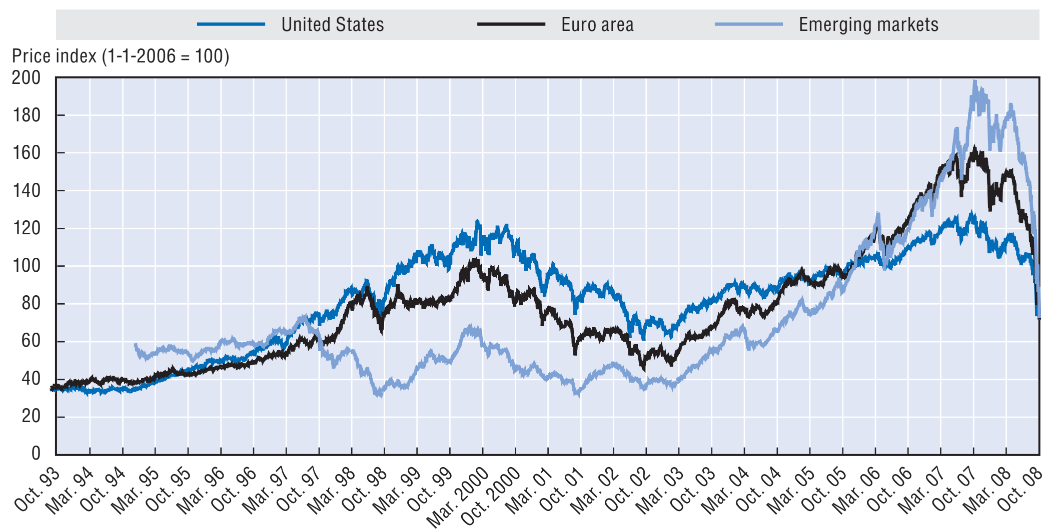
Special Feature: Private Pensions and the 2008 Turmoil in Financial Markets

The financial turmoil which started with the subprime crisis in the United States in mid-2007 has affected many aspects of the economy, including private pension arrangements.

Stock markets have fallen by nearly half from the start of the year to October 2008 (see Figure S.1). The crash in equity markets has hit private pension systems, leading to large investment losses and weaker funding levels.

Figure S.1. **Major stock market performance**



Source: Thomson Financial Datastream.

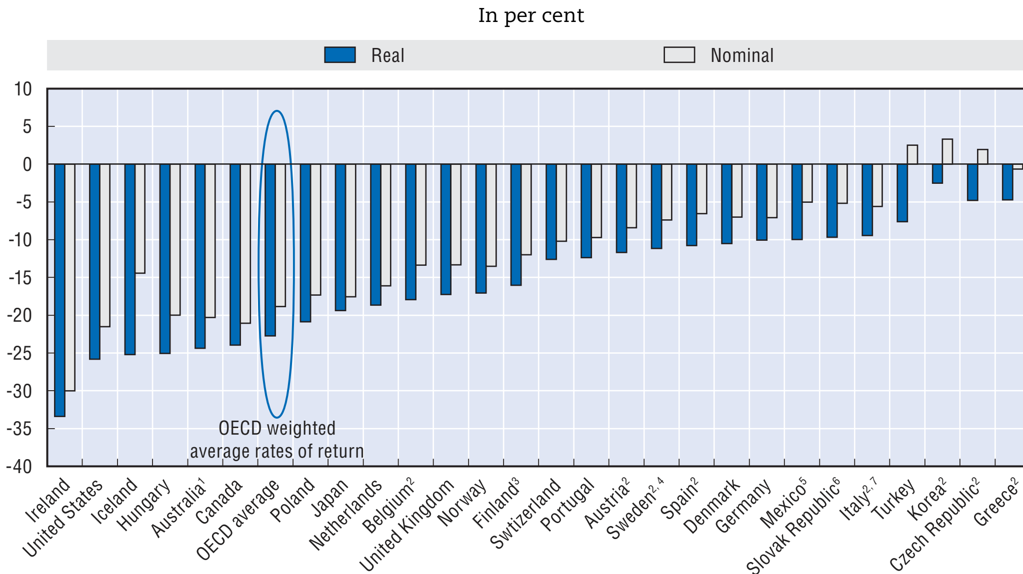
StatLink http://dx.doi.org/10.1787/514582014352

By October 2008, the total assets of all pension funds in the OECD had declined by about USD 3.3 trillion, or nearly 20% relative to December 2007. Including other private pension assets, such as those held under personal plans in the United States (individual retirement accounts – IRAs) and in other countries, brings the loss to about USD 5 trillion.

