

# Pension Markets IN FOCUS

September 2012, Issue 9

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### Pension Markets in Focus

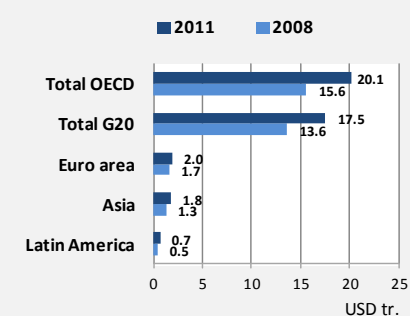
This annual publication reviews trends in the financial performance of pension funds, including investment returns and asset allocation.

The underlying data for the tables and graphs plus a statistical annex can be found in Excel format at [www.oecd.org/daf/pensions/pensionmarkets](http://www.oecd.org/daf/pensions/pensionmarkets)

## Pension fund assets hit record USD 20.1 trillion in 2011 but investment performance weakens

Continuing the trend started in 2009, pension funds experienced a moderate growth of USD 0.9 trillion in their accumulated assets during 2011, mainly due to asset accumulation and despite a weak rate of investment returns. However, this was good enough for pension funds in the OECD area to complete their recovery of the USD 3.4 trillion in market value that they lost in 2008, hitting a record USD 20.1 trillion in total assets by December 2011.

Pension fund assets by selected regions



The OECD weighted average asset-to-GDP ratio for pension funds increased from 67.3% of GDP in 2001 to 72.4% of GDP in 2011, with the Netherlands achieving the highest ratio at 138%. The ratio is however still low in several countries with less than half of OECD countries exhibiting ratios above 20%, leaving ample room for further pension market developments. Pension fund assets in the non-OECD countries covered are still small but they are growing faster than those of OECD countries.

The annual, real rate of investment returns (in local currency and after investment management expenses) averaged -1.7% ranging widely from 12.1% for the highest performer (Denmark) to -10.8% for the lowest (Turkey). After Denmark, the highest returns in 2011 were in the Netherlands (8.2%), Australia (4.1%), Iceland (2.3%) and New Zealand (2.3%). On the other hand in countries like Italy, Japan, Spain, the United Kingdom and the United States, pension funds experienced average negative investment returns in the range of -2.2% to -3.6%. Nine other OECD countries saw pension fund returns of worse than -4% in real terms.

The pension funds allocation to public equities declined significantly compared to past years. Trends toward defined contribution plans accelerated, although defined benefit plans continue to represent a very important component of pension funds assets.

Despite this recent trend, the performance of pension funds measured over the long-term remains relatively attractive. Based on OECD calculations, a person who had saved for retirement for 40 years in a pension plan investing 60% in equities and 40% in long-term government bonds and retired at the end of 2010 would have experienced an annual investment performance of 2.8% in Japan, 4.2% in Germany, 4.4% in the United States and 5.8% in the United Kingdom.

By *André Laboul*, Head of the Financial Affairs Division  
Directorate for Financial and Enterprise Affairs

## PERFORMANCE OF PENSION FUNDS

### INVESTMENT RATE OF RETURN

**After a period of recovery over 2009-2010, OECD-area pension funds experienced negative rates of return in more than half of the OECD countries in 2011.**

In 2009 and 2010 buoyant stock markets brought good returns for pension funds after the steep declines at the height of the global financial crisis. Renewed uncertainty in the world economy in 2011 reversed the positive trend in stock markets and impacted negatively on many pension funds, especially those most exposed to equities. Pension fund performance was also hampered by bond portfolios in pension funds most exposed to the European sovereign debt crisis. On the other hand, pension funds with high exposure to sovereign bond safe havens benefited from major revaluation gains.

As shown in Figure 2, the net investment rate of return varies considerably across national markets. On the basis of the simple average across OECD countries, for the countries for which information is available, pension funds experienced an annual, real rate of investment returns (in local currency and after investment management expenses) of -1.7%, ranging from 12.1% for the highest performer (Denmark) to -10.8% for the lowest (Turkey). The performance of Danish pension funds was driven to a large extent by gains on bond investments and interest hedging operations. After Denmark, the highest returns in 2011 were in the Netherlands (8.2%), Australia (4.1%), Iceland (2.3%) and New Zealand (2.3%). On the other hand in countries like Italy, Japan, Spain, the United Kingdom and the United States, pension funds experienced average investment returns in the range of -2.2 % to -3.6%. Nine other OECD countries saw pension fund returns of worse than -4% in real terms. As the real net investment return is the combination of the nominal performance of pension funds and inflation, a low figure can be accounted for by either low gains and income or inflation.

Comparison with the weighted average gives nearly the same picture. The annual, weighted average real rate of investment return was -1.1% in the OECD countries. Most of this negative average is skewed by the negative rate of investment returns, experienced in 2011 for pension funds in Japan, the United Kingdom and the United States. These account for around 70% of the total OECD-area pension fund assets and all experienced investment performance below -2%.

**The performance of pension funds measured over the long-term remains significant.**

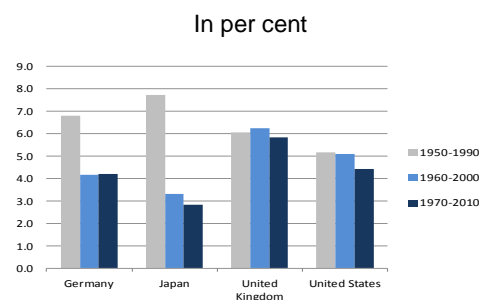
Saving for retirement is for the long haul. Pension fund performance should therefore be assessed over longer periods (Figure 1) than the one year shown in Figure 2. As the typical accumulation period for a worker is

around 40-years, a high enough cumulative performance over such a period is necessary to achieve adequate pension benefits. As official data on the performance of pension funds spanning more than 10 years is not available, we calculated hypothetical returns on an investment portfolio split 60%/40% between equities and government debt for 40 years ending in 1990, 2000 and 2010. The calculations use actual data on returns on equities (including dividends), long-term government debt and inflation. The results are shown in Figure 1 for Germany, Japan, the United Kingdom and the United States.

Figure 1 shows that over the three 40-year periods, hypothetical average annual real returns on a 60/40 portfolio would have been relatively significant for the countries analysed. Based on our calculations, a person that had saved for retirement for 40 years in a pension plan investing 60% in equities and 40% in long-term government bonds and retired at the end of 2010 would have experienced a performance of 2.8% in Japan, 4.2% in Germany, 4.4% in the United States and 5.8% in the United Kingdom.

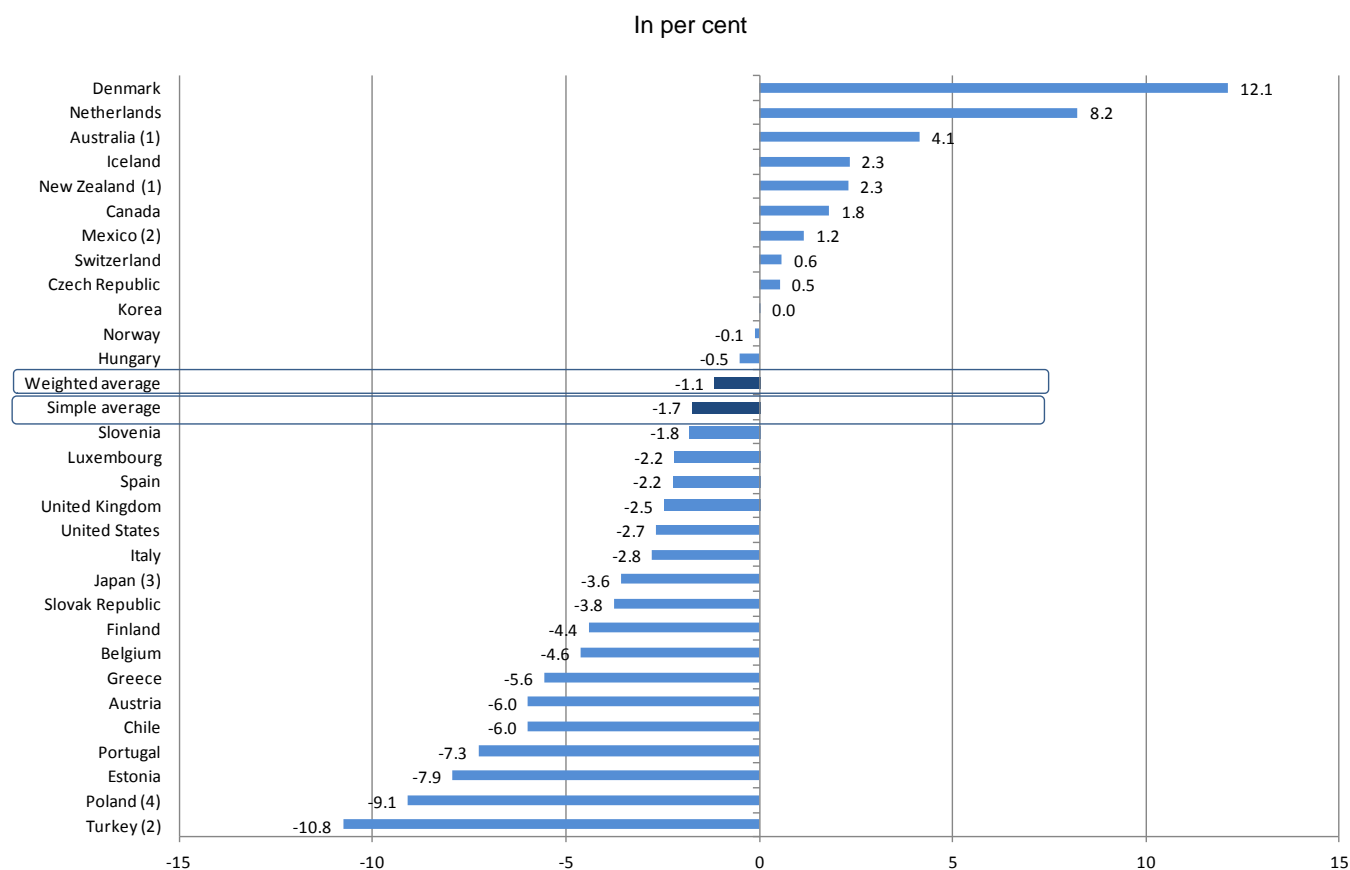
We further compared these hypothetical performance values with average real wage growth over the same periods to assess the extent to which – on average – pension funds were able to obtain achieve an income above the worker's own salary growth. On average during the 40 years ending in 2010, real wages grew annually by 0.6% in the United States, 0.7% in Germany, 1.2% in Japan and 2.1% in the United Kingdom. Hence, investment performance over the 40-year period has been sufficient to deliver a higher standard of living after retirement for each dollar saved.

**Figure 1. Hypothetical real investment returns on a 60/40 portfolio in selected OECD countries**



Source: OECD staff estimates using historical data on returns from equity indices (including dividends) and government bills, and inflation, Credit Suisse Global Investment Yearbook.

Figure 2. Pension funds' real, net investment rate of return in selected OECD countries, Dec 2010 - Dec 2011



Note: See page 22 for a description of how OECD calculates the rate of investment returns.

Source: OECD Global Pension Statistics.

## PENSION FUND WEALTH

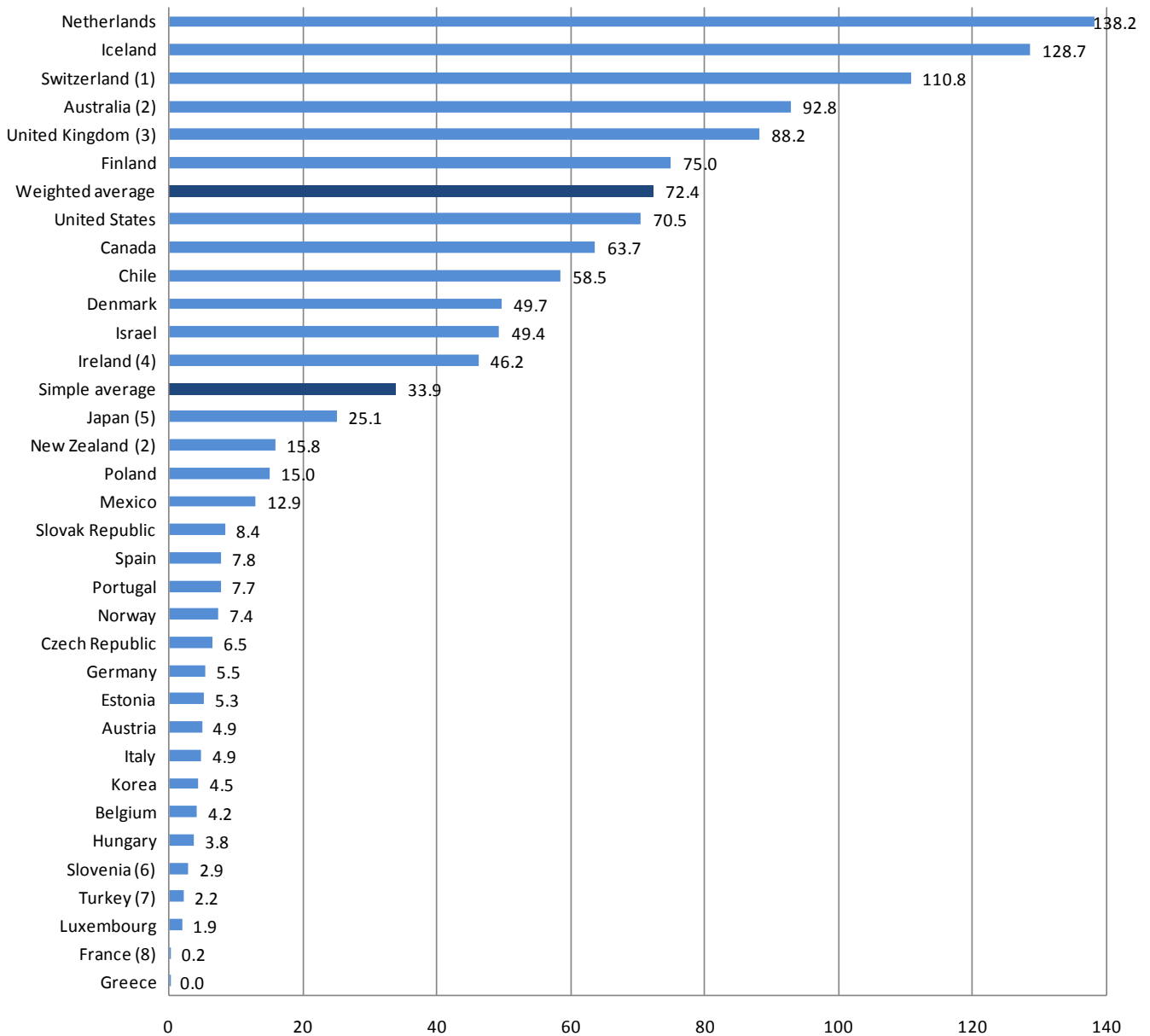
**The OECD weighted average asset-to-GDP ratio for pension funds increased from 67.3% of GDP in 2001 to 72.4% of GDP in 2011, with the Netherlands achieving the largest ratio in 2011, at 138%.**

The importance of private pension systems can also be gauged by looking at the market value of assets accumulated relative to the size of the economy. The larger the value of their investments, the greater will be their ability to provide high benefits to individuals.

