volume of assets, these markets remain comparatively small in relation to OECD ones, with a total of USD 0.6 trillion, as shown in Table 1. However, pension assets in non-OECD economies grew much faster than those in OECD countries. For example, the average growth rate between 2004 and 2006 was 8.1% in G10 countries and 13.6% in the Euro area, while this ratio was much higher in the Latin American countries (26.9%) and BRICs (23.3%). When both OECD and non-OECD economies are taken into account together, the world

pension funds were equivalent to USD 16.9 trillion in 2006, up from USD 14.2 trillion in 2004, while the associated growth rate was 9.0% during this two-year period.

### Asset allocation

- In the OECD and selected non-OECD countries as a whole, bonds and shares remain the two most important asset classes for pension funds and accounted for half of the total investments in most countries in 2006. In many countries, these two asset classes accounted for over 80% of the total portfolios. The highest share allocations were observed in the Russian Federation (59.9%), the Netherlands (54.6%), United States (49.6%) and Hong-Kong, China (49.7%).

## Section 2: Sovereign and public pension reserve funds (SPF) in OECD countries

### Total SPF fund assets

- The assets managed by Sovereign and Public Pension Reserve Funds - established to support the “Pay as you go” liabilities of state pension schemes – are growing more rapidly than those of pension funds. Total SPF assets in OECD countries were worth USD 4.1 trillion in 2006, approximately one quarter of pension fund assets. From 2001 to 2006, the average growth rate in SPF assets in US dollar terms was 9.1%.
- In certain countries, the value of SPF assets relative to the economy far exceeds that of private pension funds. For example, Norway had the largest SPF, with an asset-to-GDP ratio of 83.0%, in 2006 (6.8% for pension funds). Other countries where SPFs were significant relative to the economy include Sweden at 30.6% (9.5% for pension funds), Japan at 27.9% (23.4% for pension funds) and Korea at 21.5% (2.9% for pension funds). On average, the ratio of SPF assets-to-GDP was 23.9% for OECD countries.

---

### SPF asset allocation

- SPF asset allocations vary considerably and in some cases a conservative portfolio is mandated by law (in Spain and in the United States, for example). Most SPFs have higher risky investment strategies due to the long investment horizon. Ireland's National Pensions Reserve Fund had the highest share weighting at 77.1%. Other SPFs with a high share weighting include Canada (58.5%), France (62.1%), Sweden (59.5%) and New Zealand (60.0%).
- There is a trend towards increased exposure to alternative assets. While in most cases the allocation remains comparatively small relative to the total portfolio, the New Zealand Superannuation Fund substantially increased its allocation to alternative investments – to 12.7% in 2006, up from 0.5% in 2005.

---

## Section 1: Overview of Assets Accumulated in Funded Pension Arrangements

In 2006 the total OECD funded pensions market, including both occupational (workplace-related) and personal arrangements, was valued at approximately USD 24.6 trillion. Of this, 66.1%, valued at USD 16.2 trillion, was held by pension funds, 17.7%, worth USD 4.3 trillion, was held in retirement products provided by banks or investment management companies, 14.1% (USD 3.5 trillion) was held in pension insurance contracts – run by life and pension insurance companies - and 2.1% (USD 0.5 trillion) were “book reserves”, a form of identified reserves or provisions for pension payment purposes in the balance sheet of the sponsoring company.

In 2006, Denmark, at 139.3%, had the highest ratio of pension plan assets relative to GDP, as shown in [Figure 1](#). Pension insurance contracts accounted for almost two thirds of the total Danish market. Other countries with a large private pension market relative to GDP included the Netherlands (138.0%), Iceland (137.6%), Switzerland (122.1%), the United States (120.5%), and Canada (102.7%). In comparison to Denmark, for these five countries, the most common financing vehicle was pension funds.

In the remaining OECD countries, aggregate national pension plan assets, including all available financing structures, were worth less than GDP, ranging from 1.0% in Turkey, 3.3% in Italy, 12.7% in Spain, 56.8% in Sweden, 89.1% in the United Kingdom to 94.3% in Australia. Across these 23 countries pension funds are the main financing vehicle, with the exception of three countries: Sweden, Korea and France.

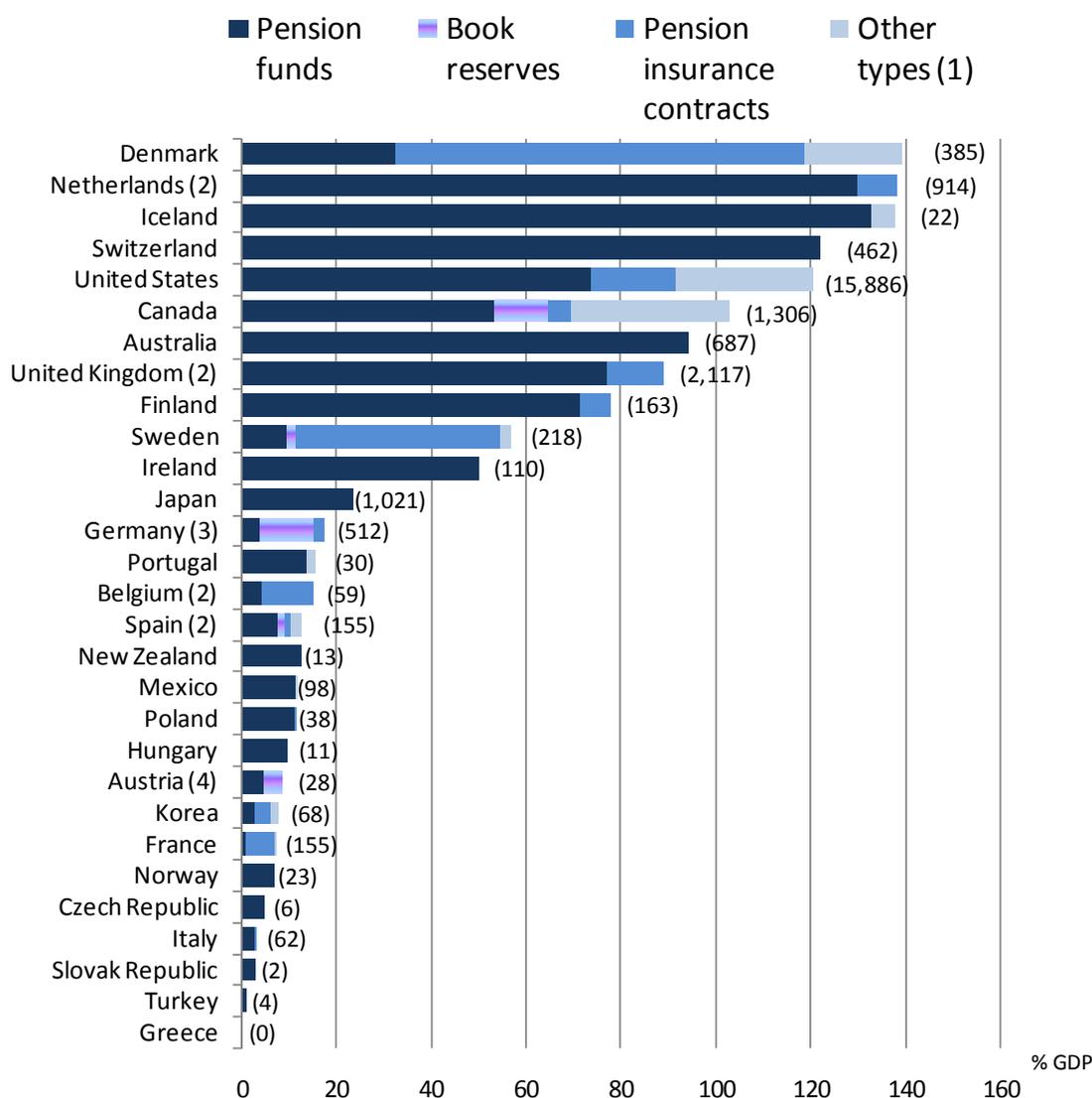
Based on the OECD classification, there are three main types of funded private pension plans: pension funds (autonomous), book

reserves (non-autonomous) and pension insurance contracts, as well as a residual category, “Other”, which includes any private pension arrangements not included above. The distinction between these plans is the financing vehicle ([for definitions see Box 1](#)).

The continuing economic and social importance of pension funds across the OECD area is evident from the dominance of occupational pension arrangements in privately managed pension systems. Occupational pensions are overwhelmingly funded via pension funds in most OECD countries. Personal plans, on the other hand, in many countries are funded via pension insurance contracts or financial products provided by banks and asset managers. The main exception to this distinction between occupational pension funds and individual insurance contracts are the national mandatory individual account pension plans established in countries such as Hungary, Mexico, Poland and the Slovak Republic, which are financed only via pension funds during the asset accumulation stage.

**Figure 1. Heterogeneity of financing vehicles used in funded pension arrangements across OECD countries, 2006**

% GDP and in absolute terms (USD billion)



Source: OECD, Global Pension Statistics.

## Geographical distribution of pension fund assets

2006 saw a continued, steady expansion of pension funds in OECD countries, with total assets increasing from USD 15.0 trillion in 2005 to USD 16.2 trillion, as shown in [Table 1](#). In US dollar terms, the growth rate for 2005-2006 was 8.2%, which was lower than in the previous year (9.8%).

In absolute terms, the United States had the largest pension fund market in the OECD with assets worth USD 9.7 trillion – approximately two thirds of the total OECD aggregate market, as shown in [Figure 2](#) and [Table 1](#). The US' share of OECD pension fund assets, however, has shrunk from a level of 68% in 2001 to 60% in 2006. Apart from the United States, other OECD countries with large pension fund systems include the United Kingdom (USD 1.8 trillion), Japan (USD 1.0

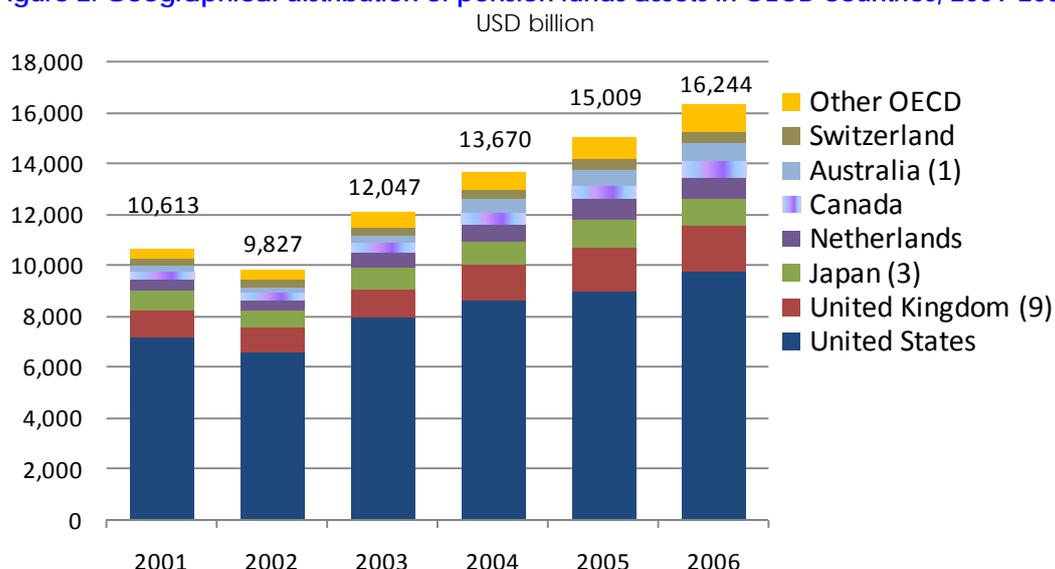
trillion), the Netherlands (USD 0.9 trillion), Australia (USD 0.7 trillion), Canada (USD 0.7 trillion) and Switzerland (USD 0.5 trillion). For these six countries, the share of the whole OECD pension fund market was 11.3%, 6.3%, 5.3%, 4.2%, 4.2% and 2.8%, respectively.