Pension funds experienced a negative return of nearly 20% in nominal terms on average (22% in real terms) over January to October 2008 (see Figure S.2).[1] Most of this USD 3.3 trillion loss is accounted for by the 2.2 trillion lost by pension funds in the United States. The US funds account for more than half of all OECD countries' pension fund assets and had the second worst investment performance. Only four other OECD countries saw

Figure S.2. **Nominal and real pension fund returns in selected OECD countries January-October 2008**

In per cent



Note: OECD average is an asset-weighted average.
Some data draw on official data received from Delegates to the OECD Working Party on Private Pensions (Australia, Austria, Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Italy, Korea, Mexico, Poland, Portugal, Slovak Republic, Spain, Switzerland, and Turkey).

1. Official data up to June 2008 then complemented by OECD estimate up to October.
2. 2008 data refer to 30 September 2008.
3. Data refer to statutory earnings-related pension plans.
4. Data refer to occupational pension plans only.
5. Data refer to the mandatory and voluntrary pension systems.
6. Data refer to balance funds.
7. Data refer to new pension funds (contractual and open) instituted after 1993 legislation.

Source: Various sources or OECD estimates.

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negative pension fund returns greater than 20% in nominal terms. In absolute terms, the second largest loss was the United Kingdom's (USD 0.3 trillion), followed by Australia's (USD 0.2 trillion).

Investment losses on all OECD private pension plans (including individual retirement accounts and pension insurance contracts) are estimated at USD 5 trillion, 3.3 trillion of which in the United States alone. These losses, though substantial, are smaller than the decline in equity values. Pension funds have benefited from having diversified investment portfolios, often with a large proportion invested in bonds, whose rates of return are lower but more stable than those of equities. In December 2007, in 13 out of 22 OECD countries for which information was available, over 50% of assets were invested in bonds, and around 60% of these investments were in government bonds.

The impact of the crisis on investment returns has been greatest among pension funds in the countries where equities represent over a third of total assets invested, with Ireland the worst hit at –30% in nominal terms. Irish pension funds were the most exposed to equities, at 66% of total assets on average, followed by the United States, the United Kingdom, and Australia.

The full impact on investment returns, however, will only be revealed when the annual reports for 2008 are submitted by pension funds to their supervisory authorities. In particular, there is a lack of clarity over the valuation of some illiquid assets – those that

cannot be turned into cash quickly – such as real estate or so-called structured products (which combine a periodic payment at a predetermined rate and another component, often the option to buy or sell an asset at some time in the future). Direct exposure to the "toxic" part of structured products and asset-backed securities may be as high as 3% of assets under management for the pension fund industry as a whole. However, allocations differ across countries and between funds, with some likely to face much greater losses than others.

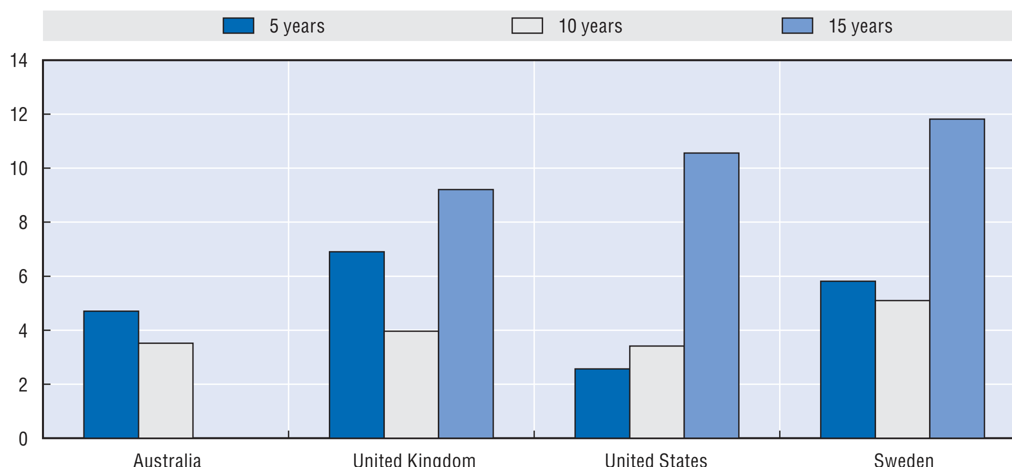
Although the short-term impact is evidently negative, pension funds, by their very nature, have to work with a long time horizon and their performance should also be evaluated on this basis.