As Figure 3 shows, in 2011, in relation to the national economy only three OECD countries achieved asset-to-GDP ratios higher than 100% – the Netherlands (138%), Iceland (129%) and Switzerland (111%). In addition to these countries, Australia, the United Kingdom and Finland exceeded the OECD weighted average asset-to-GDP ratio of 72.4% with respectively 92.8%, 88.2% and 75%. Pension fund assets were of varying importance relative to GDP in the other countries. Only thirteen out of thirty three countries, for which information was available, had assets-to-GDP ratios above 20%, which is considered the minimum for meeting the OECD's definition of a "mature" pension fund market.

Figure 3. Importance of pension funds relative to the size of the economy in OECD countries, 2011

As a percentage of GDP



Note: See page 22 for methodological notes.

Source: OECD Global Pension Statistics.

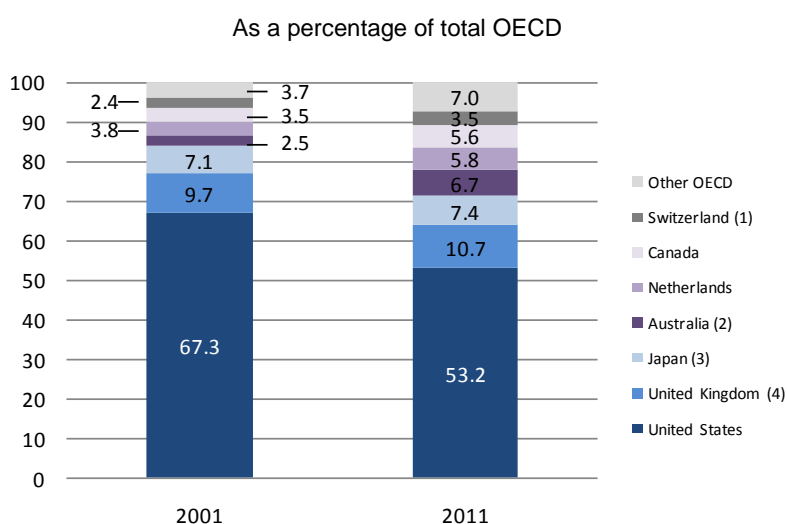
## INDUSTRY STRUCTURE

### Despite a moderate growth in pension accumulated assets in 2011, pension fund assets hit record USD 20.1 trillion in 2011.

The United States' share of this total has shrunk by 14.1 percentage points since 2001 as a result of faster growth among pension funds in other OECD countries. In absolute terms, the United States had the largest pension fund market of any OECD member country in 2011 with assets worth USD 10.6 trillion. In relative terms, however, the United States' share of OECD pension

fund assets shrank from a level of 67.3% in 2001 to 53.2% in 2011 as shown in Figure 4. Other OECD countries with large pension fund systems include the United Kingdom with assets worth USD 2.1 trillion and a 10.7% share of the OECD pension fund market in 2011; Japan, USD 1.5 trillion and 7.4%; Australia, USD 1.3 trillion and 6.7%; the Netherlands, USD 1.2 trillion and 5.8%; Canada, USD 1.1 trillion and 5.6%; and Switzerland, USD 0.7 trillion and 3.5%. For the remaining 19 OECD countries for which both 2001 and 2011 data are available, total pension fund assets in 2011 were valued at approximately USD 1.4 trillion, which accounted for 7% of the OECD-area total.

Figure 4. Geographical distribution of pension fund assets in OECD countries, 2001-2011



Note: See page 23 for methodological notes.

Source: OECD Global Pension Statistics.

In 2011, all OECD private pension markets, including both occupational (workplace-related) and personal arrangements, were valued at an approximate total of USD 29.5 trillion. Of that amount, 68.4%, valued at USD 20.1 trillion, was held by pension funds; 18.4%, worth USD 5.4 trillion, was held in retirement products provided by banks or investment management companies; 12.4%, estimated at USD 3.7 trillion, was held in pension insurance contracts run by life or pension insurance companies; and 0.8%, or USD 0.2 trillion, were book reserves.

Occupational pensions are overwhelmingly funded through pension funds in most OECD countries, the main exception being countries such as Denmark, Norway and Sweden, where pension insurance

contracts play a larger role, and Germany where book reserves are the main type of financing vehicle for occupational pension plans. Personal pension plans are often funded through pension insurance contracts or financial products provided by banks and asset managers (e.g., mutual funds). The main exceptions to this general trend are the mandatory personal pension plans established in countries such as Mexico, Poland, and the Slovak Republic. These systems can be financed via pension funds only during the asset accumulation stage (before retirement), although state and pension companies may provide additional funding in special cases (like guarantee funds or minimum pension guarantees).

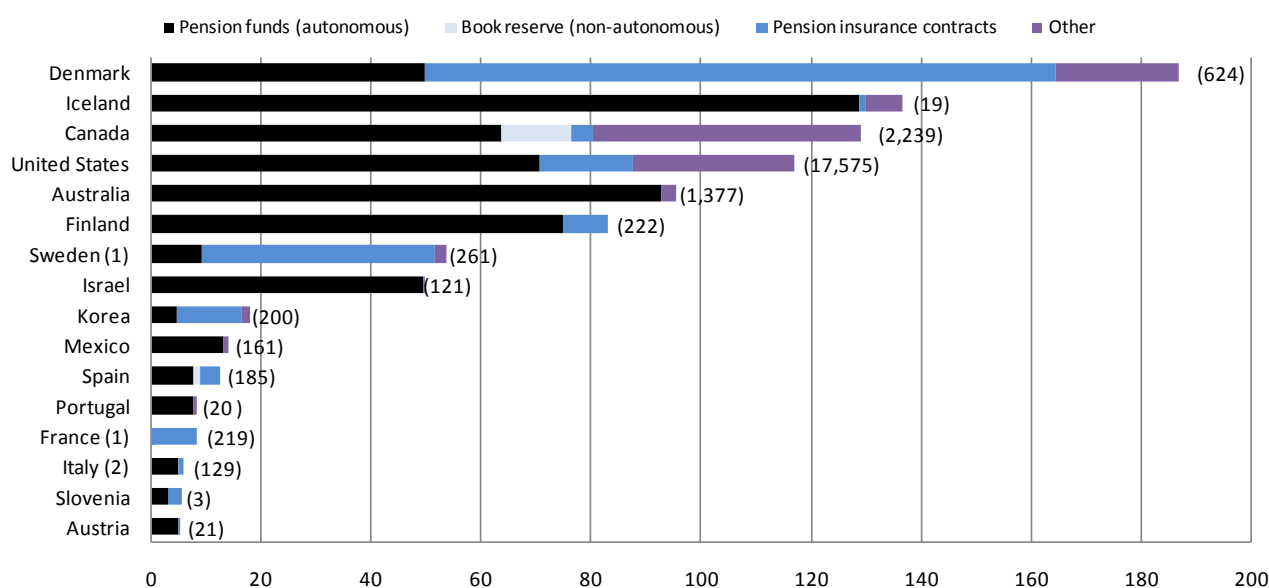
As shown in Figure 5, pension funds are the main financing vehicle for private pension plans in Israel and represent more than 90% of total assets in countries such as Australia, Austria, Finland, Iceland, Mexico and

Portugal. On the other hand, in Denmark, France, Korea and Sweden, pension insurance contracts account for the largest shares of aggregate private pension assets. Denmark's private pension system was the largest in relation to its economy at nearly 190% of

GDP, followed by those of Iceland (137%), Canada (129%) and the United States (117%). The remainder of this publication will focus exclusively on autonomous pension funds, unless specified otherwise.

**Figure 5. Private pension assets by type of financing vehicle, 2011**

As a percentage of GDP and in absolute terms (USD billion)



Note: See page 23 for methodological notes.

Source: OECD Global Pension Statistics.

**In most OECD countries for which data are available, DB plans account for a steadily falling share of total assets.**

In the United States, DB assets shrank by 6.6 percentage points from 67.3% of total assets in 2001 to 60.6% in 2011. The same trend has been observed in Italy, New Zealand and Portugal. In Italy, for instance, the share of DB assets in total assets fell from 29.4% in 2001 to 8.6% in 2011. This trend is driven in Italy by closure of existing DB plans to new members.

Many have since been wound up or converted into DC plans. Despite the intensity of the shift towards DC plans, DB plans' share of total assets remains at very high levels in some OECD countries like Finland, Norway and Germany with 100% and Portugal with 91%.

**Defined contribution (DC) pension funds continue to grow faster than defined benefit (DB) funds.**

In recent years, occupational pension plan sponsors have in many countries shown a growing 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 (and in some cases also frozen benefit accruals for existing employees).

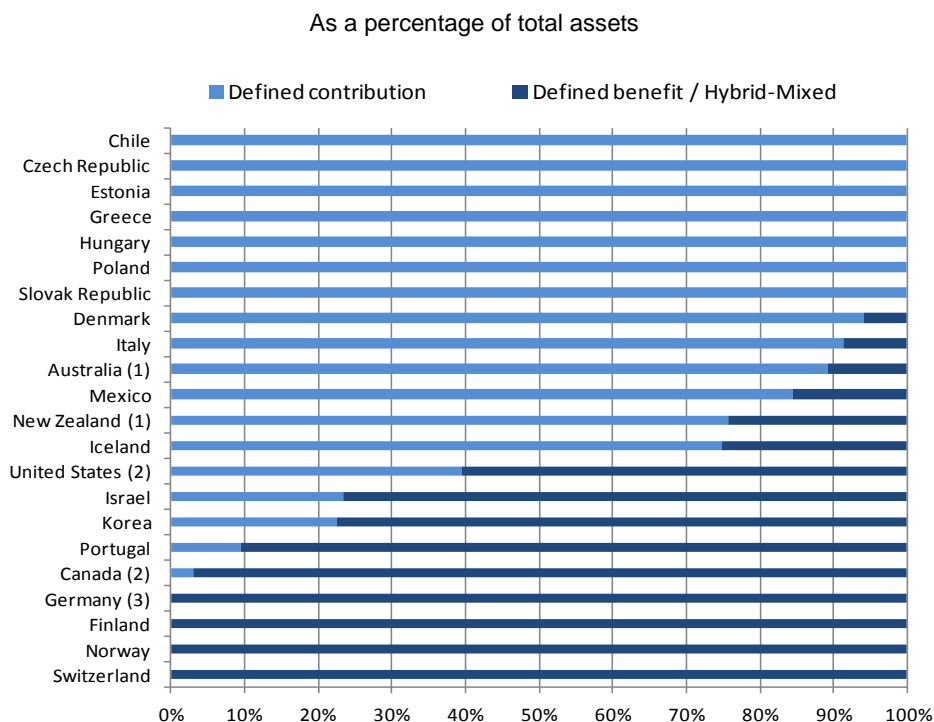
As shown by Figure 6, the DB/Hybrid-Mixed vs. DC split varies considerably across national markets. For example, in Chile, the Czech Republic, Hungary, Poland and the Slovak Republic, all pension funds are classified as DC, while DB dominates in Canada, Finland, Germany, Korea, and Norway. Other OECD countries have arrangements that combine DC and DB.

DB plans, however, still play an important role, largely due to their historical prominence as the favoured

arrangement for workplace pensions in many countries. Figure 7 shows that in 2011 DB pension funds held 65% of the assets, across the 17 OECD countries for which information was available. This contrasts with

the situation in 2001, when DB pension funds held 69.7% of the total. Most of the increase in DC assets is attributable to the United States (Figure 8).

