
Prepared by CEIOPS Financial Stability Committee

- NOTICE -
CEIOPS prepares a Financial Stability Report on the European insurance and occupational pension fund sector on a semi-annual basis. The autumn report is primarily based on supervisory information, whereas the spring report is primarily based on market information. The current version is the public version of the spring report. Although some detailed information has been left out from this public version, the overall assessment on the European insurance and pension fund sector is left unchanged.

Introduction
CEIOPS’ Financial Stability Committee (FSC) has prepared a new semi-annual report on the financial stability of the (re-)insurance sector and the pension fund sector in the EU/EEA as requested by CEIOPS’ Members and the EFC. An interim report on the financial conditions and financial stability in the insurance and occupational pension funds sectors had been sent to the EFC Financial Stability Table for discussion at its meeting of 1 April 2008.

This report covers developments in the insurance and occupational pension fund markets in the EU/EEA in 2007, with some preliminary findings for 2008.

This current report is based on:

- fast-track reporting of key financial figures from a number of major European insurance groups or companies for the period 2006-2007. Supervisory data on the insurance sector covering the year 2007 will be included in the upcoming Autumn 2008 report;
- supervisory data on the pension fund sector for the period 2005-2006 which was collected in December 2007;
- qualitative information from insurance supervisors pertaining to the insurance market situation and the occupational pension fund sector in the respective countries;
- market information on developments in the reinsurance sector;
- information on recent financial market developments.

The current report addresses the following issues:

1. Main issues and conclusions
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- In the non-life sector, premium growth in 2007 was on the same level (about 5%) as in the previous year. Several countries showed a dampening effect of enhanced competition on premium income. Results in the non-life sector continued to remain healthy.

- In the life sector premium income development was flat. Competition between life insurance products and other savings products revived heavily in 2007.

- The European reinsurance sector was hit by a number of weather-related events in 2007, including substantial losses from hurricane Kyrill in Western and Central Europe and flooding in the UK.

- Solvency remained adequate for the whole European insurance sector. The recent equity market turmoil will have an impact on the solvency position for 2008.

- The insurance industry as a whole faces several risks and challenges, of which the most prevalent are financial risks, especially risks related to equity markets and to new financial instruments. Member states also report interest rate risk and longevity risk as important risk factors in life insurance.

- Pension reforms in Europe aim to address the economic implications of ageing population which entails an increasing level of future pension liabilities. As a result, growth of the occupational pension fund sector is expected to accelerate further over the coming decades as a means of diversifying some of the funding risk related to traditional social security systems.

- In 2006 and in the first half of 2007 the financial position of the defined benefit (DB) occupational pension fund sector has improved in most member states, due to positive developments in equity markets as well as growth in contributions. However, the situation has been worsening from the second half of 2007 and especially from the beginning of 2008, due to falling equity prices and, in several countries, also to the decrease in long-term yields of high-quality bonds, that implies the need for higher technical provisions. In a number of member states DB plans are gradually being phased out and replaced by new defined contribution (DC) plans. This gradual trend will help reduce the vulnerability of the pension fund sector to funding risks traditionally related to DB plans. However, it will also mean a transfer of investment and longevity risk from the pension fund sector to the household sector and may result in more focus on private pension plans (pillar III).

- According to the information received from CEIOPS Members, direct exposures to Asset Backed Securities instruments or hedge funds with potential US subprime mortgage risk are of secondary importance in
CEIOPS’ sectors. Therefore neither insurance nor pension funds are heavily affected by the US subprime mortgage turmoil directly. CEIOPS will continue to monitor these developments.

- However, the one exception to this are the US based monoline insurers and their European subsidiaries. Several of these firms have suffered downgrades by credit rating agencies, which feed through to downgrading of the ratings on all securities wrapped by guarantees. The situation is still fluid, so it is not yet clear what impact this will have on the insurance sector as a whole.

2. Effects of the subprime crisis on the European insurance and pension funds industry

The subprime crisis started to keep the financial world in breath in July 2007. Several financial institutions, mainly banks, have reported significant losses or write-downs on their exposures to (mortgage-related) debt and asset-backed securities referencing this debt. In contrast, most insurance companies did not, thus far, reveal any material losses. Though it is still too early to fully assess the impact and length of this episode, this section provides a general overview of the impact of the turmoil on the insurance sector that already has been documented. In December 2007, CEIOPS already provided to the EFC a qualitative report on the potential impact of the subprime crisis on the insurance and pension funds sectors, followed by an updated report in February 2008 on the first quantitative insights.