Previous experience of similar situations may be helpful in this regard. The decline in equity returns over 2000-02 was just as serious as in 2008, though the latest one has been much faster. Despite the severity and proximity of these two market downturns, pension fund performance has been positive over the last ten years and rather healthy over the last fifteen years (see Figure S.3). For example, the average, annual nominal rate of return of pension funds over the last fifteen years was 11.8% in Sweden (8.5% in real terms), 10.6% in the United-States (6.1% in real terms) and 9.2% in the United Kingdom (6.1% in real terms). Focusing on a single year's return gives a misleading picture of the ability of pension funds to deliver adequate pensions in old age.

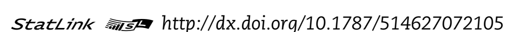
Pension funds also have very small liquidity needs in relation to their total assets under management. This means that they do not need to sell assets at current low prices to meet benefit payments and other expenditures as they can rely on the regular flow of contributions and investment income, even if the latter is reduced. The main exception is defined benefit plans with frozen accruals. These plans rely largely on running down their assets to meet benefit payouts, so when asset values decline sharply, they cannot wait until the market recovers to sell and may have to sell at a loss. This is the case of many plans in the United Kingdom and increasingly in the United States.

The longer-term outlook depends of course on what happens in the markets. Optimists could argue that the much faster drop in values compared to 2000-02 is a result of closer links in the financial system and that recovery could be rapid. Pessimists could

Figure S.3. **Nominal average annual pension fund return in selected OECD countries over the last 5, 10 and 15 years**



Source: Various sources and OECD estimates.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point out that the previous crash was not followed by a major credit crunch and a deep recession across the developed economies as is the case today.

Whatever happens, if poor financial market performance continues, pension funds' ability to meet future obligations could be harmed. The effect could be important if, over several years, the real rate of return on a fund's investments remained significantly below the funds' long-term targets.

Implications of the financial crisis for retirement savings

For people paying into defined contribution pension funds, the impact of the crisis depends critically on the fund's asset allocation and the member's age.

In defined contribution systems, pensions depend directly on the market value of the assets held in individual accounts. A major drop in asset values may not matter much to younger workers who can expect the markets to recover overall in the long term. For workers close to retirement, on the other hand, large declines in asset values can mean permanent income losses if the money saved in the pension accounts must be used to purchase annuities at retirement. This is the case in many Latin American and Eastern European countries where defined contribution systems are mandatory.

However, many of these systems are relatively young, so the number of older workers affected is small. Moreover, in many of these countries, older workers are restricted in the type of investment portfolio they can choose. Default options, for those who do not make an active choice of investment, also tend to be conservatively invested.

The situation is different in other countries. For example, in the defined contribution systems of Australia and the United States the purchase of annuities at retirement is not mandatory. But the default investment option for older workers may often have as much as 50 to 60% of assets invested in equities. Even if these people maintain their savings in equities in the expectation of a recovery, retirement income will be lower at least temporarily.

In defined benefit pension plans, benefits are linked to individual wages, so the main policy concern is worsening funding levels.

The retirement income provided by defined benefit pension plans is in principle unaffected by changes in investment returns. However, lower asset prices worsen their financial solvency. Some OECD countries with large defined benefit systems such as Canada, Ireland, the Netherlands, Switzerland, the United Kingdom and the United States are reporting lower funding levels and in some cases large funding gaps (pension liabilities greater than assets).

It can be difficult to know the real situation of funds because of the accounting practices used by the pensions industry. The price of pension liabilities in company balance sheets is calculated using corporate bond yields which have a risk premium (or return) above government bonds. The calculation is based on the return on high-quality corporate bonds where normally there is little risk, so the premium is small. However, if these bonds are seen as more risky, as happened in 2008 when even large, well-established firms got into trouble, the risk premium increases. In some instances – *e.g.* the United Kingdom – this effect has largely countered the decline in asset values, on paper at least. However, if one looks at the funding levels reported by supervisory authorities – which are often based on more stable government bond yields – declines in solvency are substantial.