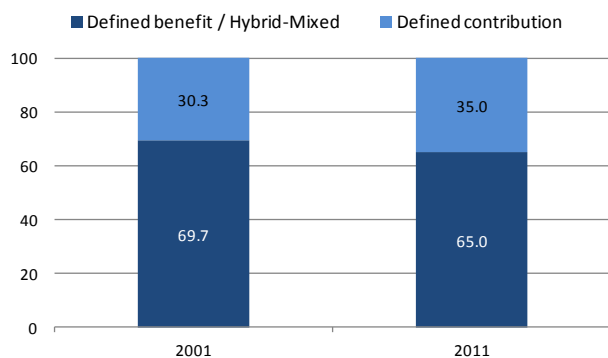
**Figure 6. Relative shares of DB and DC pension fund assets in selected OECD countries, 2011**



Note: See page 23 for methodological notes.  
Source: OECD Global Pension Statistics.

**Figure 7. Defined benefit (traditional and hybrid-mixed) vs. Defined contribution pension fund assets in total selected OECD countries, 2001-2011**

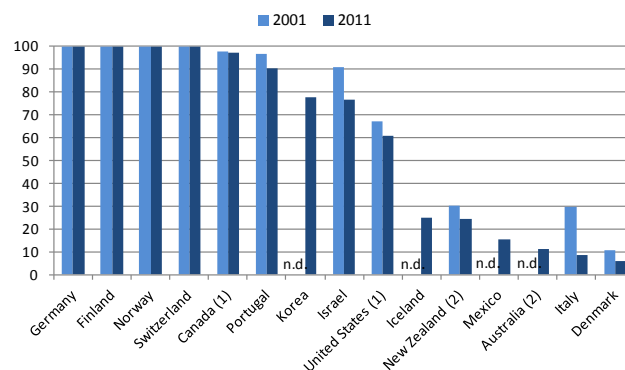
As a percentage of total assets



Note: See page 23 for methodological notes.  
Source: OECD Global Pension Statistics.

**Figure 8. Defined benefit (traditional and hybrid-mixed) pension fund assets for selected OECD countries, 2001-2011**

As a percentage of total assets



Note: See page 23 for methodological notes.  
Source: OECD Global Pension Statistics.

## TRENDS IN PENSION FUND ASSETS

**The OECD pension funds' asset-to-GDP ratio is however still low in several countries with only 40% of OECD countries with ratios above 20%, which pave the way for further pension market developments.**

The difference between the average growth rate of pension fund assets in a country and its GDP is an indicator of the expansion of the pension fund system and its ability to offer higher benefits to a certain population or broaden its coverage to more people. The weighted average of this indicator across the OECD countries between 2001 and 2011 was approximately 1.3%. This average, however, masks substantial differences in growth rates between countries. Four main groups of countries can be identified, corresponding to the four main quadrants into which the chart in Figure 9 has been divided.

Australia, Finland, Iceland, the Netherlands and the United Kingdom are "moving ahead", as both their assets and the rate at which they are growing relative to the GDP growth rate are above the OECD average. In Iceland for instance, pension fund assets grew by an average of 4.7% per year relative to GDP during the period 2001-11, reaching 128.7% of GDP in 2011. In Switzerland, although pension fund assets are still an important part of the economy, accounting for 110.8% of GDP in total, they grew at a slower pace (0.8%) relative to GDP than the OECD average over the period 2001-11. Among other countries, Switzerland pension fund system may therefore be considered to be "losing momentum".

Central and Eastern European countries like Poland and the Czech Republic, together with Mexico, recently introduced mandatory private pension systems. They therefore have low asset-to-GDP ratios, but are considered to be "catching up". They experienced one of the highest average growth rate differentials among OECD countries over the period 2001-11: Poland registered 21.4%, the Czech Republic 11.6%, and Mexico 10.8%. Italy's voluntary private pension system also achieved a high growth rate, 8.2%.

Finally, three main countries – Hungary, Belgium and Portugal – can be considered to be falling behind other OECD members in pension fund development,

as both their relative asset growth and asset-to-GDP ratios are low by OECD standards. Portugal's private pension market, which represents only 7.7% of GDP, experienced negative growth well below the OECD's 1.3% weighted average. This situation is explained by a decrease of about 33% in assets from 2010 to 2011, reflecting the transfer of bank pension funds (i.e. pension funds sponsored by banks, which have as beneficiaries the employees of their banks) to the Public Retirement System. In Hungary, as a result of pension reform the assets of mandatory pension funds decreased by 92% from year-end 2010 figures, while voluntary pension fund assets did not change significantly.

**Pension fund asset growth between 2001 and 2011 was highest in countries that had started from a low base, such as Eastern European countries.**

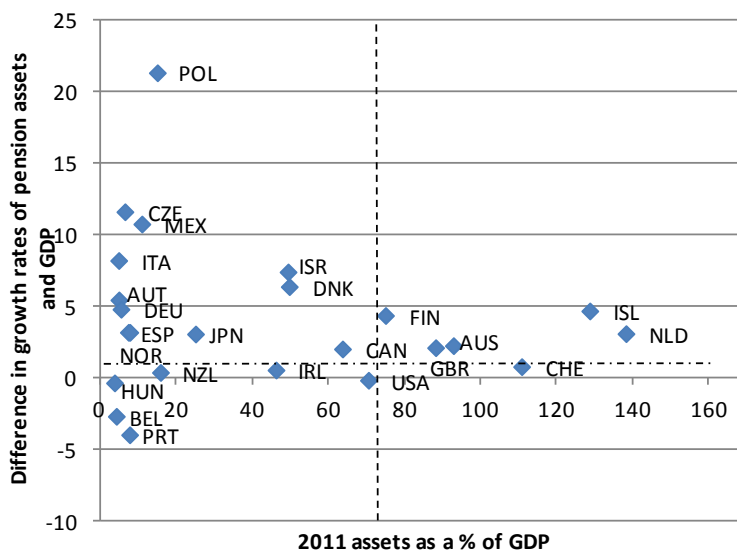
Total pension fund assets in the OECD area grew by 85% between 2001 and 2011, or about 6.4% annually. Growth was relatively stable over the years, apart from the drop in 2001-02, caused by negative equity performance, and the recent global financial crisis. The fastest average annual growth rate in assets was observed in Estonia (95.4%), followed by Poland (32.6%) and the Czech Republic (25.9%) (see Figure 10). These high growth rates are largely explained by the relative youth of their pension funds, and by mandatory enrolment (in Poland). The slowest average annual growth rate was that of Portuguese pension funds, at 3.3%.

The slow growth in pension fund assets in these and other countries (such as France and Portugal) is confirmed by the stability or decline in their asset-to-GDP ratios. This contrasts with the experience of countries such as Estonia, Italy, Mexico, Poland and Slovenia where pension fund to GDP ratios are increasing rapidly, albeit from a low base (see Figures 11 to 13).

Growth prospects in some of these countries are very positive because of the mandatory nature of private pension provision. However, the recent decision to reduce mandatory pension contributions in Poland will weigh down on asset growth in the future. In Hungary the elimination of the mandatory pension fund system led to a sharp contraction in pension fund assets.



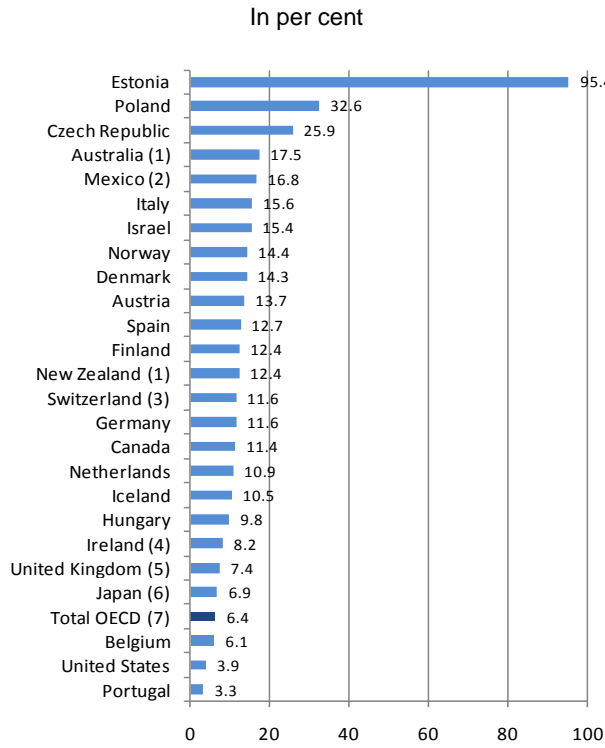
Figure 9. Pension fund assets in 2011 compared to the difference in average growth rates of pension fund assets and GDP over the period 2001-11 in selected OECD countries



Note: The vertical dashed line gives the OECD weighted average pension fund assets as a percentage of GDP, while the horizontal dashed line shows the OECD weighted average of the difference in growth rates of pension fund assets and GDP. Countries in the upper right quadrant are “moving ahead” because both their assets and the rate at which they are growing are above the OECD average. Countries in the bottom left quadrant are “falling behind” because they are below the OECD average on both counts.

Source: OECD Global Pension Statistics.

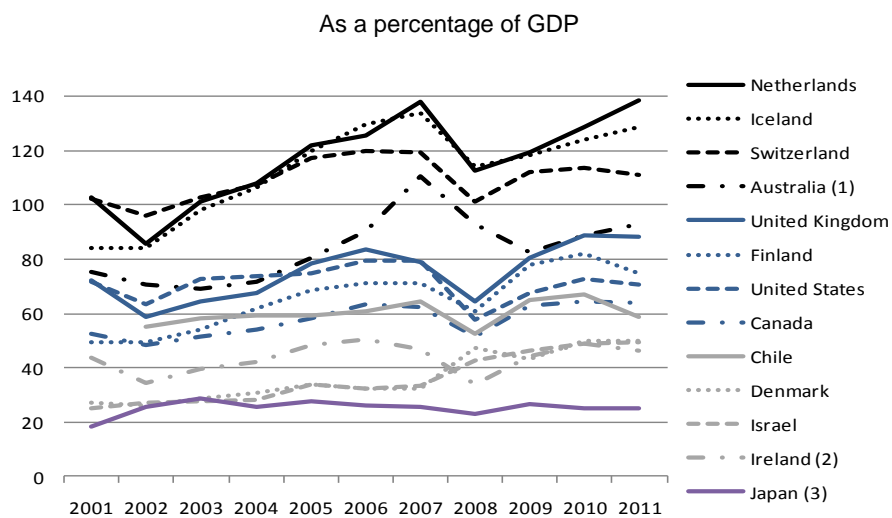
Figure 10. Pension funds' average annual growth rate in total assets over 2001-2011 in selected OECD countries



Note: See page 23 for methodological notes.

Source: OECD Global Pension Statistics.

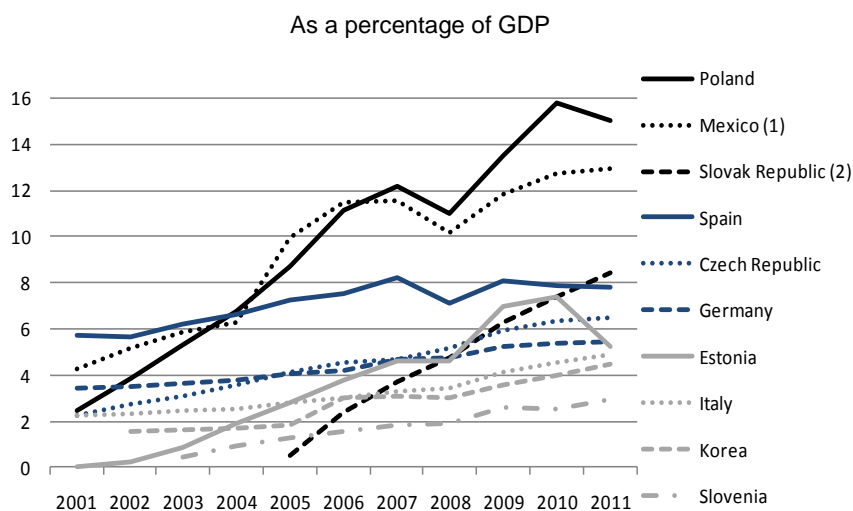
Figure 11. Trends in pension fund assets: OECD countries with mature markets, 2001-2011



Note: See page 23 for methodological notes.

Source: OECD Global Pension Statistics.

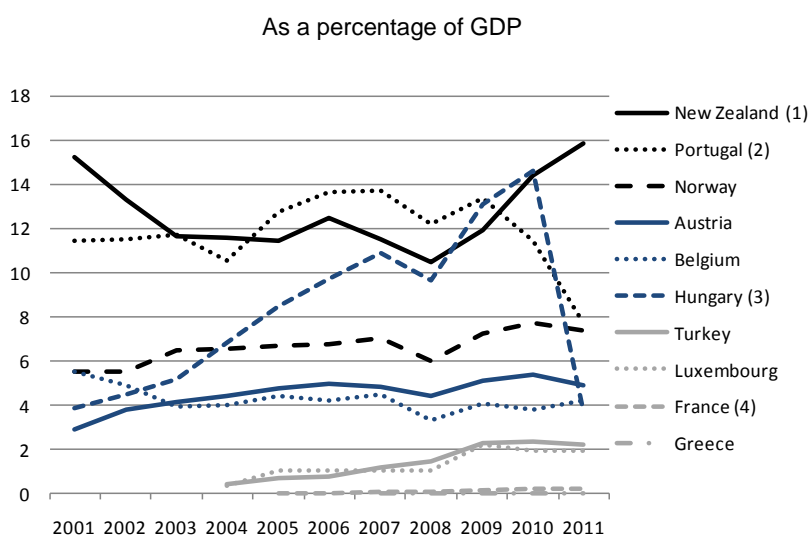
Figure 12. Trends in pension fund assets: OECD countries with growing markets, 2001-2011



Note: See page 23 for methodological notes.