For the remaining 23 OECD countries, in 2006 total pension fund assets were valued at approximately USD 1.0 trillion, which accounted for 6.0% of the OECD total.

Large pools of pension assets have also been accumulated in non-OECD economies. In terms of volume of assets, these markets remain comparatively small in relation to OECD ones, with a total of USD 0.6 trillion, as shown in Table 1. However, pension assets in non-OECD economies grew much faster than those in OECD countries. For example, the average growth rate between 2004 and 2006 was 8.1% in G10 countries and 13.6% in the

Euro area, while this ratio was much higher in the Latin American countries (26.9%) and BRICs (23.3%). When both OECD and non-OECD economies are taken into account together, the world pension funds were equivalent to USD 16.9 trillion in 2006, up from USD 14.2 trillion in 2004, while the associated growth rate was 9.0% during this two-year period.

Figure 2. Geographical distribution of pension funds assets in OECD countries, 2001-2006



Source: OECD, Global Pension Statistics.

### Box 1. OECD Classification of Pension Plans by Financing Vehicles

#### FINANCING TYPES

Pension funds (autonomous)	The pool of assets forming an independent legal entity that are bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. The plan/fund members have a legal or beneficial right or some other contractual claim against the assets of the pension fund. Pension funds take the form of either a special purpose entity with legal personality (such as a trust, foundation, or corporate entity) or a legally separated fund without legal personality managed by a dedicated provider (pension fund management company) or other financial institution on behalf of the plan/fund members.
Book reserves (non-autonomous)	Book reserves are sums entered in the balance sheet of the plan sponsor as reserves or provisions for pension benefits. Some assets may be held in separate accounts for the purpose of financing benefits, but are not legally or contractually pension plan assets.
Pension insurance contracts	An insurance contract that specifies pension plan contributions to an insurance undertaking in exchange for which the pension plan benefits will be paid when the members reach a specified retirement age or on earlier exit of members from the plan.
Other	Other type of financing vehicle not included in the above categories.

Source: OECD, 'Private Pensions: OECD Classification and Glossary'. The full document on the OECD Classification is available at: [www.oecd.org/daf/pension](http://www.oecd.org/daf/pension).

Notes related to charts and tables contained in the publication can be found on pages 19 and 20. Most of tables and charts contained in this fourth edition, together with the underlying data, can be retrieved in MS Excel spreadsheets format at: [www.oecd.org/daf/pensions/pensionmarkets](http://www.oecd.org/daf/pensions/pensionmarkets)

## Pension fund assets growing in relation to the size of the economy

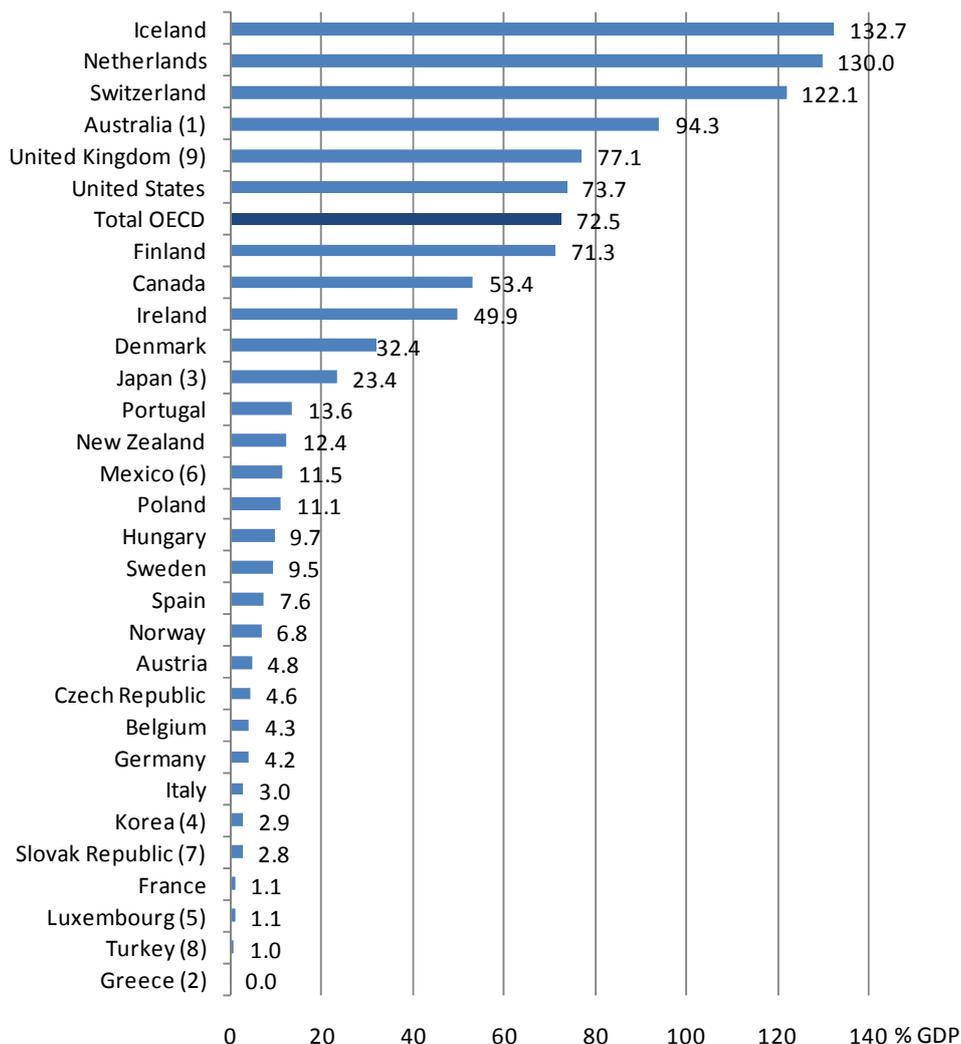
The ratio of OECD pension fund assets to OECD GDP increased from 70.7% in 2005 to 72.5% of GDP in 2006. The largest asset-to-GDP ratio was Iceland's, at 132.7%. Only two other countries (Netherlands and Switzerland) had asset-to-GDP ratios above 100%.

Figure 3 gives comparative statistics across OECD countries for the asset-to-GDP ratio for pension funds in 2006. Iceland's pension market had the highest ratio at 132.7%. Two other OECD countries achieved ratios higher than 100% - the Netherlands (130.0%) and Switzerland (122.1%).

The OECD weighted average asset-to-GDP ratio for pension funds was 72.5%, which was

exceeded in Australia, the United Kingdom and the United States, as well as the above-mentioned three countries. For the other countries, pension fund assets were of varying importance relative to GDP. For example, in Italy the ratio of pension funds to GDP was 3.0%, while this figure was 9.5% in Sweden, 11.5% in Mexico, 13.6% in Portugal, and 49.9% in Ireland.

Figure 3. Importance of pension funds relative to the size of the economy in OECD countries, 2006  
% GDP



Source: OECD, Global Pension Statistics.

**Table 1. Total investment in pension funds in OECD and selected non-OECD economies, 2004-2006**  
USD and national currency millions

OECD countries	Total investment in pension funds					
	USD millions			National currency millions		
	2004	2005	2006	2004	2005	2006
Australia (1)	473,142	581,036	687,265	643,000	762,900	912,000
Austria	12,882	14,573	15,611	10,370	11,726	12,442
Belgium	14,355	16,549	16,769	11,554	13,316	13,365
Canada	477,474	569,216	678,952	621,193	689,723	769,932
Czech Republic	3,884	5,152	6,462	99,803	123,417	145,948
Denmark	75,328	87,032	89,570	451,032	521,852	532,312
Finland	117,055	134,163	149,497	94,213	107,951	119,149
France	24,849	24,856	25,094	20,000	20,000	20,000
Germany	104,161	112,587	122,764	83,835	90,590	97,843
Greece (2)	-	-	23	-	-	19
Hungary	6,989	9,338	10,978	1,415,969	1,863,200	2,309,891
Iceland	14,103	19,517	21,672	989,939	1,227,134	1,514,852
Ireland	77,447	96,856	110,093	62,334	77,933	87,744
Italy	44,351	49,520	55,681	35,696	39,845	44,378
Japan (3)	892,762	1,047,819	1,020,807	96,590,600	115,488,500	118,718,800
Korea (4)	11,516	14,652	25,829	13,188,395	15,007,017	24,584,622
Luxembourg (5)	116	391	..	93	315	..
Mexico (6)	42,718	76,409	96,470	481,897	832,071	1,051,817
Netherlands	659,839	769,986	860,877	531,077	619,550	686,119
New Zealand	11,157	12,446	13,120	16,836	17,683	20,231
Norway	16,939	20,266	22,874	114,161	130,541	146,739
Poland	17,140	26,513	37,964	62,576	85,745	117,803
Portugal	18,868	23,591	26,581	15,186	18,982	21,185
Slovak Republic (7)	..	293	1,537	..	9,085	45,564
Spain	69,147	81,551	92,527	55,654	65,618	73,744
Sweden	26,373	33,211	36,397	193,737	248,169	268,355
Switzerland	389,497	434,746	462,095	484,044	542,629	579,005
Turkey (8)	1,539	3,245	3,965	2,195	4,349	5,670
United Kingdom (9)	1,467,118	1,763,762	1,831,290	800,692	970,275	994,391
United States	8,599,308	8,979,361	9,721,120	8,599,308	8,979,361	9,721,120
<b>Selected non-OECD economies</b>						
Argentina	18,306	22,565	29,371	54,167	67,920	89,656
Bolivia	1,716	2,060	2,299	13,797	16,480	18,461
Brazil (10)	105,587	137,558	165,937	280,517	320,200	354,607
Bulgaria	503	712	1,025	794	1,117	1,522
Chile	55,613	68,405	88,293	33,889,085	38,312,676	47,186,675
China (11)	5,954	8,426	11,418	49,300	68,000	91,000
Chinese Taipei (12)	10,650	11,872	12,543	355,958	381,890	408,049
Colombia	10,061	16,749	20,605	26,447,502	38,872,137	45,854,832
Costa Rica	2,968	3,799	4,490	1,299,762	1,815,119	2,295,938
Croatia	1,453	1,959	..	8,770	11,656	..
Dominican Republic	194	381	639	5,710	12,796	21,708
El Salvador	2,148	2,896	3,352	18,795	25,393	30,363
Estonia	213	370	632	2,684	4,655	7,508
Hong-Kong, China	38,210	44,037	52,694	297,655	342,604	409,693
India (13)	38,034	45,128	50,659	1,722,947	1,990,154	2,279,634
Indonesia	6,377	6,492	8,407	57,000,000	63,000,000	77,000,000
Israel	33,051	41,965	47,609	148,069	188,424	201,147
Jamaica	1,610	..	2,007	98,533	..	131,916
Kazakhstan	3,700	4,747	..	503,348	630,781	..
Kenya	1,875	2,328	..	148,448	175,868	..
Lithuania	..	152	..	..	421	..
Mauritius	3,211	3,388	..	88,285	99,936	..
Peru	7,515	9,777	13,913	25,651	32,223	45,547
Russian Federation (14)	10,589	12,177	15,476	299,457	344,376	407,511
Serbia	..	..	4	..	..	225
Singapore (15)	75,020	75,909	70,944	127,535	121,455	113,510
Slovenia	547	804	1,167	105,256	154,911	211,613
South Africa	72,123	..	..	465,915	..	..
Thailand	7,594	8,600	10,320	305,462	345,896	390,928
Uruguay	1,678	2,153	2,586	44,222	51,889	63,098
Zambia	222	271	..	1,060,499	1,208,522	..
<b>Regional indicators</b>				<b>Average growth rates 2004-2006</b>		
Total OECD	13,670,059	15,008,637	16,243,886			9.01%
Total selected non-OECD	516,724	535,679	616,388			9.22%
Total G10	12,700,087	13,801,613	14,831,847			8.07%
Euro area	1,143,070	1,324,623	1,475,517			13.62%
Asia	1,091,358	1,270,927	1,267,584			7.77%
Latin America	205,787	266,342	331,485			26.92%
BRICs	160,164	203,290	243,490			23.30%
Total World	14,186,783	15,544,316	16,860,274			9.02%

Source: OECD, Global Pension Statistics.