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In Switzerland and the United States, the funding position of defined benefit plans has deteriorated by more than 10%, with rising bond yields partly offsetting the decline in asset values. Pension funds in the Netherlands have also experienced sharp falls in asset values, especially as they have an important exposure to the US markets in their equity portfolios. As the market discount rates used – which are based on swap rates – have declined, the rise in the market value of liabilities has worsened the solvency situation further. Aggregate funding levels in the Netherlands had already fallen by nearly 10% between December 2007 and June 2008. Since then, the funding level has deteriorated further.

Members of defined benefit plans may experience benefit cuts, especially if the sponsoring company goes bankrupt.

The emergence of funding gaps is forcing pension funds and their sponsoring employers to establish a recovery plan to reduce the deficit. In most instances, the plan will involve additional employer contributions but in some cases benefits may be reduced. For example, in the Netherlands, where conditional indexation of benefits is widespread, pension funds will most likely react to lower funding levels by stopping the indexation of benefits to wage inflation until funding levels recover. Hence, pensioners' income will fall in real terms, while the real value of accrued benefits will be lowered in an equal manner. When funding recovers to a sufficiently high level, pension funds will make up for the lost indexation with higher benefits.

Participants may also suffer benefit losses if they lose their jobs before they complete the vesting period or if deferred benefits are not protected against inflation. Participants are also exposed to the risk that the employer goes bankrupt when the plan is underfunded. Some OECD countries, including Germany, Sweden, the United Kingdom and the United States, have guarantee funds that insure benefits (usually up to a certain level) against this. However, there are also increasing concerns about the ability of these funds to meet the possible large claims that could arise with a growing number of corporate failures. Governments may well be forced to bail out these guarantee funds.

Reactions to the financial turmoil

Backlash against private pension systems

One possible consequence of the financial crisis is that policymakers in some countries may seize the opportunity to shrink private components of the pension system (as the Argentine government did in October 2008), nationalising pension funds and bringing contributions and assets back into the public pension system. In some Eastern European countries there is also talk of allowing participants to go back to the public pension system, something which the Argentine government did before seizing the private pension assets. Such decisions, taken in a rush, only contribute to the perception of panic and fail to acknowledge the achievements of private pension systems over the lifetime of participants.

Some governments may also point to the temporary weakness of private pensions to justify delaying necessary reforms to the public pension system. Such opportunistic messages should be countered with a long-term outlook, based on independent financial projections for both the public and private systems. The best approach to pension provision is to use a mixture of sources of retirement income, including both public and private, as well as the two main forms of financing (pay-as-you-go and funded pensions).

Relying solely or largely on one source may be imprudent, as all systems face major risks of different sorts. The financial crisis means that investment risk is uppermost in the minds of both the public and policymakers. However, public pension systems are under tremendous stress stemming from demographic ageing, and in some cases also by falling labour force participation rates. The financial crisis is also causing public debt to soar in many countries, making it more difficult for governments to finance public pension deficits.

Shifts in asset allocation

Pension funds can have a role as "market stabilisers", smoothing out fluctuations in prices by selling when markets are high and buying when they are low. However, in this latest crisis, some pension funds have sold part of their equity portfolios. In some countries, pension funds have reacted by allocating new pension contributions to bank deposits and other instruments with government guarantees until the situation in capital markets stabilises.

A flight from equities is already happening in defined contribution plans in some countries where participants can choose portfolios. In countries with mandatory systems, investment returns are reported monthly or quarterly, which has lead many participants to switch to lower-risk portfolios. Such behaviour, while seemingly rational from a short-term perspective, ultimately leads to lower pensions than if participants had stuck to their previous asset allocation into the long term. Participants risk missing out on the equity recovery and may only increase their equity allocations once the market becomes overvalued again.