A first channel through which insurance companies can be affected by the market turmoil is via their asset side investments in credit instruments and related structured finance products. Insurance companies are reported to be significant investors in credit markets, which include investments made on their own behalf as well as those managed on behalf of policyholders. Many of the larger insurance companies invest directly in structured products (such as residential mortgage-backed securities and collateralized debt obligations). Some estimates as well as reported supervisory figures show a rate of investment of 2 to 10% of their total assets in these products, although some of it is on behalf of policyholders in relation to insurance products where the policyholder bears the investment risk. Smaller and medium-sized institutions appear not to have substantial exposures to such instruments. Institutions invested in structured finance instruments mostly invest in higher rated tranches, such as 'A' or higher. Several insurance analysts (including rating agencies) expressed the view that, direct exposures of life and non-life insurers as well as reinsurers to debt related securities are currently manageable.

Other channels of exposures on the asset side could come from insurers' investments in hedge funds, as the latter are often investors in such instruments, especially in the more risky tranches (mezzanine and equity part) of asset backed securities or their investments in structured investment vehicles (SIV's), or from investments in shares of entities which have seen

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1 Accounting rules play a factor in the extent to which losses need to be realized. For example, banks are required to mark-to-market their assets when they are classified as trading or available-for-sale securities. To the extent that the securities are classified as held-to-maturity, they appear in the balance sheet at their historical costs. For insurance companies, investments are mostly valued at historical cost for annual financial reporting purposes with market values reported on a quarterly basis for supervisory purposes.
their share price hit by the crisis. A similar concern could exist for mutual funds (UCITS) and structured products, even though, generally, they invest in less risky tranches of these products.

Other indirect effects of the market turmoil for the insurance sector are those linked to higher volatility on financial markets, liquidity dry-up and a broad widening of bond spreads in credit markets. Higher volatility affects financial stability. The lack of liquidity in financial markets might cause problems for those companies in search of financing by issuing bonds or selling assets, or be obliged to pay higher prices (interest rates) to obtain funds. From the asset side of the balance sheet, the widening of bond spreads could result in a decrease of current market value for fixed income assets, which could erode financial strength of some insurance undertakings from a solvency perspective.

US based mortgage insurers and monolines as well as their European subsidiaries potentially run the most direct exposure to the credit turmoil. Mortgage loan insurers that have as core business the insurance of mortgages that are relatively of high-risk (e.g. where loan-to-value ratios exceed a specific percentage, say, for example, 80%) or otherwise non-standard (e.g. the absolute amount of the loan exceeding specific limits). Monolines are the financial guarantors (or bond insurers) that have guaranteed mainly AAA rated (super-senior) bonds and CDO tranches, some of which are backed by lower-rated debt. Several monolines have reported their first ever quarterly losses in the third quarter of 2007. These were mainly not realized losses but mark to market losses arising from price movements in credit default swaps (CDSs) linked with guaranteed CDOs. The financial health of the financial guarantors is increasingly being put under pressure. Most monolines have recently reported mark to market losses on derivative related contracts and some have announced actual losses with regard to certain asset backed contracts.

Moreover, the ratings of the bond insurers have implications for the entire universe of structured financial products that are backed by guarantees from these entities. In particular, the quality of the guarantee provided by a bond insurer as part of a structured financial product cannot exceed the quality of the monolines own rating, although the underlying credit may itself continue to carry a higher rating as a result of its own intrinsic higher credit quality. Hence, a decline in the rating of the guarantor would feed through to downgrading of the ratings on all securities which are wrapped by guarantees, which would not only affect the issuers but the investors as well. Therefore, the implications of deteriorations in the credit ratings for the credit markets would be widespread, and could have second and third order implications as for instance, institutional investors that are only allowed to hold highly rated paper would be forced to fire-sell, leading to additional price pressure.