## Trends in pension fund assets: robust growth in most OECD countries

Although the aggregate OECD pension market is large, the size of domestic markets varies considerably, reflecting a range of factors. These include the maturity of the markets, whether participation is mandatory or voluntary, and investment policies. These factors have largely determined the path of asset accumulation in recent years.

For ease of comparison, we divide the markets into three categories: mature, growing, and new. [Figure 4](#) shows the pension fund assets-to-GDP ratios for all OECD countries grouped by the maturity of the pension system. The first chart (4A) refers to “mature markets” for which the value of the ratio is generally above 20% in the period 2001 to 2006. The second chart (4B) refers to the “growing markets”, where the value of the ratio ranges from 5% to 20%, while the third chart (4C) refers to “new markets”, where the ratio is less than 5%.

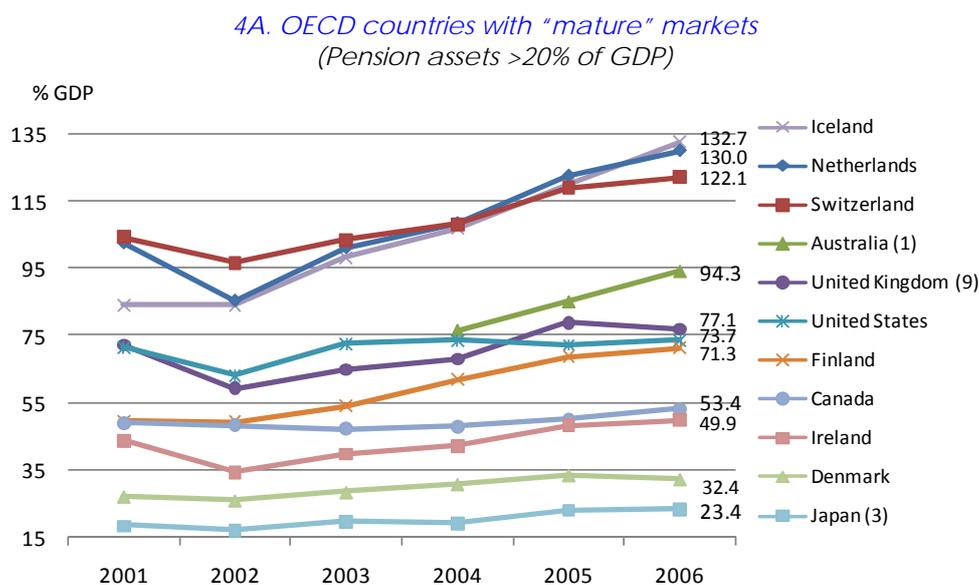
According to this system of classification, 11 OECD countries fall into the “mature market” category (4A). These countries include the six largest markets (in terms of assets relative to GDP) identified earlier – Australia, Iceland, the Netherlands, Switzerland, the United Kingdom and the United States– and also Canada, Denmark, Ireland, Japan and Finland. In all of these countries, occupational pensions have a long tradition,

which has ensured a positive contribution to asset accumulation.

Moreover, recent developments in certain countries could further strengthen their pensions markets. For example, in 2007 the Australian authorities implemented their most comprehensive simplification of the tax system for superannuation in decades, including the removal of pension benefit tax and the simplification of payment rules, which potentially could stimulate pension savings. Meanwhile, in Iceland, the mandatory employer contribution rate was increased by two percentage points in early 2007, which will further stimulate pension asset accumulation in this country.

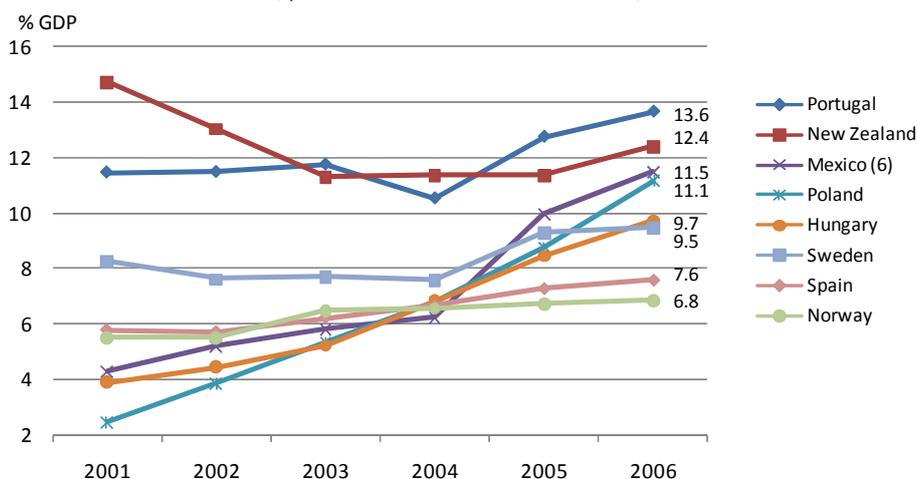
As shown in [Figure 4, \(4B\)](#), there are eight “growing market” countries. Within this category, Portugal has the largest market, as highlighted by the asset-to-GDP ratio of 13.6% in 2006, up from 11.5% in 2001. For the other countries, the value of this ratio was in the range of 5% to 15%, significantly lower than that of the “mature market” countries.

**Figure 4. Trends in pension fund assets relative to the size of the economy in OECD countries, 2001-2006**  
% GDP



Source: OECD, Global Pension Statistics.

4B. OECD countries with "growing" markets  
(pension assets 5-20% of GDP)



Source: OECD, Global Pension Statistics.

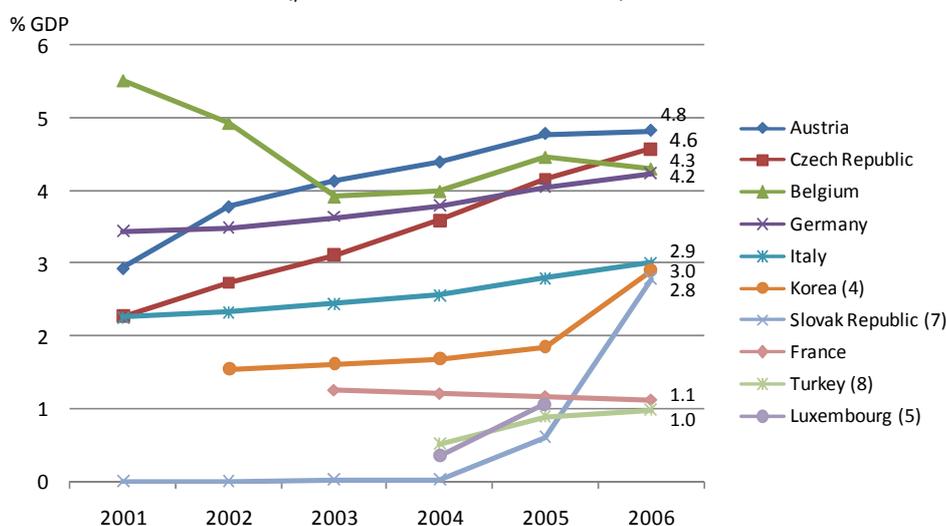
In addition, there are ten "new market" countries (4C), including France, Korea, Germany and Turkey. According to the proposed classification, pension fund assets in these countries were equivalent to a maximum of 5% of the size of the economy in general. Growth prospects for some of the countries in this group are more positive than in others because of the mandatory nature of pension provision (the Slovak Republic) or the transfer of resources from severance schemes to pension schemes (Austria and Italy).

When compared with the "mature market" countries, many of the countries falling within the "growing" and "new" categories have a short history of private occupational

pensions. In addition, the state-run public pension tier in countries like Greece, Italy, Spain and Turkey still plays a major role in the old-age retirement system, limiting the growth of and need for private pensions.

In other countries where pension fund markets are currently in their infancy, there is a huge potential for rapid growth. Countries like Hungary, Mexico, Poland, and the Slovak Republic only established pension funds recently, but as they are mandatory, they are likely to develop rapidly. For example, the pension fund growth rate of assets between 2005 and 2006 was 10.0% in the Czech Republic and 15.1% in Hungary, as is shown in Figure 4, (4C).

4C. OECD countries with "new" markets  
(pension assets <5% of GDP)



Source: OECD, Global Pension Statistics.

## Total assets in DB and DC arrangements

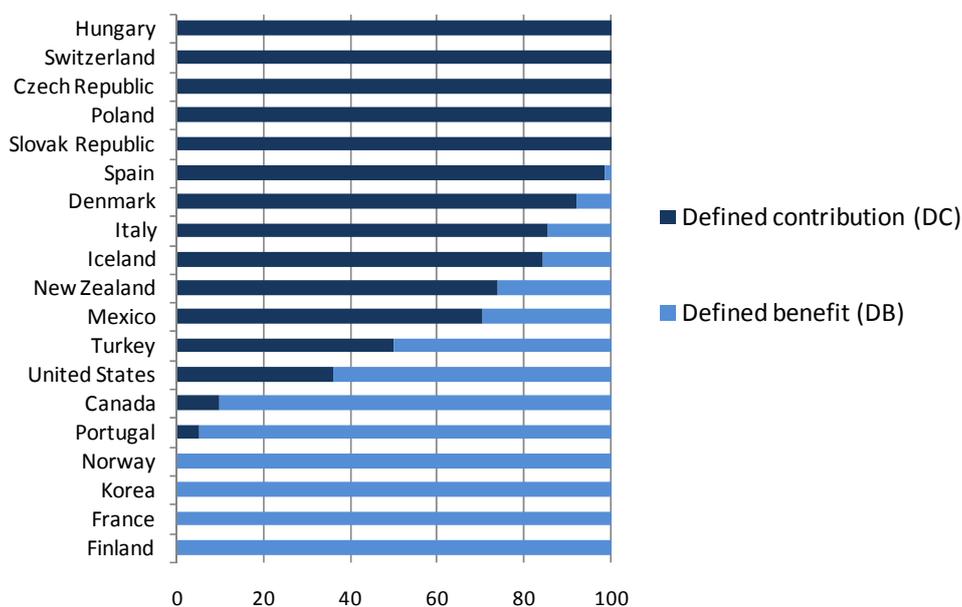
In recent years, occupational pension plan sponsors in many countries have shown an increasing interest in defined contribution (DC) plans, as demonstrated by the number of employers that have closed defined benefit (DB) plans to new entrants and encouraged employees to join DC plans.