In defined benefit plans, a shift in investments away from equities is also likely, though perhaps less pronounced than in defined contribution plans. One important driving factor is the implementation of standards and rules governing how funds value assets and liabilities and what they have to do to bring the ratio between the two into line. If the estimated value of assets is too low to meet legal requirements and the required funding level rises with the pension fund's exposure to equities, the funds may be forced to sell part of their equity holdings, even at a loss, during a downturn. This happened in Denmark in 2001-02 and again in 2008, before the regulator stepped in and relaxed the valuation standard. Finland has also introduced temporary changes in the calculation of pension fund liabilities and solvency margins in order to reduce pressures on pension funds to sell equities. On the other hand, in the Netherlands, which also has introduced risk-based funding regulations recently, pension funds appear to have so far retained their stabilising role, becoming net buyers of equities during the sell-off. However, as the funding level approaches the minimum solvency requirement of 105% (of liabilities), pension funds may decide to reduce their equity holdings.

The crisis may also lead pension funds to reconsider their alternative investments (hedge funds, private equity, commodities, etc.) and strengthen their governance and risk controls. Many pension funds have been embracing alternative investments in a herd-like way, seeking the higher returns promised by these assets without fully understanding the underlying risks involved.

Some pension funds are also starting to move into the market for loans that fund indebted companies and buy-outs. This market is a potential boost to the lending system dominated by banks and a few investment funds. Some pension funds have been pursuing

a strategy to diversify into credit for a number of years and consider the turmoil as a good buying opportunity. Sometimes, however, the bets have not paid off. For example, ABP, the large Dutch pension fund may have suffered major losses from an investment in Lehman Brothers made just before its insolvency.

Changes in risk management and security lending

The liabilities of defined benefit schemes are exposed to various risks (investment, interest rates, inflation, longevity), and to cover these, many pension funds have adopted strategies based on liability-driven investment (LDI) – investing assets in a way that takes into account the nature of their liabilities. Derivatives are increasingly used by pension funds to manage risk. The types of derivatives most used by pension funds are financial instruments that derive their value from interest rates (*e.g.* swaps) and are traded directly between two parties, without passing through a regulated exchange. There is evidence that the implementation of LDI using derivatives is slowing because of the credit crisis and in particular the possibility that the other parties to the agreement cannot honour it (counterparty risk).

The freezing of the credit and capital markets and their slow unravelling is complicating risk management by pension funds. And apart from investment risk, defined benefit pension funds also have to deal with a longer-term risk, longevity. People are living longer and thus receiving payouts for a longer time, but there is much uncertainty over the future path of longevity. One way of dealing with this risk may be "longevity swaps": the pension fund pays the swap's counterparty an agreed revenue stream and receives an income that rises if longevity is higher than expected. However, this idea is not likely to prove very attractive in situations of great uncertainty and concerns over counterparty risk.

Financial market regulators have restricted short-selling of stocks. Short-selling is the practice whereby sellers sell a security they don't actually own yet, in the hope that they can buy it later at a lower price before having to deliver it.

Some pension funds participated in this type of transaction by lending stocks to speculators in exchange for a fee. Hedge funds often borrow stocks to implement popular strategies based on expected price differences of the stocks. Many pension funds have now stopped their stock lending practices since the fees did not justify the risk that they would not recover the value of the stock loaned. They also fear that they may have contributed to the financial crisis through these lending practices.

Forbearance over pension funding requirements

To keep up with their pension funding requirements after disappointing investment returns, many companies may be forced to increase their contributions to pension funds, which were already quite high as a result of recovery plans implemented after the 2000-02 stock market declines.

Policymakers seek to protect pension fund participants by setting funding levels sufficiently high. Employers may then have to make up the shortfall caused by lower asset values. Canada recently decided to give pension funds and their sponsoring employers more time to allow funding levels to return to their targets levels in order to avoid putting further strain on employers when the general economic situation is deteriorating. Pension funds in Ireland and the Netherlands have been given more time to prepare their recovery plans.

A lowering in the funding level targets is less likely as this would lower benefit security over the long term. On the other hand, there could be much debate on the suitability of statutory investment performance requirements on pension funds and the valuation standards for assets and liabilities. In Switzerland, for example, the government is considering a reduction in the minimum return that pension funds must guarantee, from 2.75% in 2008 to 2% in 2009. Questions are also being raised about the suitability of mark-to-market valuation for pension funds (an accounting practice that values assets and liabilities at current market prices rather than their book value, which is the original cost minus depreciation).