The traditional business of monolines was to insure municipal bonds, a more stable but less profitable business. For instance, around half of all US

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2 Although this does not necessarily mean that actual claims will arise, in general monolines are not required to collateralise these losses, thus avoiding liquidity issues.
municipal bonds are guaranteed by monolines. Even for issuers which themselves have a prime credit rating but are not very well known, guarantees from monolines are useful, since potential investors therefore need to carry out less of their own research into the issuers quality. Unlike investors merely trusting in the ratings of rating agencies, it should be noted here that not only does insurance from a monoline represent an assessment of the borrower’s creditworthiness but the monoline – unlike rating agencies – is also assuming a financial liability for its assessment.

As a matter of logic, the increased risk of the underlying asset defaulting is proportionate to the risk that the monoline may be required to pay out claims on wrapped tranches. Furthermore whilst there is not a direct link between an increase in the probability of the underlying asset defaulting and the ‘probability of default’ implied by widening spreads (because market prices are driven by several other factors), to the extent that the increased mark-to-market losses reflect deterioration in the credit quality of the underlying securities they do reflect an increased probability that monolines will be required to pay out on some of their guarantees in the future. The deterioration of underlying credits, contributing to mark-to-market losses, may impact the capital requirements set by rating agencies.

Following recent reviews by credit agencies, several of the major monolines have had their ratings downgraded or placed on ‘negative outlook’. Several monolines have been actively taking steps to put in place capital mitigation strategies in order to reinforce their capital cushion with regards to rating agency requirements. Others are considering restructuring such that the less risky business of insuring municipal bonds can continue away from the part insuring structured credit products. These plans are in their early stages and it is not yet clear whether this will prove to be an acceptable approach from either regulatory or credit rating agency perspectives.

On the basis of the available data, it would appear that the insurance and pensions sectors are only modestly exposed (directly or indirectly) to ABS or structured credit instruments, and as a result the exposure to sub-prime mortgage risks would remain of secondary importance. However, we consider that the quality of data should be further improved before drawing final conclusions, and therefore the total extent of the exposure can only be assessed at a later stage when more accurate data becomes available and any additional exposures or contagion effects are detected by the insurers themselves.

Over the medium term, some positive effects could be envisaged, including a better risk awareness, adjusting to normality credit risk margins, or higher demand and prices for certain insurance products linked to these specific risks.

A crucial parameter that will determine the impact of the credit turmoil on the insurance industry is the remaining strength of the real economy. Some softening is already evident from economic indicators and central banks have moved upon it. Should there be a significant deceleration of real activity, credit-related issues will spread over the entire economy thereby potentially affecting other investment classes of the insurance companies or their activities. A potential reduction in household wealth under current economic conditions, could lead to lower premium income for certain insurance products, and more likely for life insurance products designed as a savings product.
3. Developments in the European insurance sector

Financial market developments

In 2007, the crisis in the US subprime mortgage market provoked severe turbulence in the financial markets. In July and August of last year, an abrupt loss of confidence in complex securitisation products and a general decrease in risk tolerance resulted in extensive losses on high-risk assets, higher price volatility and reduced liquidity. The deteriorating liquidity conditions in the money market led in early August to a widening gap between short-term interest rates and the official policy rates. The three month Euribor increased to almost 5% in December 2007, while the main refinancing rate was kept at 4% (see figure 1). By temporarily providing extra liquidity to the market, the European Central Bank (as well as the US Federal Reserve and the Bank of England) successfully restored the orderly operation of the money market. In this period of uncertainty, long-term government bond yields fell as investors fled to safety but also because of an anticipated weakening of the global economic environment. The yield on the 10 year European benchmark bond dropped to 3.8% in March 2008, well below the three month Euribor.

Figure 1: European short- and long-term interest rates

European and global equity markets initially recovered after the correction in July 2007 (see figure 2). However, a more severe equity market correction followed in January 2008. Overall, equity markets decreased since the beginning of 2007, which is detrimental to the financial position of insurers and pension funds via their equity exposures.
Because of the turmoil in the financial industry, the development of share price indices of the European insurance sector (life, non-life and reinsurance) fell behind the European wide share index (see figure 3). Reinsurers' stock prices suffered from potential high losses related to winter storms that swept Europe in the beginning of the year, but caught up somewhat later on in the year. The life insurance sector recorded the poorest performance. This could be related to the higher sensitivity of this type of activity to the adverse stock market circumstances, given the higher importance of investment income in the net result of these companies and their relatively sizeable investment portfolios.
Even so, in 2007 the financial strength ratings of European insurers have been subject to more upgrades than downgrades (see figure 4). Although the number of insurers with a negative outlook increased since September 2007, the large majority of the insurance ratings still have a stable outlook (see figure 5).