Source: OECD Global Pension Statistics.

Figure 13. Trends in pension fund assets: OECD countries with sluggish markets, 2001-2011



Note: See page 23 for methodological notes.

Source: OECD Global Pension Statistics.

## INVESTMENTS

### **Pension fund allocations to public equities are at historical lows. The highest allocation was Australia's at slightly under 50%.**

The allocation to shares fell in 2011 in most countries. No country had equity portfolios accounting for more than half of total pension fund assets, Australia being the highest at 49.7% (see Figure 14). Other countries where equities outweigh bonds in pension fund portfolios include the United States (26.0% in bonds vs. 48.1% in equities) and Finland (35.4% in bonds vs. 41.3% in equities). These asset allocations contrast with the situation in 2001, when three countries had equity allocations above 50% (Ireland, the United Kingdom and the United States).

Between 2001 and 2011, across the selected countries among the OECD area in Table 1, the share of assets invested in bonds remained stable on average while the share invested in equities declined by 3.5 percentage points to a simple average of 24.0% of total assets<sup>1</sup>. The decline in equities was offset by an increase in allocations to alternative investments and monetary instruments. In some OECD countries like Denmark and the Netherlands, the reduction in equity allocations was largely offset by increasing bond allocations.

As Table 1 shows, the countries that saw the biggest reallocation of assets to bills and bonds relative to total portfolios over the period 2001-2011 were: Denmark, an increase of 14.3 percentage points from 52.3% in 2001 to 66.6% in 2011; Estonia, a 7.5 percentage point increase from 48.0% in 2001 to 55.6% in 2011; and the Netherlands, a 5.9 percentage point rise from 36.2% in 2001 to 42.1% in 2011. Conversely, pension funds reduced their equity allocations in Denmark, Estonia, Iceland, Japan, the Netherlands and Spain. Finland and Mexico experienced the biggest rebalancing towards equities, with respectively 13.3 and 17.6 percentage point increases.

During 2011, pension funds in many countries also shifted their geographical allocation to reduce exposure to countries deemed to be risky. This was the case for instance in Slovakia where pension fund exposure to debt from the European periphery fell by 3 percentage points, to 4.5%. The flight to safety also translated into a drop in foreign exposure among

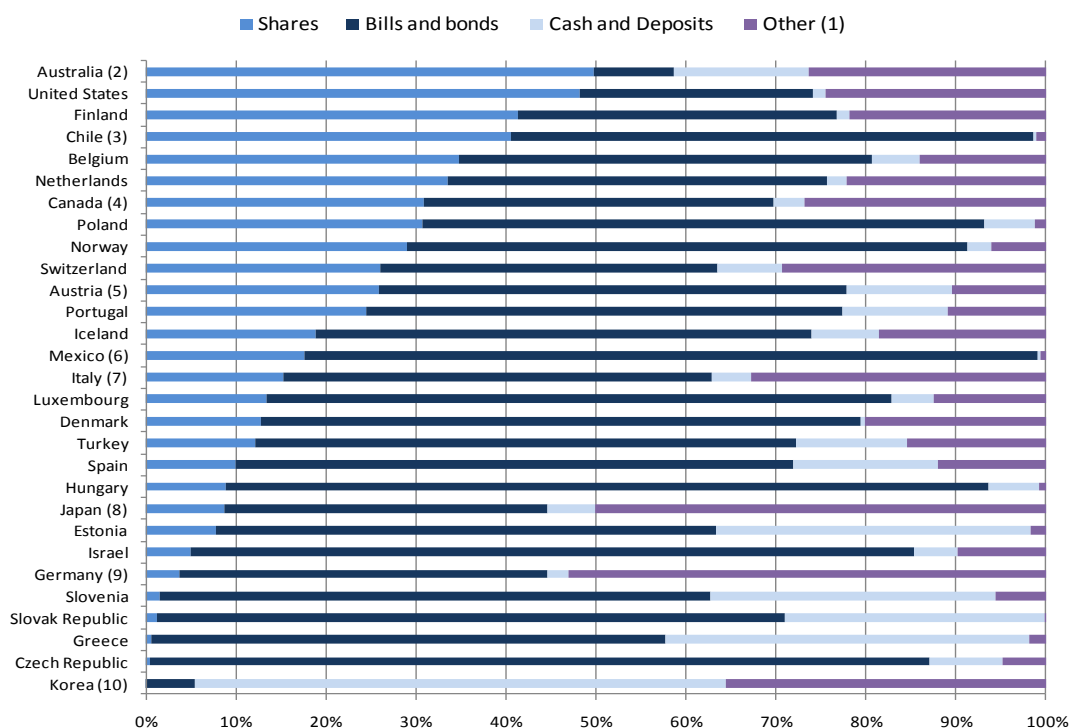
pension funds. This has been particularly marked in countries like Chile, Denmark, the Netherlands and the Slovak Republic, which experienced drops in assets invested abroad ranging from 8 to 10 percentage points between 2010 and 2011.

Foreign investment in entities located abroad (including investment in local currencies) tends to be greater in countries that belong to the euro area. As shown in Figure 15, of the OECD sample surveyed, Estonia, Luxembourg and Portugal have the most internationally diversified pension fund portfolios, with respectively 76.4%, 56.7% and 55.4% of total assets issued by entities located abroad, and the share of assets issued by entities located abroad has increased since 2001 in both Estonia and Portugal (see Table 1). Other countries with high investment in foreign-based entities include the Netherlands (42.9% of total investment), the Slovak Republic (41.6%), Slovenia (41.5%) and Switzerland (37.8%). On the other hand, five out of the eighteen countries for which such information was available invest relatively little in foreign assets or securities denominated in foreign currencies (less than 15% of total assets).

<sup>1</sup> The decline in the share of assets invested in equities among the selected OECD countries was bigger when considering the weighted average (decline from 49.7% in 2001 to 40.9% of total assets in 2011). This difference with the simple average stems from the United States which experienced a decrease of 6.5 percentage points in equities allocation to reach a share of 48.1% of total assets in 2011."

**Figure 14. Pension fund asset allocation for selected investment categories in selected OECD countries, 2011**

As a percentage of total investment



Note: See page 24 for methodological notes.

Source: OECD Global Pension Statistics.

**Table 1. Variation in asset allocation for selected investment categories and in foreign investment in selected OECD countries, 2001- 2011**

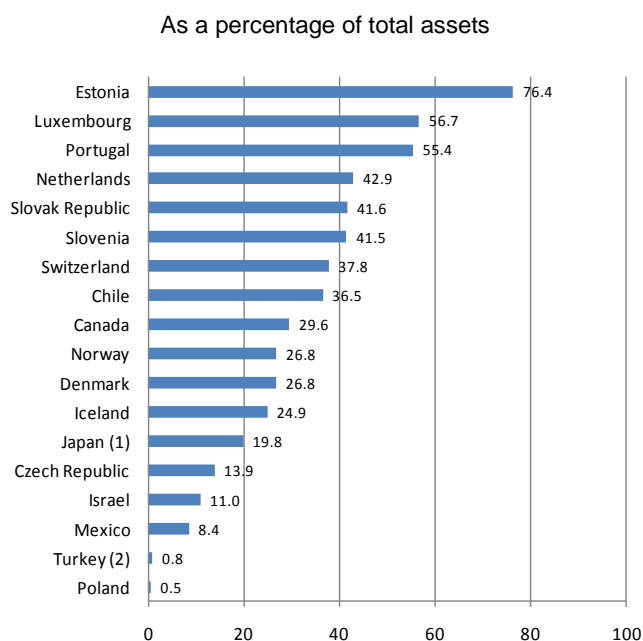
In percentage points

Country	Shares	Bills and bonds	Assets issued by entities located abroad
Denmark	-31.3	14.3	-12.6
Japan (1)	-18.5	-3.4	-3.7
Netherlands	-14.3	5.9	..
Iceland	-10.8	2.1	..
Spain	-10.6	1.4	..
Estonia	-10.5	7.5	48.0
Canada	-9.1	2.7	7.5
Czech Republic	-6.9	2.8	9.4
United States	-6.5	4.7	..
Belgium	-4.6	11.5	..
Switzerland	-2.2	4.1	33.3
Portugal	1.6	-4.3	8.1
Poland	2.3	-5.6	..
Norway	3.1	5.5	..
Israel	3.7	-12.1	11.0
Australia	7.8	-2.5	..
Austria	9.6	-26.1	..
Finland	13.3	-16.2	..
Mexico	17.6	-18.3	..
Simple average	-3.5	-1.4	12.6

Note: See page 24 for methodological notes.

Source: OECD Global Pension Statistics.

Figure 15. Foreign investment of pension funds in selected OECD countries, 2011



Note: See page 24 for methodological notes.

Source: OECD Global Pension Statistics.

### A departure from traditional investment products towards alternative assets<sup>1</sup>.

Drawing on the data collected in connection with the OECD Large Pension Funds 2011 Survey<sup>2</sup>, the evidence suggests that, although in most cases, pension funds have so far preferred to take a cautious, incremental approach to alternative investments, some investors have allocated considerable resources to alternative assets, reflecting pension fund's growing appetite for diversification. This seems prudent, given pension fund fiduciaries' concerns over the lack of transparency in some investments and the scarcity of long-term, robust, performance data. The crisis is also prompting pension funds to reconsider their alternative investments (hedge funds, private equity, commodities, etc.) and strengthen their governance and risk controls.

Altogether, for the 2011 survey, data has been received from 52 institutional investors<sup>3</sup> from more than 20 countries around the world including some non OECD countries such as Brazil, Colombia, Peru and South Africa, accounting for over USD 7 trillion of assets under management related to infrastructure investment. Based on the information provided by 28 pension funds, total investment in infrastructure at the end of 2010, considered as direct exposure, was USD 41.8 billion, which represents 2.9 % of total assets surveyed (USD 1.4 trillion). Of the total allocation, the largest portion, representing USD 37.9 billion or 2.6%, relates to unlisted equity (i.e. infrastructure funds or direct investment), while USD 3.9 billion or 0.3% relates to fixed income (i.e. infrastructure project bonds or loans). If we consider total assets under management for the complete survey (i.e. 52 funds in total with USD 7.7 trillion assets under management) infrastructure investment of USD 41.8 billion represents 0.5% of the total.

<sup>1</sup> While there is no official definition of alternative assets, the term is usually applied to instruments other than listed equities, bonds, and cash. For the purposes of this survey, "alternative" investments comprise the following types of investments: hedge funds, private equity, real estate, infrastructure, commodities and "other" ("other" includes: timber and currency/interest rate overlays).

<sup>2</sup> For further details see: [Large Pension Funds 2011 Survey](#).

<sup>3</sup> The survey is part of the recently launched OECD project "Institutional Investors and Long Term Investment". Going forward, the survey would be extended to more funds and countries as well as to other institutional investors (e.g. Insurers and Sovereign Wealth Funds), providing insights and detailed investment information which complement the administrative data gathered at the national level. See also, [www.oecd.org/finance/iti](http://www.oecd.org/finance/iti).

### Policies to further develop private pension systems are needed in some OECD countries.

Figure 16 below compares the importance of pension fund assets in the economy with the benefits that the public pension system is expected to pay to a worker entering the labour force in 2008 and earning the average wage. It shows a group of countries, such as Australia, Canada, Chile, Denmark, Iceland, Israel, Ireland, the Netherlands, Switzerland, the United Kingdom and the United States, with large pension fund asset pools that have correspondingly low public pension replacement rates (bottom right-hand quadrant). Most countries are, however, on the left-hand side of the graph, with small pools of assets, and either low (e.g., Estonia, Mexico, Poland, the Slovak Republic) or high (e.g., Austria, Greece, Spain, Turkey) replacement rates.

Some countries – those in the lower left-hand quadrant such as Mexico, New Zealand, Poland and the Slovak Republic – have recently reformed their pension systems, introducing mandatory private plans, and will therefore experience relatively faster growth in pension fund assets in the years to come. However, in another group of countries, including Belgium, Germany and Japan, pension funds are voluntary. The combination of low public pension replacement rates and low ratios of pension fund assets to GDP could be a sign of retirement income inadequacy. However, a more precise picture can be obtained only by factoring in the level of ageing, the labour force coverage of the private pension system and access to other means of retirement savings.