Towards a new regulatory agenda

Even before the 2008 crisis, there had been warnings about the need to reform private pensions. The OECD has been calling for stronger pension fund governance since the publication of a set of guidelines in 2001, which are currently being revised. The guidelines stress the need for effective monitoring of investment risks and performance and of the relationship between pension funds' assets and liabilities. Greater expertise and knowledge are required on pension fund boards, including the appointment of independent experts.

The OECD has also recently highlighted the interplay between scale and governance. Small pension funds are more prone to weak governance (and they are much more expensive to manage and supervise), so there is a strong case to consolidate the pension fund sector through mergers in some countries.

Regulatory reform of both defined benefit and defined contribution systems should also be on the policy agenda. Some regulations intended to protect participants of defined benefit plans may actually make things worse by reinforcing the downward spiral in asset values. Even in a severe crisis, investors do not lose anything on an investment until they sell it at a less than they paid for it originally (or the company goes out of business). Yet in some countries, the rules do not allow funds to sit out a crisis and wait for values to rise again. They have to sell to maintain asset to liability ratios, and given the major role pension funds play in some markets, this drives prices down even further.

Mark-to-market accounting valuation and, in particular, the practice of linking minimum funding levels to investment risk may have reinforced this effect. Such risk-based funding regulations deserve close scrutiny. Further debate is also needed on the balance between funding flexibility and benefit security and on ways in which funding regulations could be made more countercyclical.

The crisis will lead to further closures of defined benefit plans as funding gaps widen and contribution requirements increase. Insolvency guarantee funds will also be active over the next couple of years bailing out the pension funds sponsored by bankrupt companies. As the defined benefit pension sector shrinks further over the coming years, policymakers should question the possible role of regulations in reinforcing this trend and consider ways to promote benefit security via hybrid pension arrangements and risk sharing.

For defined contribution plans, there is going to be greater policy focus on appropriate default mechanisms and the design of "autopilot" funds (such as target-date or lifestyle funds) that shift towards lower risk investments as retirement date approaches without the beneficiary having to intervene. Policymakers may need to provide guidance on the

design of these defaults as is common practice in some mandatory defined contribution systems of Latin America, where default funds have a maximum allocation to equities that declines as the person approaches retirement. A key goal of this regulation is to reduce the "timing risk" of transforming an accumulated balance into a regular benefit stream (an annuity).

Policymakers should also give further consideration to the suitability of different investment strategies as default options, taking into account the extent of choice in the payout stage, the generosity of the public pension system and the level of contributions, among other factors. Default investment strategies should be evaluated from the perspective of retirement income adequacy and predictability.

Better policy design is also needed for the pension pay-out phase of defined contribution systems. Some of the mandatory and default arrangements in place are far from safe and fail to integrate the accumulation and retirement stage in a coherent manner. In particular, making the purchase of annuities mandatory makes most sense in countries where public pension benefits are low. However, forcing individuals to purchase annuities goes against principles of free choice and may impose heavy costs on individuals when annuity rates are low or account balances have dropped as a result of adverse market conditions.

A more flexible approach that could be introduced as a default option for the pension pay-out phase is to combine "phased withdrawals", where a defined part of the fund balance can be withdrawn each year, with deferred annuities that start paying benefits after a certain age, such as 85. Such deferred annuities could be bought at the time of retirement with a small part of the accumulated balance.

Finally, in the context of the financial crisis and the rapid growth of defined contribution plans in many countries, effective financial education programmes and information disclosure are becoming increasingly important to the well-functioning of the private pension system. Policy initiatives in this area should complement the regulations on investment choice and default options that already exist in some countries. As workers take more responsibility for saving for their own retirement, the role of policymakers changes but it remains of paramount importance to promote the adequacy and security of old-age income.

Note

1. This is an OECD average calculated on the basis of official data and estimates. Eighteen countries provided the OECD Secretariat with preliminary data for the period January to October 2008 (*i.e.* Australia, Austria, Belgium, the Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Italy, Korea, Mexico, Poland, Portugal, the Slovak Republic, Spain, Switzerland and Turkey). For countries for which investment returns were not available, the OECD Secretariat made estimates. Estimated figures were obtained by applying the variation of an index of cash, equities and bonds during 2008 to the asset allocations of pension funds at the end of 2007.