**Figure 4: Development of leading European insurance group’s financial strength: Credit ratings distribution**

![Credit ratings distribution chart](image)
The following analysis of the developments in the European insurance sector in 2007 is based on the fast-track reporting of key figures and on the qualitative reports made in March 2008. These national reports cover 13 to 100 % of each market. For several countries however no information has been available. For these reasons this analysis is only indicative.

**Development in premiums and claims**

In the reporting countries the total aggregate gross premiums written increased by 7.6 % in 2007.

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3 Explanatory note - Rating outlooks are defined as follows:

A Standard & Poor's rating outlook assesses the potential direction of a long-term credit rating over the intermediate term (typically six months to two years). In determining a rating outlook, consideration is given to any changes in the economic and/or fundamental business conditions.

An outlook is not necessarily a precursor of a rating change or future CreditWatch action.

- Positive means that a rating may be raised
- Negative means that a rating may be lowered
- Stable means that a rating is not likely to change
- Developing means a rating may be raised or lowered
* Total includes data on composite insurers. Life and Non-life data refer to pure Life or Non-life insurers.

**Life Sector**

Premium growth in 2007 seems to be modest: according to the received fast track reports the weighted average gross premiums increased only by 0.8 % (15.1 % in 2006). However, a number of countries, especially in the eastern part of Europe (PL, LT, BG, HU, CZ), experienced high growth also in 2007. BE had strong growth in premiums after a sharp decline (because of tax on premiums) in 2006. Also in NO premiums increased significantly.

Four countries (IT, FI, PT, LU) reported on premium decline, which was especially sharp in IT (-13 %).

In most countries the growth in unit-linked products was still higher than the growth in traditional products but the trend was not as clear as in the previous years. UK has seen a number of new entrants to the market (independent from any existing insurer) to write non-linked pension business.

Especially during the last quarter an increase on the interest rates revived competition between life insurance products and bank savings products. That made life insurance companies even to promise to pay higher returns in 2008.

Many countries reported on changes in market and competition conditions for life products. As to business potential, some of these changes are positive, some negative:

- a new tax regulation which provides equal treatment to all financial products (including insurance products) in ES
- premium income of unit-linked products fell by more than 30 % in NL, because unit-linked policyholders claim damages: they believe that they
were overcharged and misinformed when they have bought policies which are linked to mortgages with the intention to redeem (part of) the mortgage at the end of the term.

- changes in rules of inheritance tax in FR reduced the competitive edge of life insurance
- the interest tax (introduced in 2006) in HU has made the longer term life products (thanks to tax-exempt) more competitive compared with other savings products.
- in UK a proposal for reforming capital gains tax by introducing a flat 18% rate and abolishing taper relief. This change could threaten the competitiveness of single premium insurance bonds.
- in some countries increased competition from mutual funds offering equal products

Non-life Sector

According to the fast track reports the weighted average premium growth in the reporting countries in 2007 was 5.2%. In 2006 the growth was 5.5% (excluding the effect of the privatization of the health insurance sector in NL). PL experienced strong growth also in non-life business, mainly thanks to significant rise in MTPL premiums due to a broadened coverage. Premium increase was high in NL, ES and LT, too. The third largest company in NO became a branch of its Danish parent company, that explains reduction in NO.

DE and SE reported on premium decline.

Competition seemed to increase further, which had also a dampening effect on growth rates. DE, SE, DK, SK reported on an extreme tough competition situation, especially in car and in MTPL. The premium growth in the non-life sector in BG is mainly due to the volume growth of policies issued under the damage class of insurance, which is related to the considerable volume of sales of new motor vehicles in 2007. Another factor that influenced such growth is the increase in the premiums on the MTPL insurance – due to the broadened scope of coverage as a result of the membership in the EU. In DK there was a radical local government reform and in the process of uniting municipalities tenders for insurance coverage were asked. In SE about 70 municipalities have started captives to manage their own risks.

Profitability in 2007

More than a half of the countries reported on a higher combined ratio than in 2006. But on the other hand, in several countries the combined ratio was better than in the previous year (figure 7a). The aggregate net combined ratio for the reporting countries was 91.2 in 2007, compared with 95.3 in 2006.