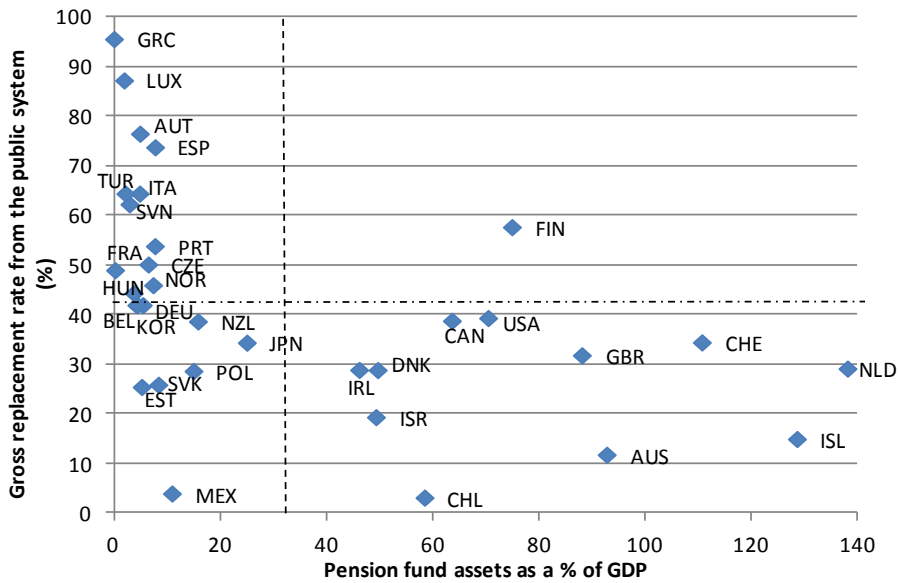
### BENEFITS AND CONTRIBUTIONS

#### Benefit payments have been increasing slowly and steadily over the last few years.

As Figure 17 shows, in 2011 pension fund benefit payments in relation to GDP were highest in Finland (10.4%), followed by Switzerland (5%), Iceland (4.8%), Australia (4.5%), the Netherlands (4.2%) and Canada (2.8%). These are also countries where private pensions are mandatory or quasi-mandatory, which explains the large size of pension fund expenditure in relation to the size of the economy. In other countries where private pensions are mandatory (e.g., Mexico, Poland and the Slovak Republic), benefit payments are also expected to grow rapidly in future years as the generations contributing to the new system start retiring.

In most OECD countries, benefit payments have increased slowly but steadily over the last few years as a result of the growing size of the retiree population. As a percentage of GDP, benefit growth has also been relatively stable, with major increases observed only in countries like Finland (from 8.5% in 2001 to 10.4% in 2011) and Iceland (from 2.9% in 2001 to 4.8% in 2011). Benefits should increase at a faster rate over the next few years as the baby boom generation starts to retire in large numbers.

**Figure 16. Pension fund assets compared with the public pension system's gross replacement rate, 2011**

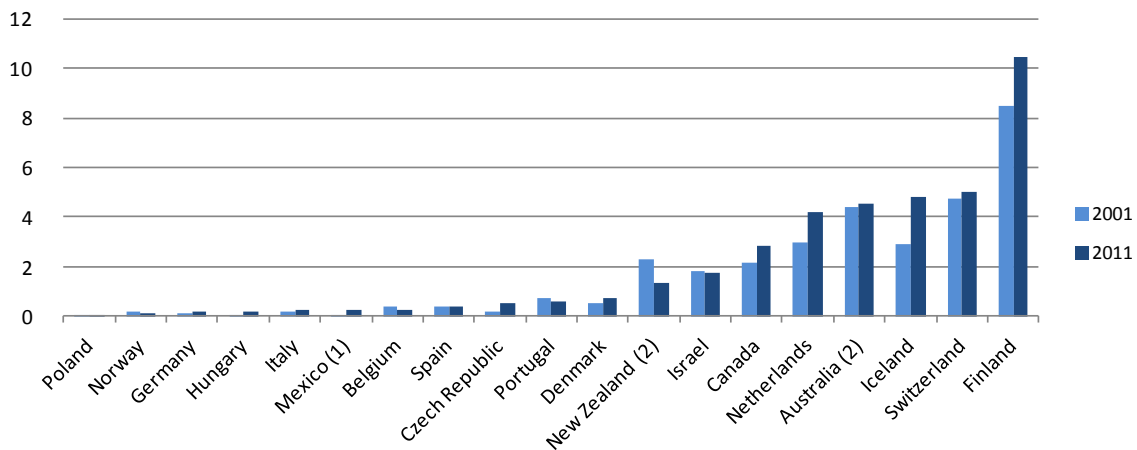


Source: OECD Global Pension Statistics and OECD Pensions at a Glance 2011.

Note: Public pension system refers to pay-as-you-go financed (PAYG) pension plans. These results do not take into account the recent reforms in many OECD countries, in particular the reform in Greece, where gross replacement rates will be considerably reduced. Updated figures will be available in Pensions at a Glance 2013. The vertical dashed line gives the OECD simple average of assets as a percentage of GDP, while the horizontal dashed line gives the OECD simple average of public gross replacement rates.

**Figure 17. Pension fund benefits for selected OECD countries, 2001-2011**

As a percentage of GDP



Note: See page 24 for methodological notes.

Source: OECD Global Pension Statistics.



In many OECD countries, private pension arrangements already provide a major supplement to benefits from public pension systems for current retirees.

Pension systems vary across countries, and no single model fits all. Generally there is a mix of public and private provision. Public pensions are statutory, most often financed on a pay-as-you-go (PAYG) basis and managed by public institutions. Private pensions are in some cases mandatory but more usually voluntary, funded, employment-based (occupational) pension plans or individual retirement savings plans (personal pensions). As shown in Figure 18, private pension benefits paid (i.e. benefits paid by any types of private pension arrangements, not only autonomous pension funds) in 2011 in Canada, Denmark, Korea and the Netherlands were below, but close to, the total benefits paid by the public pension system in 2007. In Australia and Iceland, private pension benefits dominate retirement income provision.

Public spending on old-age benefits averaged 7.0% of GDP in 2007, compared with private pension benefits of averaging 2.2% of GDP in 2011 (in the countries for which data are available). Public spending on old-age pensions is highest – greater than 10% of GDP – in Germany, Greece, Italy, Poland and Portugal. Private expenditure on old-age benefits is highest in Australia, Belgium, Canada, Denmark,

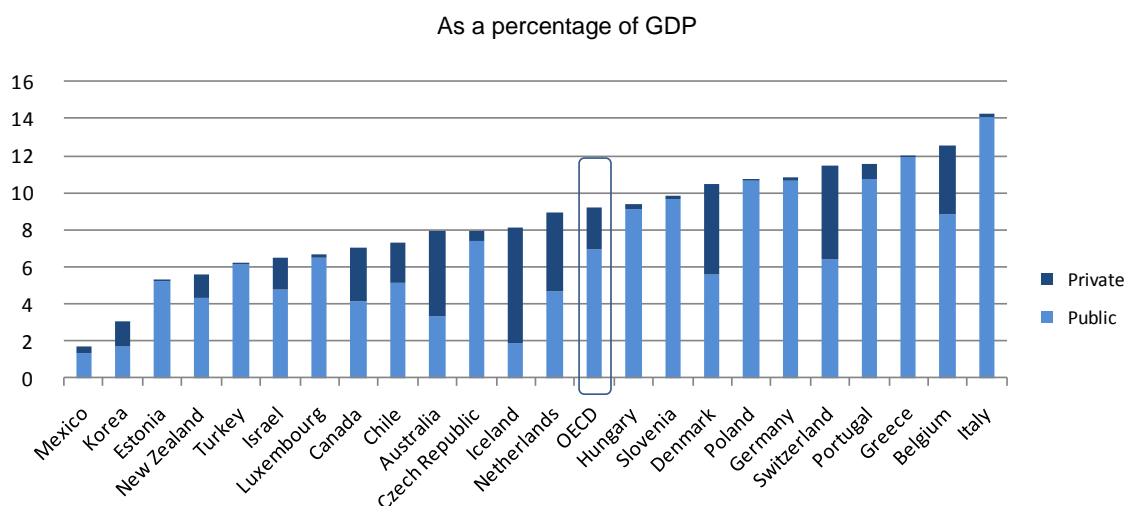
Iceland, the Netherlands and Switzerland, where it exceeds 2.8% of GDP. However, private benefit spending is so far negligible in around a third of the OECD countries.

**Pension fund contributions grew substantially between 2001 and 2011 in the Netherlands and Canada.**

Like benefits, ratios of pension fund contributions-to-GDP exhibited wide disparities across countries. As shown in Figure 19, there was a clear divide between the four countries with ratios above 6% and the eleven whose ratios were below 2%, with only four countries in the middle: New Zealand (2.3%), Israel (2.4%), Canada (2.9%) and the Netherlands (4.9%).

Countries that experienced substantial increases in contributions included those with large defined benefit systems (e.g., Canada, the Netherlands). In Canada pension fund contributions as a percentage of GDP grew from 1.5% in 2001 to 2.9 % in 2011. In the Netherlands, they grew from 2.8% to 4.9% over the same period. Contributions have risen over the last decade in these and other countries with large DB systems as a result of efforts to improve the funding situation of pension plans. The establishment of new defined contribution pension plans also accounts for the rapid growth in contributions in Canada as well as other countries such as Israel and New Zealand.

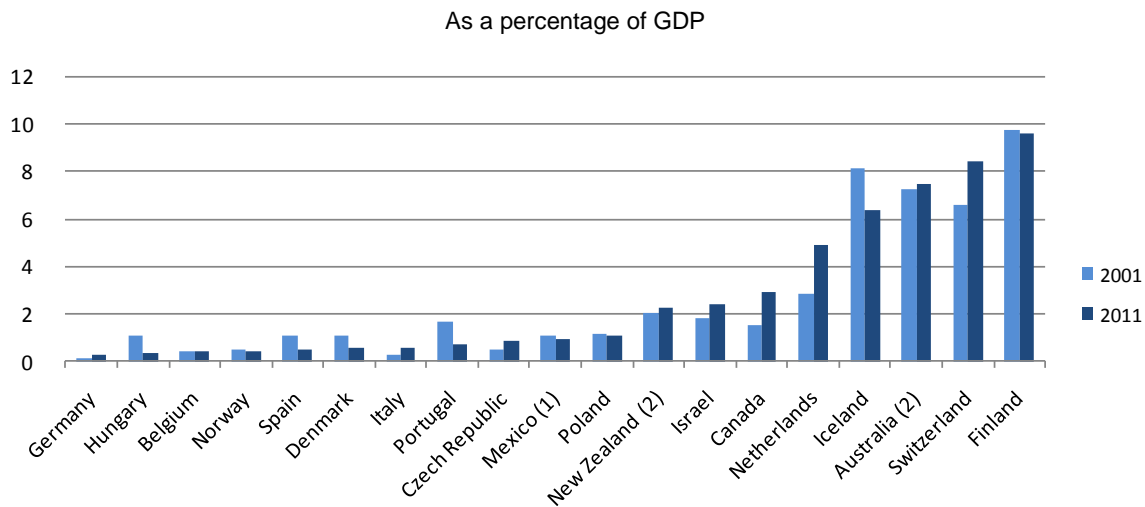
**Figure 18. Public and private expenditure on pensions in selected OECD countries, 2011 (or latest year available)**



Note: See page 24 for methodological notes.

Source: OECD Global Pension Statistics and OECD Social Expenditure database.

Figure 19. Pension fund contributions for selected OECD countries, 2001-2011



Note: See page 24 for methodological notes.

Source: OECD Global Pension Statistics.

### PENSION FUNDS IN SELECTED NON-OECD COUNTRIES

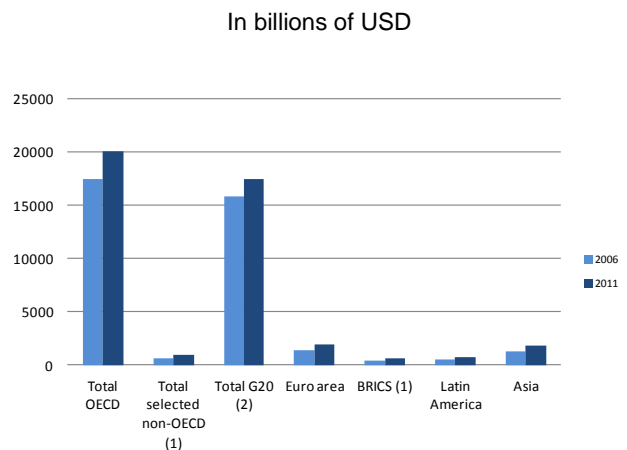
Non-OECD pension fund markets (see Table, page 21), although small in comparison to those of the OECD area (USD 0.9 trillion vs. USD 19.2 trillion in 2010), have grown rapidly in recent years (see Figure 20). Pension markets in non-OECD economies nevertheless remain underdeveloped in comparison to OECD markets, as indicated in Figure 21 by their generally low assets-to-GDP ratios in 2011. Hong Kong's high assets-to-GDP ratio of 32.5% reflects the fact it has the most mature pension system. Pension markets in all the other non-OECD economies, for which we received data, are smaller relative to their economies. Three countries had ratios between 10% and 20% - Colombia at 17.0%; Peru at 16.9%; and Brazil at 13.8%. In the remaining 12 non-OECD countries, for which we received data, ratios were less than 10%.

However, pension assets in non-OECD economies grew much faster than those in OECD countries. For example, the average growth rate between 2006 and 2011 was 2.1% in the G20 countries and 6.4% in the Euro area, while this ratio was much higher in the Latin American countries (7.5%) and BRICS (10.6% over 2006-2010).

As in the OECD countries, bonds and equities are the main asset classes in which pension funds in non-OECD economies invest, with bonds traditionally playing a bigger role. In most countries, bonds and bank deposits accounted for more than one-half of total assets in 2011 (see Figure 22). Two countries had pension fund equity portfolios accounting for more

than 40% of total assets, Hong Kong being the highest at 55% followed by Peru at 43.9%.