DB plans, however, still play an important role, largely due to their historical prominence, as the favoured structure for workplace pensions in many countries. Figure 5 shows that DB and DC assets were almost equal across the OECD area as a whole. However, national markets vary considerably. For example, in Hungary, Switzerland, the Czech Republic, Poland and the Slovak Republic, all pension funds are DC, while DB dominates in Finland<sup>1</sup>,

France, Korea and Norway. In other OECD countries, there is a combination of both DC and DB arrangements.

<sup>1</sup> The Finnish pension system is 100% DB for both voluntary and mandatory occupational pension funds, while personal pension plans in the form of pension insurance contracts are DC.

Figure 5. Relative share of DB and DC pension fund assets in selected OECD countries, 2006  
% total pension assets



Source: OECD, Global Pension Statistics.

## Pension fund asset allocation in OECD countries: bonds and shares remain dominant

In the OECD area as a whole, bonds and shares remain the two most important asset classes and accounted for half of the total pension fund assets in most countries in 2006. In many countries, these two asset classes accounted for over 80% of the total portfolios. Investment in shares increased slightly over 2005 and 2006, which might reflect the continued rally of the global stock market.

Figure 6 shows pension fund portfolio data for OECD countries as of 2006. As is evident, the two traditional asset classes, namely bonds and shares, dominated pension fund portfolios. For example, in Austria 51.3% of the total assets were invested in public bonds, while 36.5% of the assets were in shares, giving an aggregate average

weighting of 87.8% in shares and bonds for Austrian pension funds. For the countries for which data are available, the combined proportion of bonds and shares relative to the total portfolio was 43.8% for Switzerland, 46.7% for Italy, 65.6% for Germany, 84.0% for Spain, 89.3% for the Netherlands, and 97.5% for Mexico.

The third largest investment held by pension funds consists of mutual funds. In 2006, in Belgium, Canada and Switzerland, mutual funds represented respectively, 78.6%, 36.3% and 29.4% of all investments (Figure 6).

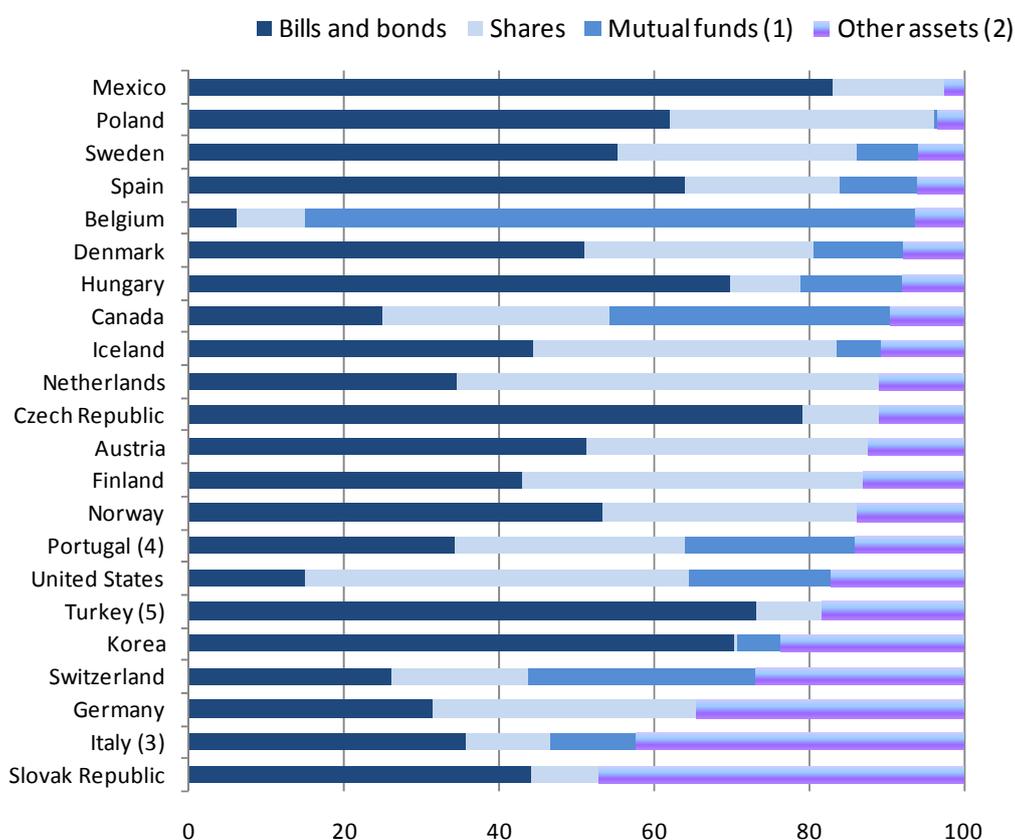
The allocation between the two main asset classes (shares and bonds) varies considerably across countries. Although in general there is a greater preference for bonds over shares, in certain OECD countries, namely Canada, the Netherlands, and the United States, the reverse is true. In

these three countries, the share/bond weighting were 29.3%/25.0%, 54.6%/34.7% and 49.6%/15.0%, respectively.

It is also relevant to note that within the category 'bonds', public sector bonds, as opposed to corporate bonds, comprise a significant share of the combined bond holdings in many countries. For example, public sector bonds comprise 78.0% of total bond holdings in the Czech Republic, 98.6% in Hungary, 80.1% in Italy, 99.3% in Poland, and 60.8% in the United States.

**Figure 6. Asset allocation in 2006 in selected OECD countries**

% total investment



Source: OECD, Global Pension Statistics.

During 2005 and 2006, investment in shares in the OECD area increased by 1.7%, while investment in bonds decreased slightly by 0.8% as shown in Table 2. The countries that saw the biggest increase in asset re-allocation to shares relative to the total portfolio were Portugal (an increase of 8.5% from 21.3% in 2005 to 29.8% in 2006), and the Netherlands (an increase of 8.4% from 46.2% to 54.6%). Much of this increase in the

weighting of shares is due to the global stock market rally between 2005 and 2006. Meanwhile, allocation to mutual funds was in rise during 2005 and 2006 for most of the OECD countries for which data are available. For example, the Swedish pension funds increased its share of mutual funds by 8% in 2006, while such share rose by 4% in Hungary, 0.8% in Spain, and 0.2% in the United States, as shown in Table 2.

The category of investments identified as “Other asset classes” in [Figure 6](#) includes primarily cash, deposits and “unallocated insurance contracts” (such as guaranteed investment products) and to a much less extent alternative investments (hedge funds, private equity, and commodities, among others). A drop in the allocation to cash and similar assets (e.g. money market instruments) was observed in 2005-6. For example, the Portuguese pension funds decreased investment in cash from 10.0% of the total portfolio in 2005 to 4.8% in 2006 – that is, 5.2% decrease over 2005 and 2006. Cash holdings are even lower in other countries: e.g. 1.3% in Iceland, 2.8% in Poland, and 1.0% in the United States.

**Table 2. Variation in asset allocation for major investment categories in OECD countries, 2005 vs. 2006 (%)**

Country	Variation 2006/2005		Memo Item: Mutual funds
	Bills and bonds	Shares	
Australia	..	..	..
Austria	-1.9	-0.5	..
Belgium	-0.2	-0.3	3.8
Canada	1.3	3.4	-3.5
Czech Republic	-1.0	2.4	..
Denmark	0.8	3.7	0.4
Finland	-4.2	5.4	..
France	..	..	..
Germany	0.7	-0.6	..
Greece	..	..	..
Hungary	-5.8	1.6	4.0
Iceland	-5.4	4.7	3.8
Ireland	..	..	..
Italy (3)	-0.6	0.9	-0.3
Japan	..	..	..
Korea	-8.5	-0.2	5.4
Luxembourg	..	..	..
Mexico	-4.2	3.3	..
Netherlands	-6.0	8.4	..
New Zealand	..	..	..
Norway	-2.1	4.0	..
Poland	-1.0	2.1	0.0
Portugal (4)	-6.2	8.5	0.1
Spain	6.4	0.4	0.8
Sweden	-2.4	-3.4	8.0
Switzerland	-1.2	-0.5	3.1
Turkey (5)	-8.1	-2.5	..
United Kingdom (6)	..	..	..
United States	-0.4	1.1	0.2
<b>OECD average</b>	<b>-0.8</b>	<b>1.7</b>	<b>0.2</b>

Source: OECD, Global Pension Statistics.

## Asset allocations in DB and DC pension funds

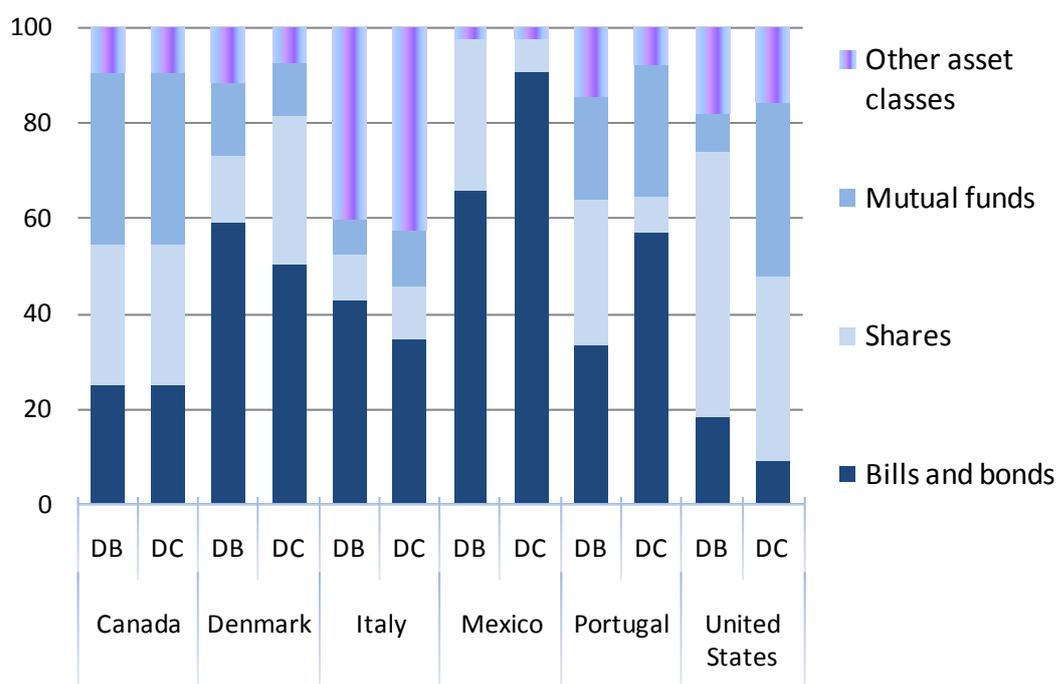
DB plans have traditionally played an important role in the OECD countries, whilst DC plans have grown rapidly in recent years. There are many factors at play driving differences in asset allocation between DB and DC funds.