The clear majority of the countries experienced a higher loss ratio than in 2006. In DE, NL and in UK windstorm Kyrill in January caused considerable losses, in NL there were also number of major fires. Also floods in UK in summer had a negative impact on property business. Also in NO loss ratios were significantly worse than in the previous year.
Figure 7a: Net combined ratio*

* Defined as claims and operating expenses divided by premiums, net of reinsurance. Data excludes composite insurers.

Figure 7b shows the components of the combined ratio in the reporting countries in 2007. It seems that the share of expenses is higher in many countries of the eastern part of Europe (HU, PL, BG, LT, SK, CZ).

Figure 7b: Net combined ratio*

* Data excludes composite insurers.

There was no clear trend in profit developments in 2007: both in life sector and in non-life sector about half of the countries experienced increase in profits, half experienced decrease.
The results of the life insurance business are highly dependent on the yield of the investment portfolio. In the first half of 2007, the environment was somewhat more subdued and as of August 2007, the return on the investment portfolio suffered from higher volatility and lower prices on worldwide stock markets. In Q4 many companies began also to feel the impact of credit-spread widening on profitability (with downgrading leading to write-downs on asset values).

**Financial Strength**

The high level of profits in the recent years has improved the financial strength of the insurers. The solvency ratio (available solvency margin divided by required solvency margin) has increased accordingly.

The changing interest rates affect the ability of life insurance companies to meet the long-term obligations for products with guaranteed interest rates. In most countries, this is not reflected in the solvency ratio, as liabilities are not valued at market value.

There were no severe incidents of insolvencies reported in 2007.

**Assets**

Total assets growth rate in % has been sharp in many of those countries in which also premium incomes have increased fast (figure 8).

**Figure 8: Total assets growth from 2006 to 2007**

*Total includes data on composite insurers. Life and Non-life data refer to pure Life or Non-life insurers.*

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4 For DE preliminary data on total assets refer to total investments for 2007. This data is compared in figure 8 with total assets of 2006 resulting in a small decline of total assets. Total assets figures for 2007 were not available at the time of the delivery of the report (quarterly basis).
There has been no apparent general trends in the overall assets allocation in the last couple of years. Several countries report a stable mix of assets. In many countries equities have increased their share of total assets, although in many cases merely reflecting the increased value due to the risen market prices.

The 2007 fast track reports indicate in non-life sector a shift from equities and from fixed income securities to other assets. In life sector changes seem to be marginal. According to the received data the aggregate equity share of total balance sheet assets in the insurance sector (excluding reinsures) amounted to 19% at the end of 2007 (28% at the end of 2006). Fixed income investments were 54% of total assets at the end of 2007 (64%) and other assets 27% of total assets. For analysing this further the final countrywide data is needed.

In any case figure 9 shows that the variation of allocations between countries is substantial.

Figure 9: Asset allocation* for 2007**

* Investments for the benefit of policyholders who bear the investment risk are excluded.
* Fixed income* covers debt securities and other fixed income securities.
* Equity” covers shares and other variable-yield securities and units in unit trusts.
** Data also includes composite insurers

Risks and challenges

At the moment the main risks in the insurance sector are:

5 For DE data on the asset allocation is based on quarterly reporting, which is risk-based. Therefore, some positions cannot be divided into fixed income or equity positions. Balance sheet data for 2006 show a breakdown of ca. 55% in fixed income, 25% in shares and 20% in other assets. This can be regarded as indicative for 2007 annual data.
• equity market risk: high volatility in equities and higher hedging costs
• increased use of new products in seeking high returns and in managing financial risks: there is a possibility that the companies don't fully understand or are not capable of measuring the risks related to these new instruments
• contagion risks from banking activities or ownership links with banks or other financial institutions
• interest rate risk in life insurance: how to manage the business of guaranteed return contracts in the fluctuating interest rate environment; ensuring both the profitability of business and the competitiveness of life products (against other savings products)
• fierce competition leading to unhealthy low premium level in non-life sector
• claims related to weather conditions – storms, flooding etc: insurance companies may have to cope with larger amounts of unexpected big losses
• longevity risks in life insurance