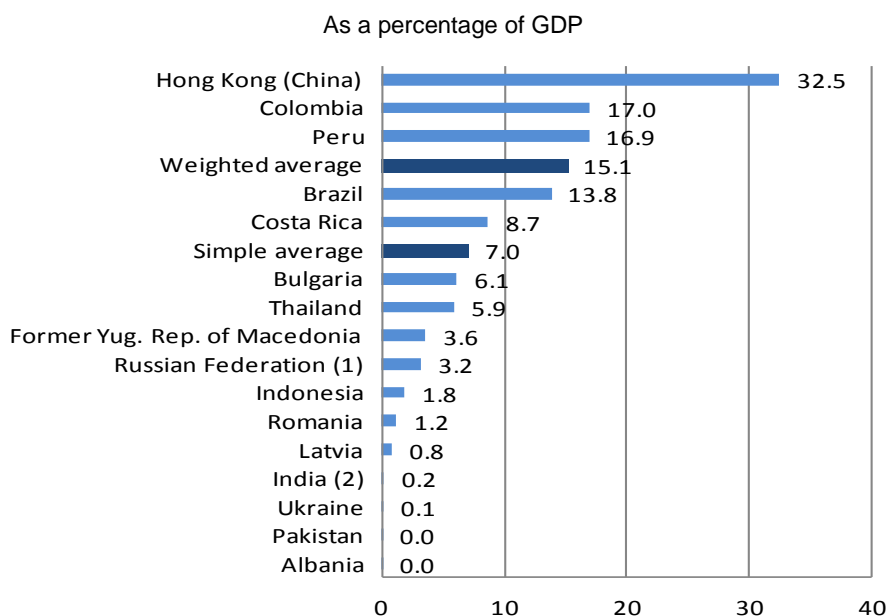
Figure 20. Top pension funds assets by regions, 2006-2011



Note: See page 25 for methodological notes.

Source: OECD Global Pension Statistics.

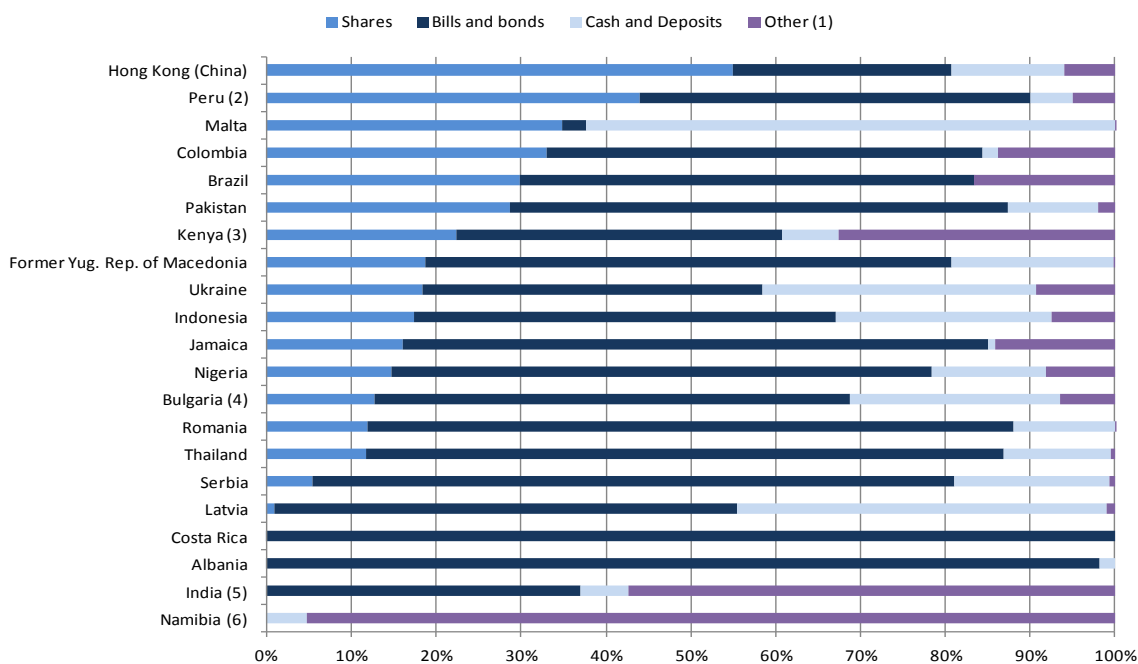
**Figure 21. Importance of pension funds relative to the size of the economy in selected non-OECD countries, 2011**



Note: See page 25 for methodological notes.

Source: OECD Global Pension Statistics.

**Figure 22. Pension fund asset allocation for selected investment categories in selected non-OECD countries, 2011**



Note: See page 25 for methodological notes.

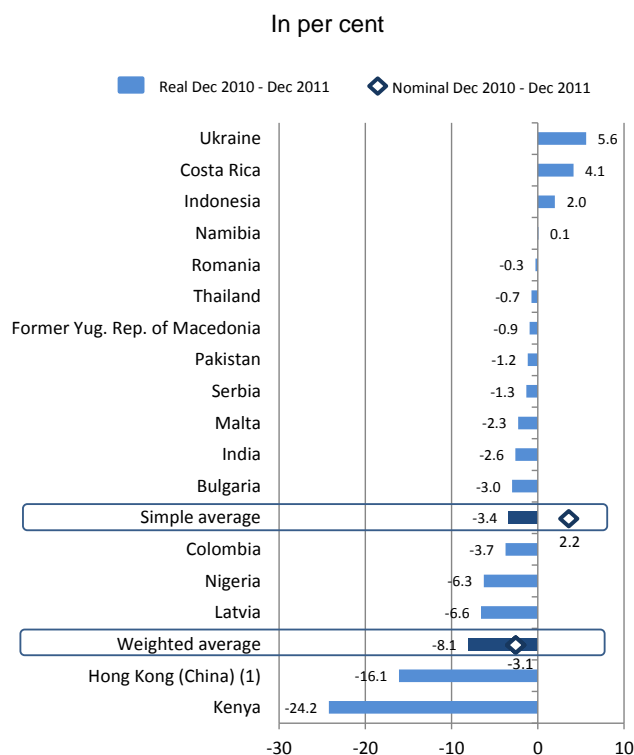
Source: OECD Global Pension Statistics.

Pension funds experienced an annual average real rate of investment returns (in local currency and after investment management expenses) of -3.4% ranging widely from 5.6% for the highest performer (Ukraine) to -24.2% for the lowest (Kenya) (see Figure 23). In Kenya, the sharp decline in industry assets was driven by short term volatility including the steep drop in the Nairobi Securities Exchange during the period as well as the

sharp rise in interest rates on Government Securities which resulted in a drop in the value of the lower yielding securities already held by the industry.

Distortion caused by inflation explained the poor performance in many of the selected non-OECD countries, as shown by the 5-percentage point difference between the real and nominal rates of investment returns.

**Figure 23. Calculated average real net investment return of pension funds in selected non-OECD countries, 2011**



Note: See page 25 for methodological notes.

Source: OECD Global Pension Statistics.

TABLE OF PENSION FUNDS' TOTAL INVESTMENT BY COUNTRY, 2001-2011

OECD countries	USD billions										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia (1)	268.2	281.4	348.9	443.4	548.9	658.9	964.4	916.8	811.7	1,066.2	1,340.0
Austria	5.7	7.9	10.6	12.9	14.6	16.0	18.0	18.3	19.5	20.2	20.5
Belgium	12.8	12.4	12.2	14.4	16.5	16.8	20.3	16.7	19.2	17.6	21.7
Canada	375.6	354.6	447.0	534.9	659.9	807.8	888.6	772.4	806.4	1,017.7	1,106.1
Chile	..	37.0	42.7	55.6	68.4	89.0	105.6	89.5	106.6	136.3	145.5
Czech Republic	1.4	2.1	2.9	3.9	5.2	6.5	8.2	11.2	11.3	12.2	14.0
Denmark	43.6	45.3	60.6	75.3	87.0	89.6	100.9	161.6	134.0	154.4	165.7
Estonia	0.0	0.0	0.1	0.2	0.4	0.6	1.0	1.1	1.3	1.4	1.6
Finland	62.0	66.7	88.8	117.0	134.1	149.5	174.0	164.8	184.8	196.1	199.8
France (2)	..	..	..	..	0.4	1.0	1.9	2.7	4.2	5.3	6.7
Germany	65.1	70.5	88.9	104.1	112.5	122.8	154.5	172.4	175.5	178.6	195.4
Greece	..	..	..	..	..	..	0.0	0.0	0.1	0.1	0.1
Hungary (3)	2.1	3.0	4.4	7.0	9.3	11.0	15.1	14.9	16.9	19.1	5.3
Iceland	6.6	7.5	10.8	14.1	19.5	21.7	26.7	19.0	14.4	15.6	18.1
Ireland (4)	45.8	42.2	62.7	77.4	96.8	110.1	118.6	92.9	100.3	100.0	100.6
Israel	28.6	28.3	30.5	33.0	42.0	45.1	54.4	85.4	90.7	106.4	120.1
Italy	25.1	28.2	36.8	44.2	49.5	56.0	68.7	78.5	86.8	93.8	106.9
Japan (5)	756.0	999.8	1,208.3	1,187.3	1,262.7	1,151.4	1,124.0	1,124.3	1,342.0	1,385.3	1,470.3
Korea	..	8.4	9.9	11.5	14.7	26.6	29.8	27.8	29.6	40.1	49.7
Luxembourg (6)	..	..	..	0.1	0.4	0.4	0.5	0.6	1.2	1.1	1.2
Mexico (7)	26.6	33.6	37.2	42.7	76.4	96.5	103.0	110.2	104.3	131.8	149.0
Netherlands	411.3	374.9	545.3	659.7	769.6	843.0	1,058.2	979.9	944.2	1,006.8	1,157.3
New Zealand (1)	7.7	7.9	9.1	11.2	12.4	13.1	14.5	13.6	13.8	19.6	24.7
Norway	9.4	10.6	14.6	16.9	20.3	22.9	27.4	27.2	27.9	32.1	36.0
Poland	4.6	7.6	11.6	17.1	26.5	38.0	51.1	57.9	58.1	74.0	77.4
Portugal (8)	13.3	14.7	18.4	18.9	23.6	26.6	30.6	29.7	30.4	26.1	18.4
Slovak Republic (9)	0.0	0.0	0.0	..	0.3	1.7	3.1	4.6	5.5	6.5	8.1
Slovenia (10)	..	..	0.1	0.3	0.5	0.6	0.9	1.0	1.3	1.4	1.7
Spain	35.1	39.1	54.8	69.1	81.5	92.5	118.5	114.2	118.2	111.2	116.1
Sweden	18.3	18.5	23.5	26.4	33.2	36.4	39.5	35.3	33.4	43.9	..
Switzerland (11)	261.4	267.6	334.8	389.5	434.7	465.4	504.6	497.0	551.4	595.8	703.9
Turkey (12)	..	..	..	1.5	3.2	4.0	7.9	10.9	14.0	17.2	17.0
United Kingdom (13)	1,040.5	930.8	1,175.3	1,467.1	1,763.8	2,002.1	2,186.5	1,698.8	1,753.0	1,990.9	2,129.5
United States	7,205.8	6,584.7	7,915.7	8,607.6	9,262.7	10,418.1	10,940.0	8,223.9	9,591.5	10,585.9	10,584.2
<b>Selected non-OECD countries</b>											
Albania (14)	..	..	..	..	..	..	0.0	0.0	0.0	0.0	0.0
Argentina (15)	..	12.6	16.2	18.5	23.4	29.3	30.4	0.0	0.0	0.0	0.0
Bolivia (16)	..	1.2	1.5	1.7	2.1	2.3	2.8	3.9	4.6	..	..
Brazil	..	..	..	..	..	194.8	224.2	224.9	242.9	306.5	308.2
Bulgaria	0.1	0.2	0.3	0.5	0.7	1.0	1.6	1.7	2.3	2.7	3.0
China	..	..	..	6.0	8.3	11.4	20.0	..	37.1	41.5	..
Colombia	4.9	6.3	7.1	10.1	16.7	18.4	31.2	35.1	30.9	46.3	54.0
Costa Rica	0.5	0.8	1.1	0.9	1.2	1.5	1.6	2.1	2.3	2.8	3.5
Croatia	..	0.3	0.8	1.5	2.0	..	..	..	..	..	..
Dominican Republic (16)	..	..	0.0	0.1	0.4	0.6	1.0	1.4	1.9	2.4	..
Egypt	..	..	..	..	..	..	..	4.0	..	..	..
El Salvador (16)	..	9.3	13.8	18.8	25.3	29.3	34.6	4.5	5.0	5.5	..
Hong Kong (China)	24.3	27.5	29.1	38.2	44.1	52.7	64.4	60.0	67.4	78.1	79.5
India (17)	..	..	..	..	..	..	..	..	..	3.3	2.8
Indonesia (18)	..	4.3	5.5	6.2	6.3	8.2	9.6	..	..	11.5	15.1
Jamaica	..	..	..	1.6	..	2.0	2.5	2.7	2.5	3.0	3.3
Kenya	1.1	1.3	1.6	1.8	2.4	3.2	..	3.9	4.0	5.3	5.1
Latvia	0.0	0.0	0.1	0.1	0.2	0.3	..	..	0.2	0.2	0.2
Lesotho	..	..	..	..	..	..	..	..	..	..	0.3
Liechtenstein	..	..	..	..	..	..	1.9	2.1	2.5	..	..
Former Yug. Rep. of Macedonia	..	..	..	..	..	..	0.1	0.1	0.2	0.3	0.3
Malta	..	..	..	..	..	..	..	..	..	..	0.0
Mauritius	1.9	2.1	2.7	3.1	3.3	..	..	..	..	..	..
Namibia	..	..	..	..	..	..	..	..	..	9.6	8.5
Nigeria	..	..	..	..	..	..	1.8	2.5	9.3	13.5	15.4
Pakistan	..	..	..	..	..	..	0.0	0.0	0.0	0.0	0.0
Panama (16)	..	..	..	..	..	..	..	..	85.8	..	..
Peru	3.6	4.5	6.4	7.6	9.9	14.1	19.6	17.4	23.3	31.1	30.5
Romania	..	..	..	..	..	..	0.0	0.4	0.8	1.5	2.1
Russian Federation (19)	..	..	..	..	..	8.9	12.5	12.1	17.9	28.5	54.7
Serbia	..	..	..	..	..	0.0	0.1	..	0.1	0.1	0.2
South Africa	97.1	82.3	120.2	169.0	201.9	239.4	275.2	238.7	221.2	300.3	..
Suriname	..	0.2	0.1	0.2	0.2	0.3	..	..	..	..	..
Thailand	5.0	5.7	6.9	7.6	8.6	10.3	12.8	14.0	15.1	18.2	19.5
Trinidad and Tobago	..	..	..	..	..	3.4	3.7	..	..	..	..
Ukraine	..	..	..	..	..	..	..	0.1	..	0.1	0.2
Uruguay (16)	..	1.1	1.3	1.5	2.1	2.6	3.1	2.9	5.1	6.7	..
Zambia	0.1	0.2	0.3	0.2	0.3	..	..	..	..	..	..
<b>Regional indicators</b>											
Total OECD	10,732.3	10,285.4	12,606.3	14,064.5	15,651.7	17,441.3	18,960.9	15,575.2	17,203.5	19,210.6	20,112.7
Total G20 (20)	9,859.9	9,391.4	11,409.9	12,644.1	13,994.7	15,836.9	17,041.2	13,614.5	15,238.1	17,204.4	17,535.7
Euro area	676.1	656.6	918.6	1,118.4	1,300.7	1,437.5	1,768.7	1,677.5	1,692.5	1,766.2	1,956.0
Latin America	35.6	106.7	127.3	159.4	226.3	484.0	563.5	494.5	615.4	672.3	694.1
Asia	813.9	1,074.1	1,290.3	1,291.3	1,389.8	1,318.7	1,335.5	1,334.5	1,613.8	1,730.2	1,828.8
Total World	10,870.8	10,445.2	12,821.1	14,359.9	16,011.1	18,075.3	19,715.7	16,209.7	17,985.9	20,129.6	20,719.3