For example, in countries where DB plans are very mature, there may be more investment in bonds, while DC funds catering mainly for younger workers are likely to have a greater allocation to more risky assets (such as shares). However, the transfer of risk from plan sponsors to employees that results from the DB-DC shift may also lead to a general aversion to higher risk portfolios on the part of individuals and hence lower allocations to shares on aggregate.<sup>1</sup>

[Figure 7](#) shows that there is no consistent pattern in DB-DC investments across OECD countries for which such data is available. For example, in Denmark, DB pension funds allocated 59% of their total assets to bonds in 2006, while DC plans allocated 50% of their portfolios to bonds. The same observation (i.e. a greater investment in bonds by DB plans when compared to DC plans) was found in Italy and the United States. On the other hand, in Canada, Mexico and Portugal, the reverse situation occurs. Meanwhile, mutual funds are also an important asset class in both DB and DC portfolios. For example, in Denmark, mutual funds accounted for 15.5% of DB assets, while 11.3% of Denmark’s DC assets in 2006. These two figures were 7.7% and 11.6% in Italy, and 21.6% and 27.7% in Portugal.

<sup>1</sup> See also “Pension Fund Demand for High-Quality Long term Bonds” (OECD, Financial Market Trends No. 90, OECD, April 2006).

**Figure 7. Structure of DB and DC asset allocation in pension funds in selected OECD countries, 2006**  
% total investment



Source: OECD, Global Pension Statistics.

## Increasing pension fund allocation to alternative investments

Pressure to close DB funding gaps and raise returns is driving a move into alternatives but fiduciaries remain concerned about lack of transparency and robust performance measurement.

Data on alternative asset classes was available at the aggregate level for only a few countries, all of which experienced an increase in the allocation between 2005-6. For Germany, private investment funds (including private equity and hedge funds) accounted for 0.58% in 2005, but increased to 0.62% in 2006, while this weighting for Switzerland increased from 2.8% in 2005 to 3.6% in 2006. In Finland, the Netherlands, Portugal and Switzerland the allocation to hedge funds was 3% on aggregate in 2006. The evidence also shows that it is mainly the larger pension funds that have invested in private equity and hedge funds, while most small funds are yet to enter these markets.

One of the driving reasons for increasing exposure to hedge funds and other alternative investments has been the increasing pressure to reduce funding gaps in DB plans, in response to recent changes in both pension regulatory frameworks and accounting rules in the OECD area. Lower returns in conventional

asset classes have also pressured pension funds to consider investment opportunities providing higher risk-return trade-offs.

The evidence suggests that in most cases pension funds have so far preferred to take a cautious, incremental approach to these new asset classes. This seems prudent, given pension fund fiduciaries' concerns over the lack of transparency of some of these investments and the lack of long-term robust performance data.

Nevertheless, despite the increasing popularity of alternative investments in the pension investment community, a number of key issues should be addressed carefully if funds are looking for a long-term solution to funding shortfall problems. These include more transparent investment disclosure, better understanding and confidence on the part of pension fund fiduciaries, and more consistent performance measurement, among other issues.

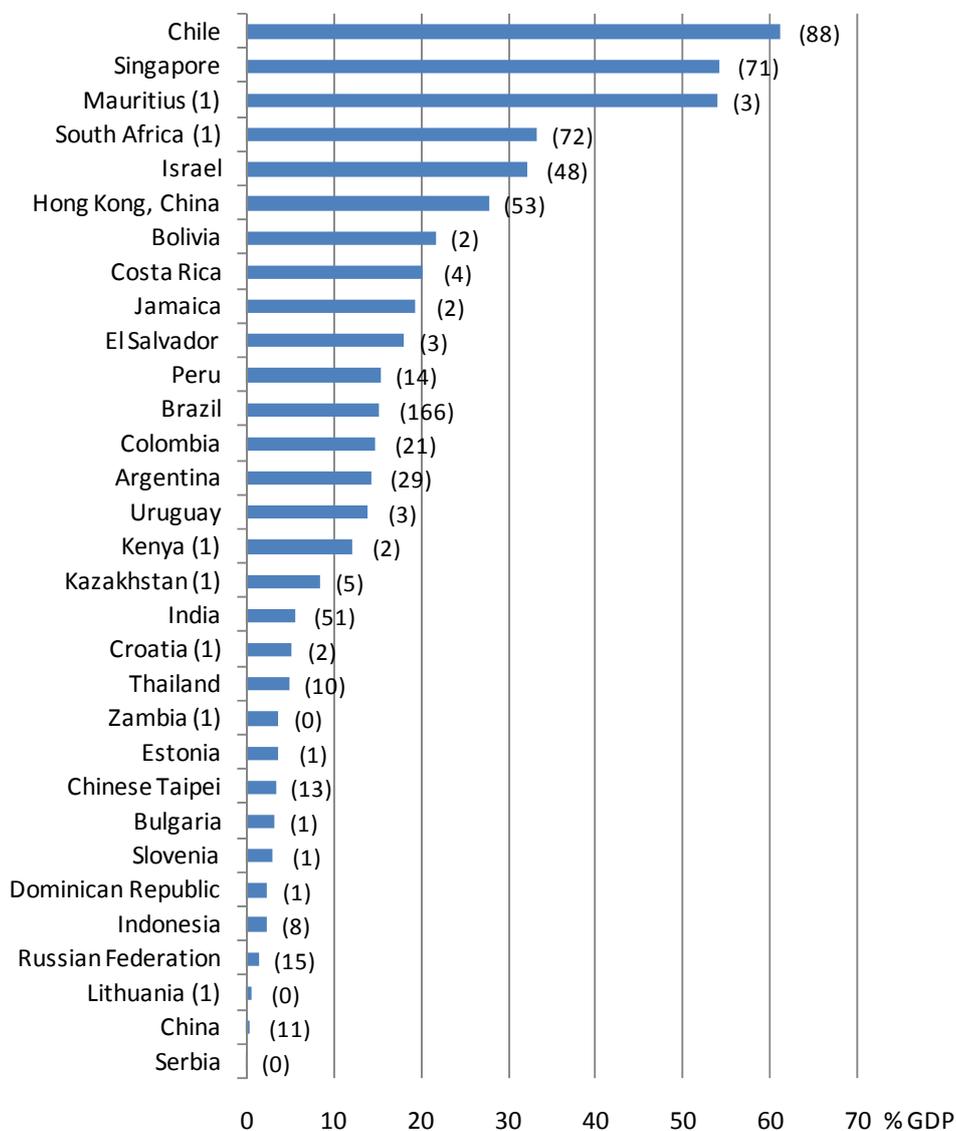
## Focus on pension markets for selected non-OECD economies

Large pension fund asset pools have been accumulated in non-OECD economies (USD 0.6 trillion), although these remain relatively small in absolute terms compared to the OECD area. In a few cases, like in Chile, the pension market is significant relative to GDP and comparable to the OECD average.

Table 1 provides data for 31 non-OECD economies. Brazil has the biggest private pension fund market among the selected non-OECD countries for which data are available, with assets worth USD 165.9 billion, followed by the Chilean pension market, with USD 88.3 billion assets, and the Hong-Kong, China pension market with USD 52.7 billion assets as of 2006. Non-OECD pension markets,

although small in comparison to the OECD area, have grown rapidly in recent years. For example, the Chilean pension market grew from USD 55.6 billion in 2004 to USD 88.3 billion in 2006. Pension fund assets in Slovenia increased from USD 0.5 billion in 2004 to USD 1.2 billion in 2006.

**Figure 8. Importance of pension funds in selected non-OECD economies, 2006**  
% GDP and in absolute terms (USD billion)



Source: OECD, Global Pension Statistics.

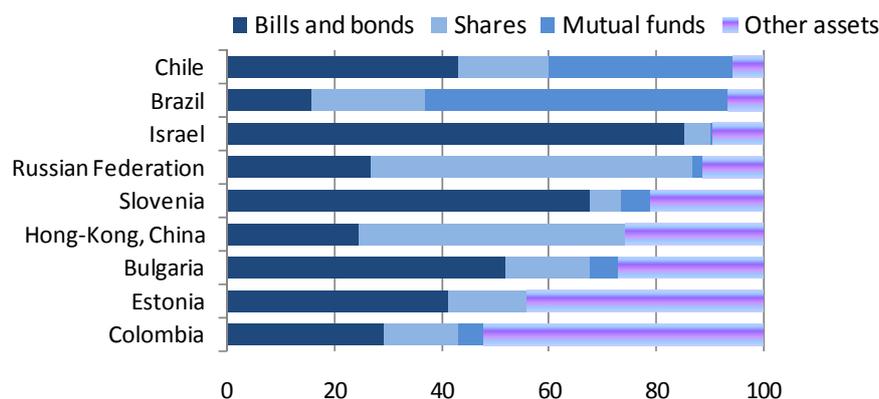
However, in comparison to OECD countries, the pension markets in non-OECD economies are still underdeveloped, as is indicated by the small value of assets-to-GDP ratios shown in [Figure 8](#). Chile, Singapore and Mauritius have the most mature pension system, which is evident from its large value of assets to GDP ratio, i.e. 61%, 54.1% and 53.9%, respectively. Pension markets in the other non-OECD economies were less significant relative to the economy, with an assets-to-GDP ratio of less than 40% (but greater than 20%) in five economies in 2006 (i.e. 33.3% in South Africa, 32.2% in Israel, 27.8% in Hong-Kong, China; 21.6% in Bolivia and 20.3% in Costa Rica), and with an assets-to-GDP ratio ranging from 10% to 20% in eight countries, for example, 15.5% in Peru, 15.3% in Brazil and 14.8% in Colombia. The remaining 15 non-OECD countries witnessed such ratio less than 10% in 2006, as shown in [Figure 8](#).

Bonds and shares are the main asset classes in which pension funds in the non-OECD

economies invest, with bonds traditionally playing a bigger role. Recently, however, pension funds have increased their allocation to shares, due to the recent stock market rally and the gradual deregulation of markets including the relaxation of quantitative investment restrictions.

[Figure 9](#) provides asset allocation statistics for the non-OECD economies. Bills and bonds are the dominant asset category in pension fund portfolios, accounting for more than half of the total assets in three countries, Bulgaria (51.9%), Israel (85.1%) and Slovenia (67.5%). In terms of allocation to shares, pension funds in the Russian Federation dominated, with a 59.9% allocation, while at the other extreme Israel invested 5.2%, and Slovenia 5.9% in this asset class. In terms of investment in mutual funds, the share relative to the whole portfolio was large in Brazil (56.4%) and in Chile (34.2%) in 2006, while it was only 4.8% in Colombia and 5.1% in Bulgaria.

**Figure 9. Asset allocations in pension funds in selected non-OECD economies, 2006**  
% total investment



Source: OECD, Global Pension Statistics.

## Section 2: Sovereign and Public Pension Reserve Funds: An Overview

### Total SPF assets

The assets managed by Sovereign and Public Pension Reserve Funds are growing more rapidly than those of private pension funds. Total SPF assets in OECD countries were worth USD 4.1 trillion in 2006. From 2001 to 2006, the average growth rate in assets in US dollar terms was 9.1%, compared with 8.9% for pension funds.