CEIOPS conducted in March 2008 an analysis of insurers' investments in structured credit products and their exposure to subprime related risks. For the purpose of the analysis, CEIOPS collected quantitative exposure data from a wide coverage of insurance supervisors with reference to the most recently available quarterly reporting date. On the basis of the data received the following preliminary conclusions could be made:

• The net exposure to structured credit products takes into account the hedging effect from protection bought through credit derivatives, such as credit default swaps. As such, the total net exposure represented 2.8% of the total assets from the monitored insurance companies. Structured credit products include Asset Backed Securities, Collateralised Debt Obligations, Collateralised Loan Obligations, Collateralised Mortgage Obligations, Residential Mortgage Backed Securities, Commercial Mortgage Backed Securities, Asset Backed Commercial Paper and other similar packaged securities.
• In addition, of the direct net exposure only 10.5% was identified as related to subprime risks. As a share of total assets, the subprime exposure represented 0.21% of total assets.
• When taking into account also indirect exposures to subprime related risks (via equities, corporate bonds or other assets affected by the subprime turmoil), the exposure represented 0.31% of total assets. Therefore, overall the European insurance sector still remains marginally exposed to the current credit turmoil.

Regulatory and supervisory measures

Several countries reported on regulatory or supervisory measures implemented in 2007:

• ad hoc reports on credit risk exposures and structured products
• supervisors in AT, NL and IT tightened their requests for insurers to carry out stress tests
• new regulation concerning the calculation of technical provisions in ES
• new limits/reporting requirements for investments concerning credit risk, exposures in private equity, asset backed securities and structured instruments in AT
• more flexibility in investment instruments in ES
• assets eligible to cover technical provisions were moderately extended in IT
• tightening of solvency regulations in DK
• significant changes in reporting templates in PT
• in BG supervisor obliged some insurers to raise MTPL prices
• new rules in order to reduce costs of MTPL claims in IT
• in IT new rules in order to make the final MTPL price more transparent and easier to compare
• new “long life” tariffs and increase on technical provisions in life sector in NO
• SI is preparing new mortality tables
• tightening of requirements for profit sharing in life and health products in AT
• tightening of requirements for profit participation in DE
• in DE, the requirements for risk management (development of a risk strategy, organisational and operational rules, establishment of an appropriate internal management and control system, an internal audit system) were explicitly regulated by law

4. Developments in the European reinsurance sector

General comment

The year 2007 could be characterized as a year of numerous natural catastrophes. The number of natural catastrophes occurred was the highest since 1974 – the beginning of the systematic recording of such events. In 2007 Munich Re counted 950 natural catastrophes world-wide, causing losses of US$ 75 bn. The amount of insured losses in relation to winter storm Kyrill and flooding in the UK aggregated up to US$ 30 bn. Despite the great number of natural catastrophes the loss figures were well short of 2005’s record year.

Table 1: Natural catastrophes in 2007, comparison with previous years

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of events</th>
<th>Victims</th>
<th>Total losses US$m</th>
<th>Insured losses US$m</th>
<th>Major events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>680</td>
<td>13.00</td>
<td>89.000</td>
<td>21.000</td>
<td>Earthquake Northridge</td>
</tr>
<tr>
<td>1995</td>
<td>615</td>
<td>20.800</td>
<td>172.000</td>
<td>16.000</td>
<td>Earthquake Kobe, floods North Korea</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>890</td>
<td>10.300</td>
<td>38.000</td>
<td>9.600</td>
<td>Floods UK, Typhoon Saomai</td>
</tr>
<tr>
<td>2001</td>
<td>720</td>
<td>25.000</td>
<td>40.000</td>
<td>12.000</td>
<td>Tropical Storm Allison, hailstorm USA</td>
</tr>
<tr>
<td>2002</td>
<td>700</td>
<td>11.000</td>
<td>60.000</td>
<td>14.000</td>
<td>Floods Europe</td>
</tr>
</tbody>
</table>

6 See Munich Re, NatCatServices, Geo Risk Research.
European reinsurers play a dominant role in the world reinsurance market. Four of them are present among the top 5 reinsurance groups in 2006. The two biggest reinsurance groups in the world are based in Europe. By decreasing order of net premiums earned these companies were Swiss Re, Munich Re, Hannover Re and Lloyd’s⁷. As regards the regional distribution within the EU major reinsurers have their headquarters domiciled in France, Germany and the UK.