Note: See page 25 for methodological notes.

Source: OECD Global Pension Statistics.

## METHODOLOGICAL NOTES

### NOTES TO BE TAKEN INTO CONSIDERATION WHEN INTERPRETING THE DATA

The primary source of this report is provided by national pension authorities through the OECD Global Pension Statistics' project. Within this project, the original data are official administrative data collected and revised on an on-going basis to reflect the most recent figures for every past year.

Data includes pension funds as per the OECD classification (Private Pensions: OECD Classification and Glossary, available at [www.oecd.org/daf/pensions](http://www.oecd.org/daf/pensions)). All types of plans are included (occupational and personal, mandatory and voluntary) covering both public and private sector workers.

#### General notes

- The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
- Data for Germany refer only to Pensionskassen and Pensionsfonds.
- Conventional signs: "n.d.", "...": not available.

#### Figure 2:

Data have been calculated using a common formula for the average nominal net investment return (ratio between the net investment income at the end of the year and the average level of assets during the year). Average real net investment returns have been calculated using the nominal interest rate (as described above) and the variation of the end-of-period consumer price index between 2010 and 2011 for all countries, except for Austria, Estonia, Korea and the United States, for which values have been provided by the countries. The 2010-Q2 and 2011-Q2 consumer price index have been used for Australia and New Zealand.

1. The average rates of return are calculated over the period June 2010-June 2011.
2. The average rates of return are calculated for personal pension plans only.
3. Source: Bank of Japan.
4. The financial result (i.e. the sum of result on investment and the realized and unrealized profits/losses on investment/valuation of investment and the income from the coverage of the deficit) is used as a proxy for net investment income.

**OECD-calculated average rate of investment returns** Calculation methods for the average investment returns (IRR) of pension funds vary greatly from country to country, hindering the international comparability of these statistics. With a view to increasing data comparability across countries, the OECD therefore decided that it would be worth applying the same calculation method for IRR across countries, which would be calculated by the OECD, using variables already collected in conjunction with the framework of the Global Pension Statistics exercise. In order to reach a consensus on the most appropriate formula for the IRR calculation, an electronic discussion group has been created, composed of selected country experts (representing Australia, Germany, the Netherlands, Portugal, and Spain).

Drawing on preliminary consultations, five formulas have been proposed by the OECD Secretariat to the electronic discussion group for comments. A consensus has been reached within the group and subsequently endorsed within the OECD Task Force on Pension Statistics on the following formula for the average IRR, in each year N:

$$\text{Calculated average IRR}_N = \frac{\text{Net Investment Income}_N}{(\text{Total Investment}_{N-1} + \text{Total Investment}_N)/2} \times 100$$

Net investment income comprises income from investments, value re-adjustments on investments and income from realised and unrealised capital gains and losses. It includes rents receivable, interest income, dividends and realised and unrealised capital gains, before tax and after investment expenses.

This formula has been used to produce Figure 2 and Figure 23. Because countries may use a different calculation method for the average IRR, it should be noted that there might be discrepancies between the OECD-calculated average IRRs and the ones published by these countries.

#### Figure 3:

1. Data refer to the first trend calculations for the year 2011.
2. Data refer to the end of June 2011.
3. The figure for total assets at the end of 2011 is an early estimate based on the 2010 level of assets and the flow of transactions in 2011. It does not take into account value changes. A 2011 final estimate will be available in January 2013.
4. Source: IAPF Pension Investment Survey.
5. Source: Bank of Japan.
6. Data refer only to pension funds supervised by the Securities Market Agency of Slovenia.
7. Data for occupational pension plans refer to 2010.
8. Data refer to PERCO plans as of June 2011 (source: AFG).

**Figure 4:**

Calculations are performed on countries for which data are available in 2001 and 2011.

1. Data refer to the first trend calculations for the year 2011.
2. Data refer to the end of June of each year.
3. Source: Bank of Japan.
4. The figure for total assets at the end of 2011 used in the formula is an early estimate based on the 2010 level of assets and the flow of transactions in 2011. It does not take into account value changes. A 2011 final estimate will be available in January 2013.

**Figure 5:**

Countries where private pension plans are financed exclusively by autonomous pension funds include Chile, the Czech Republic, Japan and the Slovak Republic.

1. Data refer to 2010.
2. Technical provisions were considered as a proxy for the total assets of book reserve schemes.

**Figure 6:**

1. Data refer to June.
2. Data refer to occupational plans only.
3. Pension plans in Germany can actually be traditional DB plans or hybrid DB plans, but the split between the two categories is not available.

**Figure 7:**

Data include the countries for which the split of assets between DB and DC plans is available in both 2001 and 2011 ( Canada, the Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Israel, Italy, Mexico, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Switzerland and the United States).

**Figure 8:**

1. Data refer to occupational plans only.
2. Data refer to June of each year.

**Figure 9:**

The three characters refer to ISO country codes. The list of ISO country codes is given on the United Nation Statistics Division internet page, 'Countries and areas, codes and abbreviations' at the following address:  
<http://unstats.un.org/unsd/methods/m49/m49alpha.htm> .

**Figure 10:**

Data refer to the period 2001-2011. Due to a break in series, the average annual growth rate reached 351.9% for Slovak Republic. Therefore, this country was not presented in the figure and was not included in Total OECD.

1. Data refer to the end of June.
2. Data only refer to personal pension plans.
3. Data refer to the first trend calculations for the year 2011.
4. Source: IAPF Pension Investment Survey.
5. The figure for total assets at the end of 2011 is an early estimate based on the 2010 level of assets and the flow of transactions in 2011. It does not take into account value changes. A 2011 final estimate will be available in January 2013.
6. Source: Bank of Japan.
7. Total OECD is the average growth rate in total assets (expressed in millions of USD) over 2001-2011 in OECD countries selected for this chart.

**Figure 11:**

1. Data refer to the end of June of each year.
2. Source: IAPF Pension Investment Survey.
3. Source: Bank of Japan.

**Figure 12:**

1. The break in series in 2005 is due to the inclusion of occupational pension plans registered by the National Commission for the Retirement Savings System (CONSAR) since 2005, not included in previous years.
2. The break in series in 2006 is due to the inclusion of voluntary pension plans, not included in previous years.

**Figure 13:**

1. Data refer to the end of June of each year.
2. In 2011, pension fund activity under ISP supervision decreased by about 33%, considering aggregate assets under management, reflecting the transfer of bank pension funds (i.e. pension funds sponsored by banks, which have as beneficiaries the employees of their banks) to the Public Retirement System.
3. As a result of pension reform, the assets of mandatory pension funds decreased in 2011, while voluntary pension fund assets did not change significantly.
4. Data refer to PERCO plans. Data for 2011 refer to June (source: AFG).

**Figure 14:**

The GPS database provides information about investments in Collective Investment Schemes and the look-through Collective Investment Schemes in cash and deposits, bills and bonds, shares and other. When the look-through was not provided by the countries, estimates were made assuming that mutual funds' investment allocations between cash and deposits, bills and bonds, shares and other was the same as pension funds' direct investments in these categories. Therefore, asset allocation data in this Figure include both direct investment in shares, bills and bonds and indirect investment through Collective Investment Schemes.

1. The "Other" category includes loans, land and buildings, unallocated insurance contracts, hedge funds, private equity funds, structured products, other mutual funds (i.e. not invested in cash, bills and bonds, shares or land and buildings) and other investments.
2. Source: Australian Bureau of Statistics. The high value for the "Other" category is driven mainly by net equity of pension life office reserves (15% of total investment).
3. Other investments include market or fair value of derivatives held.
4. The high value for the "Other" category is driven mainly by other mutual funds (14% of total investment).
5. Other investments include derivatives at market value and outstanding accounts against plan sponsors.
6. Other investments include foreign assets issued by entities located abroad.
7. The high value for the "Other" category is driven mainly by unallocated insurance contracts (22% of total investment).
8. Source: Bank of Japan. The high value for the "Other" category is driven mainly by accounts payable and receivable (25% of total investment) and outward investments in securities (20% of total investment).
9. The high value for the "Other" category is driven mainly by other mutual funds (18% of total investment).
10. The high value for the "Other" category is driven mainly by unallocated insurance contracts (31% of total investment).

**Table 1:**

The GPS database provides information about investments in Collective Investment Schemes and the look-through Collective Investment Schemes in cash and deposits, bills and bonds, shares and other. When the look-through was not provided by the countries, estimates were made assuming that mutual funds' investment allocation in cash and deposits, bills and bonds, shares and other was the same as pension funds' direct investments in these categories. Therefore, the variation in asset allocation in this table includes both direct investment in shares, bills and bonds and indirect investment through Collective Investment Schemes.

1. For Japan, between 2001 and 2011, unlike equities and bills and bonds, the share of assets invested in payable and receivable accounts increased by 24.6%.

**Figure 15:**

1. Source: Bank of Japan.
2. Data refer only to personal pension plans.

**Figure 16:**

The three characters refer to ISO country codes. The list of ISO country codes is given on the United Nation Statistics Division internet page, 'Countries and areas, codes and abbreviations' at the following address:

<http://unstats.un.org/unsd/methods/m49/m49alpha.htm> .

**Figure 17:**

Only countries for which data for both 2001 and 2011 are available are shown in the Figure.

1. There is a break in series in data collection in 2006 due to the inclusion of occupational pension plans registered by CONSAR since 2005, not included in previous years.
2. Data refer to the end of June of each year.

**Figure 18:**

For the purposes of this chart, all types of private pension plans are displayed.

**Figure 19:**

Only countries for which data for both 2001 and 2011 are available are shown in the Figure.

1. There is a break in series in data collection in 2006 is due to the inclusion of occupational pension plans registered by CONSAR since 2005, not included in previous years. Total contributions include mandatory contributions for retirement from employees, employers, and government, and voluntary contributions and transfers from the previous pension system (valid until 1997).
2. Data refer to the end of June of each year.



**Figure 20:**

1. Data refer to 2010 instead of 2011.
2. Excluding Saudi Arabia.

**Figure 21:**

1. Source: Ministry of Finance. Data refer only to the mandatory part of the Russian system.
2. In 2011, data refer to PFRDA regulated funds only. Data do not include EPFO regulated funds (i.e. the Employee Provident Fund, Employee Pension Fund, and Deposit Linked Insurance Fund).