Sovereign and Public Pension Reserve Funds (SPFs for short) have grown rapidly in recent years and have received considerable attention from politicians, regulators and industry participants. Although there is no

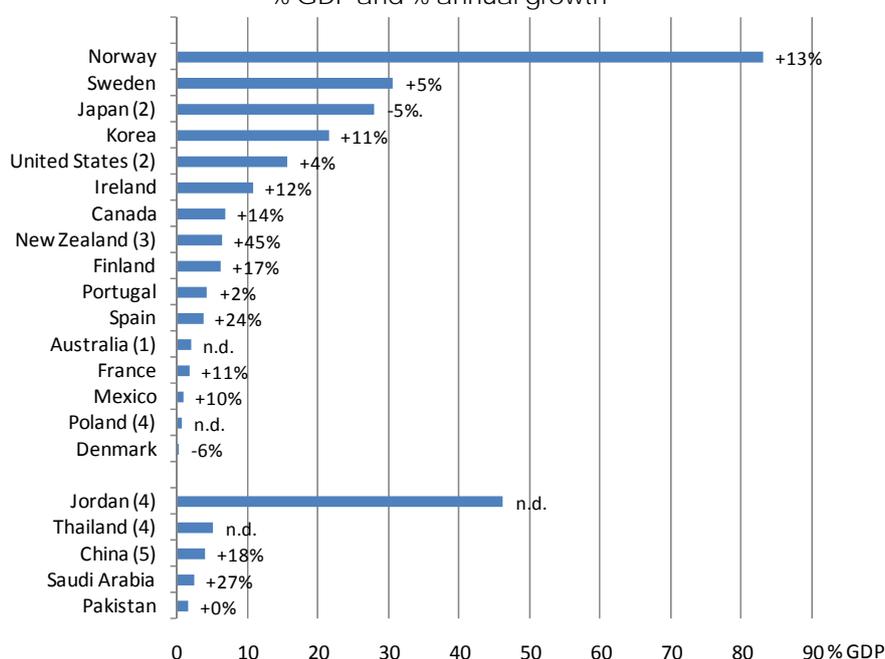
single, widely accepted definition, SPFs could be defined as funds set up by governments or social security institutions to contribute to the financing of the relevant pay-as-you-go pension plans. ([See Box 2](#))

In terms of total assets relative to the economy (GDP), [Figure 10](#) shows that Norway had the largest SPF, with an asset-to-GDP ratio of 83.0%, in 2006. Other countries where SPFs were significant relative to the economy include Jordan (46.2%), Sweden (30.6%), Japan (27.9%) and Korea (21.5%). On average, the ratio of SPFs assets-to-GDP was 23.9% for OECD countries.

Some of the SPFs, especially those of the sovereign kind, are relatively new. For example, Australia's Future Fund was established in 2006, while New Zealand's Superannuation Fund and China's National Social Security Fund (NSSF) were established

in 2001. Given their short history, their assets are smaller than those in the more mature funds. However, some of these funds are growing rapidly. For example, in 2006, the Future Fund in Australia had assets worth USD 13.7 billion, increasing to USD 49.3 billion as of August 2007. The largest SPF in absolute terms was the "Social Security Trust Fund" in US (USD 2.0 trillion), followed by the National Reserve Funds in Japan (USD 1.2 trillion). ([See Table 4, p18](#)). In addition, New Zealand, Saudi Arabia and Spain exhibited the fastest growth in SPF fund assets over the period 2005-2006. The annual growth rate was 45%, 27% and 24%, respectively as shown in [Figure 10](#).

**Figure 10. SPFs' assets and annual growth, 2006**  
% GDP and % annual growth



Source: OECD, various national sources.

### Box 2. Types of Sovereign and Public Pension Reserve Funds

Although there is no single widely accepted definition, Sovereign and Public Pension Reserve Funds (SPFs) could be defined as funds set up by governments or social security institutions with the objective of contributing to financing the relevant pay-as-you-go pension plans. There are two types of SPFs. Although both have the same ultimate objective (i.e. meeting the potential financial liabilities relating to the social security system), they vary in terms of funding sources, investment strategies, and payout phrases, among others:

- One is the fund that is part of the overall social security system, where the inflows are mainly surpluses of employee and/or employer contributions over current payouts, as well as top-up contributions from the government via fiscal transfers and other sources. Among others, Denmark's Social Security Fund, Japan's Government Pension Investment Fund, and USA's Social Security Trust Fund fall within this category. These funds may be managed by the social security institution itself or an independent – often public sector – fund management entity.
- The other type refers to those funds which are established directly by the government (completely separated from the social security system), and whose financial inflows are mainly from direct fiscal transfers from the government. Unlike the first type of SPFs, those within this category have been set up by governments to meet future deficits of the social security system. Some are not allowed to make any payouts for decades. All of these funds are under autonomous management entities. Examples include the Australian Future Fund, the New Zealand Superannuation Fund, the Irish National Pension Reserve Fund, the Norwegian Government Pension Fund, and the French "Fond de Réserve pour les Retraités"<sup>1</sup>.

<sup>1</sup> These funds are also sometimes classified as sovereign wealth funds (SWFs), though they do not all have high foreign investment allocations.

## SPF asset allocations

Investment strategies of the SPFs are closely linked to their specific circumstances and mandates. In contrast with the more conservative asset allocation for the SPFs in the United States and Spain, SPFs in other countries tend to have a low weighting in cash and bonds, and a high weighting in more risky assets including shares (both domestic and foreign), and alternative investments.

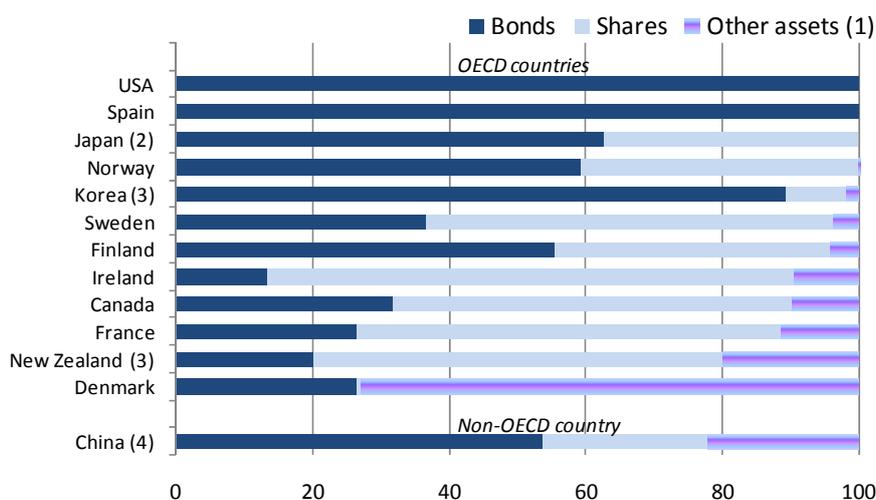
As shown in Figure 11, in most of the countries for which data are available, bonds and shares are the largest components of SPF portfolios. For example, in 2006 France's FRR ("Fond de Réserve des Retraites") allocated 62.1% of its total assets to shares and 26.4% to bonds, while the remaining 11.5% was invested in other assets, such as cash. In contrast, SPFs in Spain and the United States are by law mandated to invest wholly in low-risk assets, such as cash and equivalent assets, public bonds, and special issue government securities.

In other countries, there is a trend towards an increase in the allocation to shares and a decrease in the allocation to bonds, as shown in Table 3. For example, in 2001, shares

accounted for 15.6% of the Canadian Pension Plan assets, while bonds accounted for 64.6%. In 2006, these two figures were 58.5% and 31.8%, respectively. A similar trend was observed in France and Finland. In addition, China's NSSF has witnessed a significant increase in allocation to shares, i.e. 1.3% in 2001 and 24.2% in 2006, which was mainly due to strong growth of the domestic stock market in 2006.

Generally speaking, cash and its equivalent do not account for a significant share of the SPF portfolios, except in the case of Denmark. The main reason for the small allocation to cash is its low returns, when compared with other asset categories and the fact that in many cases funds do not expect to pay benefits for a long period.

Figure 11. SPFs' asset allocation in 2006, in selected OECD and non-OECD countries  
% total investment



Source: OECD, various national sources.

Recently there has been an increased exposure to riskier asset classes, including alternative investments, for instance, property, private equity and hedge funds. This trend is driven by the perceived low correlation between alternative and traditional asset classes and the pressure on SPFs to outperform market benchmarks and seek higher "alpha"<sup>1</sup>. SPFs in the countries for which data are available either started to invest in alternative investments or increased their existing allocations, although allocations to alternatives still only account for a

relatively small portion of total assets. For example, alternative investments accounted for 1.2% of the Korean National Pension Service funds as of 2006, while this figure was 0.9% for Finland.

A major increase in the alternative investments was implemented by the New Zealand Superannuation Fund<sup>1</sup> (12.7% in 2006, up from 0.5% in 2005).

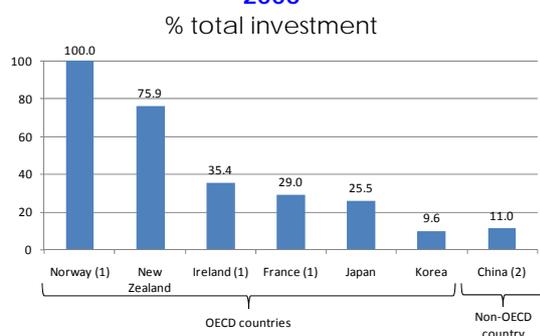
<sup>1</sup> Alpha measures the difference between a fund's actual returns and its expected performance, given its level of risk (as measured by beta).

**Table 3. Changes in SPF allocations to shares and bonds in selected OECD and non-OECD countries, 2001 vs. 2006**

Country	Shares		Bonds	
	2001	2006	2001	2006
Canada	15.6	58.5	64.6	31.8
Finland	15.0	40.4	85.0	55.5
France	..	62.1	..	26.4
Ireland	..	77.1	..	13.3
Japan (2)	25.6	22.4	53.8	52.0
Korea (3)	5.2	8.9	50.8	89.3
New Zealand (3)	..	60.0	..	20.1
Norway	40.2	40.7	59.1	59.3
Spain	0.0	0.0	100.0	100.0
Sweden	60.0	59.5	37.2	36.7
USA	0.0	0.0	100.0	100.0
<b>Memo item:</b>				
China (4)	1.3	24.2	46.8	53.7

Source: OECD, various national sources.

**Figure 12. Foreign investment in SPFs in selected OECD and non-OECD countries, 2006**



Source: OECD, various national sources

Some SPFs are also increasing their allocation to foreign currency denominated assets, though this information is not readily available for certain funds, e.g. SPFs in Canada, Denmark and Portugal. Figure 12 shows that for the countries with statistics available, foreign investments were significant in 2006. This is highlighted by Norwegian SPF, which is fully invested abroad (a large part of it - 64.1% - in currencies other than Euros), the New Zealand's Superannuation Fund, with 75.9% in foreign currency denominated assets in 2006 (77.3% in 2005), and then the Irish SPF, which has an allocation of 35.4% in foreign currency denominated assets (35.9% in 2005). France's FRR started to invest in foreign currency denominated assets in 2004 - 5.1% of total assets, increasing to 29.0% by 2006. In Japan, foreign currency denominated assets rose steadily, from 19.4% of the total portfolio in 2001 to 25.5% in 2006. Foreign assets accounted for only 0.3% of Korea's NPS in 2002, but this increased to 9.6% in 2006.

<sup>1</sup> These include New Zealand and international private equity, absolute return strategies, timber, infrastructure and collateralised commodities futures.

**Table 4. Size of the SPFs market in selected OECD and non-OECD countries, 2006**

Selected OECD countries	Name of the fund or institution	Founded in	Assets	
			National currency millions	USD millions
Australia (1)	Future Fund	2006	18,163	13,678
Canada	Canadian Pension Plan	1997	98,000	86,392
Denmark	Social Security Fund	1964	3,917	659
Finland	The State Pension Fund	1990	10,306	12,929
France	Fond de Reserve des Retraites	1999	31,200	39,140
Ireland	National Pension Reserve Fund	2000	18,900	23,710
Japan (2)	National Reserve Funds	1959	141,600,000	1,217,551
Korea	National Pension Fund	1988	182,214,202	190,842
Mexico	IMSS Reserve	n.d.	80,569	7,392
New Zealand (3)	New-Zealand Superannuation Fund	2001	10,280	6,666
Norway	Government Pension Fund: Global	1990	1,783,700	278,124
Poland (4)	Demographic Reserve Fund	n.d.	5,692	1,760
Portugal	Social Security Financial Stabilisation Fund	1989	6,640	8,330
Spain	Fondo de Reserva de la Seguridad Social	1997	35,771	44,875
Sweden	National Pension Funds (AP1-AP4 and AP6)	2000	866,705	117,468
United States (2)	Social Security Trust Fund	1940	2,048,112	2,048,112
<b>Total selected OECD</b>			<b>328,832,158</b>	<b>4,097,627</b>
<b>Memo item:</b>				
China (5)	National Social Security Fund and Social Insurance Funds	2001 / 1951	831,669	104,350
Jordan (4)	Social Security Corporation	1980	4,216	6,023
Pakistan	Employees' Old-Age Benefits	1976	109,949	1,822
Saudi Arabia	General Organisation for Social Insurance	1973	31,900	8,622
Thailand (4)	Social Security Fund	1990	364,973	9,074
<b>Total selected OECD and non-OECD</b>			<b>330,174,865</b>	<b>4,227,518</b>

Source: OECD, various national sources.

---

## Notes to be taken into consideration when interpreting the data

Within the framework of the OECD Global Pension Statistics' project the original data sources are official administrative sources (see [Box 3](#)). Data includes pension funds as per the OECD classification (Private Pensions: OECD Classification and Glossary, available at [www.oecd.org/dataoecd/0/49/38356329.pdf](http://www.oecd.org/dataoecd/0/49/38356329.pdf)). All types of plans are included (occupational and personal, mandatory and voluntary) covering both public and private sector workers.

With a view to comply with the OECD standards and following efforts of countries to refine further the framework of their statistical data collection, some explained variations can be observed in the figures presented in the various editions of our publication. Some countries provided the Secretariat with estimates at the time of the data requirement and sent final data after the publication of the last edition of the newsletter. This fourth edition focuses primarily on autonomous pension funds. Countries made also an effort to provide data for more types of pension plans, to better represent their pension market. Finally, variation in assets' figures for the United States is due to a change of classification for other self-directed Individual Retirement Accounts (IRAs). It is now classified as "other type of financing vehicles".

### General notes

- G10 includes Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States.
- Euro Area includes 12 countries: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.
- Asia includes Japan, Korea, Turkey, China, Chinese Taipei, Hong-Kong, China, India, Indonesia, Kazakhstan, Singapore and Thailand.
- Latin America includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Peru and Uruguay.
- BRICs include Brazil, Russian Federation, India and China.
- OECD countries exchange rates to Euro used: 1.12 in 2001; 1.06 in 2002, 0.89 in 2003; 0.80 in 2004 and 2005; 0.797 in 2006.
- All OECD countries exchange rates from OECD, Main Economic Indicators. Non-OECD countries exchange rates from the International Financial Statistics Yearbook, IMF or from World Bank's World Development Indicators and national sources.
- Non-OECD GDP data from United Nations Statistics Division or from World Bank's World Development Indicators and national sources.
- Conventional signs: 'n.a.', not applicable; '...', not available; '...', close to zero.

### Specific notes

#### Figure 1:

- (1) Other types of financing vehicle include some personal pension plans, like Individual Retirement Accounts (IRAs) in United States, personal Registered Retirement Saving Plans in Canada, Individual Pension Savings in Sweden and Personal Pension trusts in Korea, mutual funds, like the Mutual Pension Provident entities in Spain, and bank managed pension plans, like in Denmark and Iceland.
- (2) Data for pension insurance contracts is an OECD preliminary estimate.
- (3) Data for book reserves and pension insurance contracts are OECD preliminary estimates.
- (4) Data for book reserves is an OECD preliminary estimate.

- Data for Luxembourg are not available in Figure 1.

#### Table 1, Figure 2, Figure 3 and Figure 4:

- (1) The break in series in 2004 is due to the inclusion of small APRA funds, not included in previous years. Asset data is at 30 June of each year.
  - (2) Preliminary data.
  - (3) Data include corporate pensions and other private pensions.
  - (4) Data does not include voluntary retirement pension plans and Special Occupational Pensions.
  - (5) The break in series in 2005 is due to the inclusion of pension funds supervised by the CSSF, not included in previous years.
  - (6) The increase in 2005 is due to the new occupational pension plans registered with CONSAR.
  - (7) The break in series in 2006 is due to the inclusion of voluntary pension plans, not included in previous years.
  - (8) Data does not include the defined benefit first pillar substitute occupational plan.
  - (9) 2006 pension assets data is OECD staff estimates. Data does not include occupational pension plans for central government workers.
  - (10) 2004 and 2005 data refer to the Association of Closed Private Pension Entities, whereas 2006 data refer to the Ministry of Social Security.
  - (11) Data refer to the Enterprise annuities assets.
  - (12) Data refer to the (old) Labour Insurance.
  - (13) Data refer to the all three components of the Employee Provident Fund Organisation, i.e. Employee Provident Fund, Employee Pension Fund, Deposit Linked Insurance Fund as of March of each year.
  - (14) 2004 pension assets data is OECD staff estimate.
  - (15) Data refers to Central Provident Fund.
- Weighted total averages used for Figure 3 using weights of pension fund assets.

**Table 2 and Figure 6:**

(1) Mutual Funds (Collective Investment Scheme, CIS) comprise both retail and institutional funds (open end and closed end). Institutional funds include a pooled vehicle that allows indirect investment into underlying assets such as equities and bonds. Further breakdown of assets classes invested through these pooled vehicles are not available.

(2) The "Other asset classes" category includes cash and deposits, loans, land and buildings, unallocated insurance contracts<sup>1</sup>, private investment funds and other investments.

(3) "Other investments" are made of unallocated insurance contracts, real estate and UCITs.

(4) The values registered in other investments include short-term payable accounts to the fund managers (commissions) and payable loans.

(5) Data only concern personal pension plans. The majority of the "other investments" variables consist of "reverse repo" investments.

(6) Private equity and venture capital are included under the 'shares' category. Other investments include security repurchase agreements, commercial paper and contributions receivable.

- The Slovak Republic has not been represented in Table 2 due to the break in series in 2006, leading to non interpretable variations in asset allocation.

**Figure 8**

(1) 2006 data for Lithuania, Zambia, Croatia, Kazakhstan, Kenya, and Mauritius refer to the year 2005 and 2006 data for South Africa refer to the year 2004.

**Table 4 and Figure 10:**

(1) Accounting period: fiscal year 2005-2006

(2) All data relating to the public workers (i.e. Japan's mutual aid associations and US government workers) are included in the GPS database.

(3) The Fund was not established until 2003.

(4) 2006 data for Poland, Jordan and Thailand refer to the year 2005.

(5) NSSF is a sovereign pension fund, whereas Social Insurance Funds (called officially as pillars 1A and 1B) are partially funded. They both are used to meet potential future liabilities. Their assets account respectively for RMB 282,769 and 548,900 millions.

**Table 3 and Figure 11:**

(1) Other investments include cash and equivalent, property and private equities.

(2) Japan's asset allocation data refers to the GPIF, not to the total reserve funds.

(3) "Alternative investments" for Korea and New Zealand refer to various alternative asset classes.

<sup>1</sup> *Savings instruments in the form of insurance contracts where the underlying assets belong to the pension plan, not to the insurance company. Technical reserves arising from reinsurance operations are excluded.*

(4) Asset allocation refers to the NSSF, as asset allocation information for the reserve funds is unavailable.

**Figure 12:**

(1) Foreign investment refers to investment outside Norway.

(2) China data refers to the National Social Security Funds only.

### Box 3. List of administrative sources

OECD countries	Administrative source(s)
Australia	Australian Prudential Regulation Authority
Austria	FMA Financial Market Authority
Belgium	Banking, Finance and Insurance Commission
Canada	Statistics Canada
Czech Republic	Ministry of Finance
Denmark	Danish Financial Supervisory Authority
Finland	Insurance Supervision Authority
France	Ministry of Finance
Germany	Federal Financial Supervisory Authority
Greece	Ministry of Employment and Social Protection
Hungary	Hungarian Financial Supervisory Authority
Iceland	Financial Supervisory Authority
Italy	Commissione vigilanza fondi pensione (COVIP)
Ireland	Irish Association of Pension Funds
Japan	Bank of Japan
Korea	Financial Supervisory Service
Luxembourg	Commissariat aux Assurances
Luxembourg	Commission de Surveillance du Secteur Financier (CSSF)
Mexico	Comisión Nacional del Sistema de Ahorro para el Retiro (CON SAR)
Netherlands	Statistics Netherlands
New Zealand	Ministry of Economic Development
Norway	Kredittilsynet
Poland	Insurance and Pension Funds Supervisory Commission
Portugal	Instituto de Seguros de Portugal
Spain	Banco de Espana
Spain	Ministry of Economy
Spain	Confederación Española de Mutualidades (CNEPS)
Slovak Republic	National Bank of Slovakia
Switzerland	Office fédéral de la statistique
Sweden	Statistics Sweden
Turkey	Turkish Treasury, General Directorate of Insurance
United Kingdom	National Statistical Office (ONS)
United States	Department of Treasury
United States	Federal Reserve Bank
Non-OECD economies	
Argentina	Association of Latin American Pension Supervisors
Bolivia	Association of Latin American Pension Supervisors
Brazil	Ministry of Social Security (Closed-funds)
Brazil	Association of Closed Private Pension Entities
Bulgaria	Financial Supervision Commission
Chile	Superintendencia de A.F.P
China	Ministry of Labour and Social Security
Chinese Taipei	Council of Labour Affairs, Republic of China (Taiwan)
Colombia	Superintendencia Financiera de Colombia
Costa Rica	Superintendencia de Pensiones de Costa Rica
Croatia	Croatian Financial Services Supervisory Agency
Dominican Republic	Association of Latin American Pension Supervisors
El Salvador	Association of Latin American Pension Supervisors
Estonia	Ministry of Finance
Hong Kong, China	Mandatory Provident Fund Schemes Authority
India	Employees' Provident Fund Organisation
Indonesia	Pension Fund Bureau, Ministry of Finance
Israel	Ministry of Finance
Jamaica	Financial Services Commission
Kazakhstan	Financial Supervision Authority
Kenya	Retirement Benefits Authority
Lithuania	Bank of Lithuania
Mauritius	Financial Services Commission
Peru	International Federation of Pension Funds Administrators
Russian Federation	Ministry of Economic Development and Trade of the Russian Federation
Serbia	Central Banking Authority of Kosovo
Singapore	Central Provident Fund Board
Slovenia	Slovene Insurance Supervision Agency
Slovenia	Slovene Security Market Agency
South Africa	Financial Services Board
Thailand	Securities and Exchange Commission
Uruguay	Association of Latin American Pension Supervisors
Zambia	Pension and Insurance Authority

Source: OECD, Global Pension Statistics.