**Figure 22:**

The GPS database provides information about investments in Collective Investment Schemes and the look-through Collective Investment Schemes in cash and deposits, bills and bonds, shares and other. When the look-through was not provided by the countries, estimates were made assuming that mutual funds' investment allocation in cash and deposits, bills and bonds, shares and other was the same as pension funds' direct investments in these categories. Therefore, asset allocation data in this Figure include both direct investment in shares, bills and bonds and indirect investment through Collective Investment Schemes.

1. The "Other" category includes loans, land and buildings, unallocated insurance contracts, hedge funds, private equity funds, structured products, other mutual funds (i.e. not invested in cash, bills and bonds, shares or land and buildings) and other investments.
2. Other investments include private investment funds.
3. The high value for the "Other" category is driven mainly by land and buildings (20% of total investment) and unallocated insurance contracts (11% of total investment).
4. Other investments comprise short-term receivables.
5. Other investments are the aggregate of Government Securities, State Development Loans and Current Assets.
6. The high value for the "Other" category is driven mainly by structured products (45% of total investment).

**Figure 23:**

Data have been calculated using a common formula for the average nominal net investment return (ratio between net investment income at the end of the year and the average level of assets during the year). Average real net investment returns have been calculated using the nominal interest rate (as described above) and the variation of the end-of-period consumer price index between 2010 and 2011 for all countries, except for Hong Kong, India, Kenya and Malta for which values have been provided by the countries.

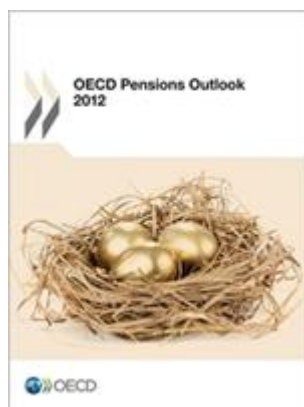
1. Data refer to the MPF System only.

**Table of pension funds' total investment by country, 2001-2011:**

1. Data refer to the end of June of each year.
2. Data refer to PERCO plans. Data for 2011 refer to June (source: AFG).
3. As a result of pension reform, the assets of mandatory pension funds decreased in 2011, while voluntary pension fund assets did not change significantly. The combination of these two factors led to a remarkable shift of asset ratios between institutions.
4. Source: IAPF Pension Investment Survey.
5. Source: Bank of Japan.
6. The break in series in 2005 is due to the inclusion of pension funds supervised by the CSSF, not included in previous years.
7. The break in series in 2005 is due to the inclusion of occupational pension plans registered by the National Commission for the Retirement Savings System (CONSAR) since 2005, not included in previous years.
8. In 2011, pension fund activity under ISP supervision decreased by about 33%, considering aggregate assets under management, reflecting the transfer of bank pension funds (i.e. pension funds sponsored by banks, which have as beneficiaries the employees of their banks) to the Public Retirement System.
9. The break in series in 2006 is due to the inclusion of voluntary pension plans, not included in previous years.
10. Pension fund data refer only to the Securities Market Agency of Slovenia.
11. Data refer to the first trend calculations for the year 2011.
12. Data for 2011 refer to 2010 for occupational pension plans.
13. The figure for total assets at the end of 2011 is an early estimate based on the 2010 level of assets and the flow of transactions in 2011. It does not take into account value changes. A 2011 final estimate will be available in January 2013.
14. The drop in total investment in 2011 is due to three factors: change in legislation, withdrawals and the unavailability of data from one of the three funds, which has been operating under the old framework.
15. Source: AIOS. The drop in 2008 is due to a pension reform transferring pension funds' assets to the National Social Security Administration.
16. Source: AIOS.
17. OECD estimate for 2010. In 2011, data refer to PFRDA regulated funds only. Data do not include EPFO regulated funds (i.e. the Employee Provident Fund, Employee Pension Fund, and Deposit Linked Insurance Fund).
18. OECD estimate for 2010 data.
19. Source: Ministry of Finance. Data refer only to the mandatory part of the Russian system.
20. Excluding Saudi Arabia.

## IN BRIEF

### OECD Pensions Outlook 2012



It may not feel like it, but today's retirees are living through what might prove to have been a golden age for pensions and pensioners. Far fewer older people live in poverty than in the past: about a quarter fewer than in the mid-1980s. They also can expect to live longer.

Today's and tomorrow's workers, in contrast, will have to work longer before retiring and have smaller public pensions. Their private pensions are much more likely to be of the defined-contribution type, meaning that individuals are more directly exposed to investment risk and themselves bear the pension cost of living longer.

This edition of the OECD Pensions Outlook examines the changing pensions landscape. It looks at pension reform during the crisis and beyond, the design of automatic adjustment mechanisms, reversals of systemic pension reforms in Central and Eastern Europe, coverage of private pension systems and guarantees in defined contribution pension systems. It closes with a policy roadmap for defined contribution pensions and a statistical annex.

According to the report, governments will need to raise retirement ages gradually to address increasing life expectancy in order to ensure that their national pension systems are both affordable and adequate. At a time of heightened global economic uncertainty, such reforms can also play a crucial role in governments' responses to the crisis, contributing to fiscal consolidation at the same time as boosting growth. Reforms over the past decade have cut future public pension payouts, typically by 20 to 25 per cent. This could cause pensioner poverty to increase significantly. Later retirement and greater access to private pensions will be critical to closing this pension gap. However, making private pensions compulsory is not necessarily the answer for every country. According to the report, such action could unfairly affect low earners and be perceived as an additional tax. Auto-enrolment schemes – where people are enrolled automatically and can then opt out within a certain time frame – might be a suitable alternative.

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

### OECD Roadmap for the Good Design of Retirement Savings Plans

The OECD recently published the Roadmap for the Good Design of Retirement Saving Plans, which contains ten policy recommendations approved and endorsed by the Working Party on Private Pensions (WPPP) aiming to improve the design of retirement saving plans and thus ensure adequate retirement income from these plans. The OECD will publish a book containing the analytical work underpinning the recommendations in the roadmap for the good design of retirement savings plans at the end of 2012.

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

### OECD – IOPS – Netspar Research Seminar “Are individuals saving adequately for retirement? Evidence from administrative and household datasets”, Paris – 6 June 2012

This seminar brought together policymakers, pension supervisors and pension researchers to discuss the OECD project on Retirement Savings Adequacy. It benefited from the presence of Ms. Elsa Fornero, the Italian Minister of Labour and Social Affairs. This project aims at determining whether people are saving enough

for retirement and examines the role that private pensions play or could play in the retirement readiness of the working age population in different countries, using a common methodological framework. It looks at retirement savings in a broad sense by calculating pension benefit rights in PAYG public pensions, in funded defined benefit plans, and all retirement savings plans in which pension benefits depend on assets accumulated. The question of whether the amount of retirement saving is enough to finance retirement is addressed from different angles (e.g. poverty thresholds, life cycle, expenditures, etc.). The project is co-financed with the European Commission and benefits from the support and co-operation of various countries (currently Chile, France, Italy and the Netherlands).

### The role of Funded Pensions in Retirement Income Systems: Issues for the Russian Federation

Scheduled for release in September 2012, this study evaluates the role of funded pensions in retirement income systems and draws lessons from the international experience that may help guide the development of the funded pension system in the Russian Federation. It highlights the role of funded pensions in strengthening both the adequacy of

pension payments and the sustainability of the pensions system and draws heavily on OECD country experiences to provide guidance on the implications of different choices facing the Russian authorities as they consider their own pension reform.

### **Institutional investors and long-term investment**

In February 2012 the OECD launched the “Institutional Investors and Long-Term Investment” project. The ultimate goal of the project is to facilitate long-term investment (LTI) such as infrastructure by institutional investors such as pension funds, insurance companies, and sovereign wealth funds, addressing both potential regulatory obstacles and market failures. To promote LTI we intend to improve the data, information, and analysis on long-term investing, helping institutional investors better understand the opportunities available to them in the realm of LTI and how their peers have sought to benefit from them. The project will therefore rely on close co-operation with major investors and other key stakeholders. The project should help broaden policymakers’ knowledge and understanding of institutional investors’ needs and challenges so that – where relevant – supportive legislation and regulation will be drafted and enforced.

[www.oecd.org/finance/lti](http://www.oecd.org/finance/lti).

OECD Working Papers on Finance, Insurance and Private Pensions are available online at:  
[www.oecd.org/daf/fin/wp](http://www.oecd.org/daf/fin/wp)

### **Lessons from national pensions communication campaigns**

This report focuses on pre-campaign planning, design, delivery and monitoring and evaluation of National Pension Communication Campaigns in a range of OECD and non-OECD countries. The research identifies barriers to effective communications and highlights models of good practice in order to help organisers design campaigns that are more effective in terms of impact and more efficient in the way they use resources. In particular, the report argues that the success of campaign organisers will depend on their ability to set realistic and measurable goals that can be delivered in a timely, cost-effective and innovative manner to achieve maximum impact. The report also calls for better evaluation of campaigns and more targeted communication that delivers clearer messages.

### **Annual DC pension statements and the communications challenge**

This paper examines and evaluates the content and design of the annual pension statement sent to members of funded defined contribution (DC) pension schemes in a selection of OECD and non-OECD

countries. The aims of the research are to identify the potential shortcomings in statement planning and design processes, to consider potential barriers in communications with members, and to highlight trends and models of good practice in these critical areas. The overarching objective is to develop recommended guidelines for organisers, so that the statement can be developed as an effective (impact) and efficient (cost-benefit analysis, value for money) medium to deliver essential member information and to encourage appropriate member actions.

### **Coverage of private pension systems: evidence and policy options**

To adapt pension systems to demographic trends, many countries are reducing pay-as-you-go public pension levels and lifting retirement ages. In this context, funded pensions could play a major role to avoid adequacy gaps. Yet, as this paper shows, the coverage of funded private pensions, as measured by enrolment rates, is highly uneven across countries and between individuals, especially in voluntary systems.

Some countries have made funded pensions compulsory (e.g. Australia, Chile) or quasi-mandatory (e.g. Denmark, the Netherlands) to ensure that most workers are covered and therefore have access to a sufficiently high supplemental pension. However, in other countries with relatively low pay-as-you-go public pension benefits, funded private provision remains voluntary. The low level of funded pension coverage in such countries should be a major policy concern. Recent policy initiatives in Germany and New Zealand, involving the introduction of financial incentives (and self-enrolment in New Zealand) have been effective in raising coverage to the highest levels among voluntary pension arrangements, but coverage gaps remain that need to be addressed.

### **Identification and assessment of publicly available data sources to calculate private pension indicators**

Considering the growing role of private and funded pension provision and the sensitivity of private pension provision to the economic climate, there is a growing need for comparable and reliable information on private pension plans in order to better monitor retirement income adequacy and the role of private provision in retirement income. The main indicators considered are the level of coverage of private pensions across country’s workforce, contributions to pension funds and personal retirement accounts, and benefits paid to retirees.

This forthcoming working paper will assess data sets available to estimate pension coverage, contributions and benefits in private pensions and discuss ways to use available data sets in order to better inform policy discussions on the role of private pensions in retirement

benefit adequacy. It covers all EU-27 Member States and selected non-EU countries.

These reports were published in 2011 by the International Organisation of Pension Supervisors (IOPS) as working papers - [www.iopsweb.org](http://www.iopsweb.org)

### **Comparative Information Provided by Pension Supervisory Authorities**

This paper examines the role pension supervisory authorities can play in providing information. It outlines how comparative information on costs, investment performance and service data is presented by IOPS member authorities and some lessons learnt are suggested.

### **Efficient Information Collection**

This paper provides guidance on the factors pension supervisors should consider when deciding what information supervisors need to obtain, and how such information can be collected and handled efficiently. Particular focus is given to information required for a risk-based approach to supervision. Suggestions and examples are provided on how supervisors may identify information needs and on the practicalities of obtaining (and sharing) information from different sources.

### **Pension Fund Use of Alternative Investments and Derivatives: Regulation, Industry Practice and Implementation Issues**

This paper is divided into five main sections. The first section reviews the regulation in place which aims to manage the potential risk exposure that alternative investments and derivatives present. This provides a useful backdrop for then evaluating the current market practices of pension fund investment in such instruments. The second section canvasses the implementation issues that a number of pension funds have faced in attempting to implement their investment strategies with the inclusion of alternative and derivative instruments.

The third section highlights the potential risks that pension funds face when investing in alternative investments and derivatives, followed by the fourth section reviewing current risk management practices observed by pension funds in managing exposure to these risks. The paper concludes with observations that can be translated into lessons for consideration by supervisory authorities when developing future pension fund regulatory and supervisory practices for alternative investments and the use of derivatives, along with IOPS Good Practices.

## **CALENDAR OF EVENTS**

### **2012 OECD/IOPS GLOBAL FORUM ON PRIVATE PENSIONS: Making funded pensions work**

**Santiago, Chile – 23/24 October 2012**



In 2012, the OECD and IOPS will hold their annual Global Forum in Santiago, Chile on 23-24 October. Focusing on developments in Latin American pension systems, the event will bring together governmental and pension supervisory/regulatory representatives to discuss issues involving pension coverage, default options, infrastructure investment, costs and financial education relating to pensions.

For further information visit [www.oecd.org/daf/pensions](http://www.oecd.org/daf/pensions).

*Pension Markets in Focus* is published by the OECD Directorate for Financial and Enterprise Affairs.

This issue and previous issues can be downloaded from the OECD website:  
[www.oecd.org/daf/pensions/pensionmarkets](http://www.oecd.org/daf/pensions/pensionmarkets)

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