---

## NEWS IN BRIEF

### Selected OECD Working Papers on Private Pensions

The OECD Private Pension Unit posted six new Working Papers. The papers are available on the OECD website: [www.oecd.org/daf/fin/wp](http://www.oecd.org/daf/fin/wp):

#### **Pension Fund Regulation and Risk Management: Results from an ALM Optimisation Exercise** (Working Paper 8):

This paper provides a stylised assessment of the impact of investment-relevant pension fund regulations and accounting rules on contribution and investment strategies within the context of an asset-liability model (ALM) specifically designed for this purpose. The analysis identifies a substantial impact of regulations which, in a simplified way, resemble those in place in Germany, Japan, the Netherlands, United Kingdom and the United States. The ALM model shows that regulations affect funding costs primarily through the choice of investment strategy. Strict funding regulations may force sponsors to make up funding shortfalls in bad economic times and lead them to invest more conservatively, which ultimately raises net funding costs. The paper also shows that fair value accounting standards (with immediate recognition of actuarial gains and losses) can contribute to higher funding levels than required by regulators.

#### **Collective Pension Funds – International Evidence and Implications for China’s Enterprise Annuities Reform** (Working Paper 9):

Collective pension funds (CPFs) - occupational pension funds that cover the employees of more than one employer (enterprise) - have been operating in OECD countries for decades. Generally speaking, there are two models, i.e. closed pension funds, with membership restricted to a particular industry or group of industries, and open pension funds open to all types of company.

This report first describes and analyses how CPFs are operated in selected OECD countries and non-OECD economies. Then, it reviews occupational pensions (or Enterprise Annuities -EA- in Chinese terminology) in general and CPFs in particular.

#### **Portfolio Investment in an Intertemporal Setting: Assessment of the Literature and Policy Implications for Latin American Pension Systems** (Working Paper 10):

This paper reviews the literature on optimal long-term investment from an individual investors’ perspective, assessing the intertemporal portfolio choice problem in a retirement context. The paper then draws lessons for mandatory personal account systems, focusing on the Latin American experience.

#### **Implications of Behavioural Economics for Mandatory Individual Account Pension Systems** (Working Paper 11):

This paper describes the extent to which plan members make active investment decisions in mandatory individual account pension systems and assesses the policy solutions that have been put forward to facilitate choice. The paper also offers a comparative analysis of ten countries that have implemented investment choice in the accumulation stage of their individual account pension system.

#### **Pension Fund Investment in Hedge Funds** (Working Paper 13):

Having outlined the potential concerns relating to pension fund investment in hedge funds, the OECD carried out a survey to investigate what information pension fund regulators have on these investments and how they are being controlled. The survey confirms that pension fund regulators have little information regarding how pension funds in their jurisdiction are investing in hedge fund products. In terms of policy issues, concerns centre around financial risk control and how to improve transparency and disclosure in relation to these investments.

#### **Reforming the valuation and funding of pension promises: are occupational pension plans safer?** (Working Paper 14):

This paper assesses current regulatory and accounting developments in the OECD area that affect occupational defined benefit plans against their purported goals. It considers the different approaches to

---

valuing pension liabilities and questions the possibility of convergence between funding and business accountants' valuation standards for pension liabilities. It also highlights some concerns regarding the impact of market-based regulatory and accounting initiatives on plan design and investment strategies.

#### **Assessing coverage of funded pension plans** (Forthcoming OECD Working Paper):

The OECD will soon release a report assessing the coverage of voluntary funded pension plans for selected countries. The report will present data on coverage of voluntary funded pension plans for six OECD countries (Australia, Canada, Germany, Ireland, United Kingdom and the United States) with the lowest replacement rates in mandatory pension plans. The data is broken down by age, income levels and different labour market status for different voluntary funded pension plans (occupational and personal).

## **Research and Policy Analysis**

#### **Report on licensing of pension entities**

The OECD recently prepared a report on licensing of pension entities. Licensing may be defined as the process by which an authority grants permission to a pension entity to operate and/or to have the right to benefit from specific tax treatment. It includes a range of actions, involving the assessment of compliance with specific requirements prior to granting permission to operate or granting tax benefits, or it may be the status of compliance with such requirements. In most of the surveyed countries, licensing involves the application and award of a license for the pension entity before the launch of operations. The full report is available at <http://www.oecd.org/dataoecd/46/48/39035914.pdf>

#### **Survey on quantitative restrictions on pension fund investments**

This annual survey describes the main quantitative investment regulations applied to pension funds in OECD and selected non-OECD countries as of December 2006. The information collected concerns all forms of quantitative portfolio restrictions (minima and maxima) applied to pension funds at different legal levels (law, regulation,

guidelines, etc). The full report is available at <http://www.oecd.org/dataoecd/56/7/38969997.pdf>

#### **Private Pensions' project in China**

A Memorandum of Understanding (MOU) was signed on 31 August 2007 between the OECD and China's Ministry of Labour and Social Security (MOLSS) in order to carry out research and policy analysis on private pensions in China. The agreement ultimately aims at developing an occupational pension system in China (called Enterprise Annuities), whose benefits will complement the relatively low pensions that workers receive from the public system.

The MOU engages the two Parties in policy dialogue via meetings and conferences in order to facilitate the exchange of research and good practices regarding the operation and regulation of occupational pension systems. Future projects with MOLSS in the coming year are being planned to focus on pension fund governance and pension fund investment issues.

#### **Funding regulations and risk sharing**

The OECD's Working Party on Private Pensions has launched a new project on the efficiency and effectiveness of private pension regulation. The first study addresses the funding of defined benefit and other pension plans with benefit (or return) promises and its interaction with the risk sharing features of these plans.

The study starts from the basic premise that the design of funding regulations should in principle take into account the nature of benefit promises, and in particular the specific risks being guaranteed, and the way those are shared between the different stakeholders. The study then reviews these features of pension plan design in selected OECD countries and how they correspond with the funding rules applied to pension funds.

In addition to leading to a better understanding of differences in funding rules across OECD countries, the study includes specific suggestions for the design of efficient and effective funding rules that promote high levels of benefit security at a reasonable cost to stakeholders and taxpayers. The study also complements ongoing work by the International Organisation of Pension Supervisors on risk-based supervision.

---

## RECENT OECD MEETINGS ON FUNDED PENSION

### OECD/IOPS Global Forum on Private Pensions: Beijing, China 14-15 November 2007

The OECD/IOPS Global Forum on Private Pensions was held on 14 November and 15 November 2007. This event was co-organised and co-sponsored by the China Insurance Regulatory Commission (CIRC). The OECD/IOPS Global Forum, being a part of the OECD programme of co-operation with non-member economies, was organised under the aegis of the OECD Working Party on Private Pensions, with sponsorship by the Government of Japan, and under the aegis of the IOPS.

The Forum covered a wide range of topics which are of importance to both the countries that either have mature and developed funded pension systems and those countries that have only recently undertaken pension reforms, therefore seeking to modify their existing un-sustainable retirement security arrangements. The issues were also of relevance for the current developments in the Chinese pension system.

The topics of the conference this year were (1) Pension Investments and Capital Market Development; (2) The Impact of Incentives on Pensions and Insurance Products; (3) Pensions Supervisory Structures; (4) Annuities – Provisions and Risks. A separate panel was devoted to the pensions markets in Asia. These topics were discussed in depth at the meeting within the context of the OECD and IOPS Principles and Guidelines which provide a unique framework for countries introducing and consolidating pension reform strategies.

### OECD Seminar on Reforming Protection Benefit Schemes - 2 July 2007

The issue of how to protect company pensions has returned to the foreground of both economic and political debate in many OECD countries, following the high profile losses of pension benefits due to firms going bankrupt and leaving their pension schemes underfunded. To address this, some governments have put in place benefit

protection schemes. But how effective are these schemes? Could they be improved and, if so, should more countries adopt them?

The OECD hosted a seminar, open to the media, on Monday 2 July to discuss these issues. The heads of the pension protection funds of Germany, Japan, Sweden, Switzerland, the USA and the UK came together for the first time to debate the role that these schemes can play in protecting our retirement income, how they can operate on an economically efficient basis and how they can protect themselves from moral hazard and excessive claims.

## FORTHCOMING OECD MEETINGS ON FUNDED PENSION

*N.B. Unless otherwise indicated attendance at OECD meetings is by invitation only.*

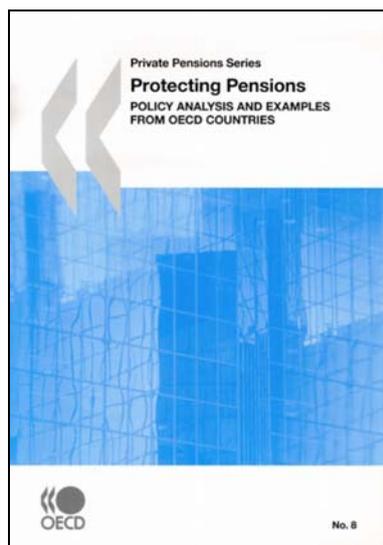
- [OECD Working Party on Private Pension](#)  
(Paris, France, 3-4 December 2007)
- [OECD Conference on private pensions in Latin America](#)  
(Rio de Janeiro, Brazil, May 2008)
- [OECD Working Party on Private Pensions](#)  
(Paris, France, 23-24 June 2008)
- [OECD Task Force on Pension Statistics](#)  
(Paris, France, June 2008)
- [OECD/IOPS Global Private Pensions Forum](#)  
(Mombasa, Kenya, 28-30 October 2008)

We are grateful to Ambrogio Rinaldi, Chairman to the OECD Working Party on Private Pensions (WPPP), to Ross Jones and Uluc Icoz from the Bureau of the WPPP, and to José Pavão Nunes, Chairman to the OECD Task Force on Pension Statistics for their valuable comments on this publication.

The OECD Global Pension Statistics' project is currently financially supported by voluntary contributions from both the public and private sectors, namely Allianz Global Investors, ABI (American Benefits Institute), COVIP, EFFAS-EBC, ING Group, Pioneer Investments and the Portuguese Pension Supervisory Authority.

## RECENT OECD PUBLICATIONS

### Private Pensions Series no. 08: Protecting Pensions: Policy Analysis and Examples from OECD countries



Pension fund members across OECD countries have seen the loss or reduction of pension benefits in recent years. This has been associated with declining assets and increasing liabilities, with accounting and regulation changes crystallising these problems.

This volume looks at various methods of protecting pension benefits. It provides in-depth information on the application of these methods in OECD countries and analyses their advantages and drawbacks. Methods of risk sharing amongst pension fund beneficiaries, providers and sponsors are discussed through an analysis of insured pension contracts and of the pension systems in place in Denmark and Iceland. This publication offers unique international comparative and analytical data for policy makers and pension industry participants globally.

### Financial Market Trends no. 93



“Financial Market Trends No. 93” features financial market implications of recent structured product problems, and also contains articles on:

- ✓ Selected Questions Regarding Hedge Funds;
- ✓ Institutional Investors and Corporate Governance in Latin America;
- ✓ Collective Pension Funds – International Evidence and Implications for China’s Enterprise Annuities Reform;
- ✓ Indian financial system reform; and
- ✓ The evolving market for (ultra-)long government bonds.

### OECD seeking additional partners

In the framework of the OECD Global Pension Statistics’ project, the OECD Financial Affairs Division is seeking additional partners from both the public and the private sector.

Should your organisation be interested or should you require more information, please contact:

Jean-Marc Salou  
Project-Manager  
Pension and insurance statistics  
OECD

Tel.: +33 1 45 24 91 10,

E-mail: [jean-marc.salou@oecd.org](mailto:jean-marc.salou@oecd.org)