Developments in the reinsurance sector in 2007

As mentioned above, the frequency of natural catastrophes in 2007 has been highest compared to previous years, often resulting in significant human casualties. As is often the case, human casualties have been the highest in developing and emerging countries. Storms, floods and landslides in Bangladesh, Bhutan, China, India, Nepal and Pakistan caused more than 11,000 deaths. Of these deaths 3,300 were caused by Cyclone Sidr, which struck Bangladesh in November. Central Europe and Great Britain were hit by winter Storm Kyrill in January 2007, the insurance industry’s costliest natural catastrophe in the same year. Kyrill caused overall economic losses of some US$ 10 bn, with insured losses of around US$ 5.8 bn. In June and July England and Wales experienced two floods caused by extreme rainfall. Overall economic losses were around US$ 4 bn for each event, of which US$ 3 bn were insured in each case⁸.

Table 2: Top 10 largest natural catastrophes in 2007, ranking by overall losses⁹:

<table>
<thead>
<tr>
<th>Date</th>
<th>Country/region</th>
<th>Event</th>
<th>Fatalities</th>
<th>Overall losses US$ m</th>
<th>Insured losses US$ m</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.7.2007</td>
<td>Japan</td>
<td>Earthquake</td>
<td>11</td>
<td>12,500</td>
<td>300</td>
</tr>
<tr>
<td>18.-20.1.2007</td>
<td>Europe</td>
<td>Winter Storm Kyrill</td>
<td>49</td>
<td>10,000</td>
<td>5,800</td>
</tr>
<tr>
<td>June – Aug. 2007</td>
<td>China</td>
<td>Floods</td>
<td>650</td>
<td>6,800</td>
<td></td>
</tr>
<tr>
<td>June 2007</td>
<td>UK</td>
<td>Floods</td>
<td>4</td>
<td>4,000</td>
<td>3,000</td>
</tr>
</tbody>
</table>

⁹ See Munich Re NatCatSERVICE.
In 2007 the subprime turmoil was also felt by reinsurance companies. On the one hand reinsurers could be exposed through the asset side; on the other hand claims resulting from Directors & Officers liability policies could also influence the liability side. So far known, the impact of the subprime-crisis on reinsurance companies is not as severe as on the banking sector. It is estimated, that insurers face claims related to the subprime-crisis of about US$ 2 bn[^10]. How much of this amount is reinsured cannot be estimated at the moment. However, reinsurers emphasize that their asset side would not be influenced severely by the subprime crisis due their prudent investment policy. Swiss Re’s activities in credit derivatives seem to be an isolated case. Swiss Re has taken a CHF 1.2 bn pre-tax mark to market loss arising from its exposure to two credit default swaps which had been structured to provide portfolios comprised of residential and commercial mortgage-backed-securities[^11].

In 2007 the rising trend to alternative risk transfer instruments continued. The credit risk transfer market grew sharply and new formats for trading of credit derivatives were introduced[^12].

**M & A activity in the reinsurance sector in 2007**

_Converium_, Switzerland, was bought by _SCOR_, France, in September and in the meantime changed its name into _SCOR_. The squeeze-out is expected to be terminated by the end of the first quarter of 2008, enabling SCOR to hold 100% of SCOR Holding (Switzerland) Ltd.’s share capital[^13]. In addition to that there were only minor M & A activities in the reinsurance industry.

**Outlook for 2008**

More recently, reinsurers are seeking to put a stop on the decline of reinsurance prices during the renewal session of January 2008. Despite their efforts prices are continuing to fall across the board. While the cost of marine reinsurance is falling only slightly, and the price of reinsuring reinsurers against property losses is also holding up, other areas such as US property reinsurance face more precipitous declines. Albeit the numerous natural catastrophes in 2007 even the cost of reinsuring US-portfolios against natural catastrophes is coming under pressure, with rate reductions of 10-15%. As a result of the UK-floods in 2007, reinsurers were able to raise premiums for involved programs of about 5%.

**Box: Insurance securitisation**

**Introduction**

Insurance securitisation allows insurers to spread the risks from their underwriting businesses to capital markets. By packaging and selling risks to investors through securities, insurers can reduce their regulatory capital requirements. By lowering their risk exposures, this, in turn, facilitates an increase in their ability to write new business. Insurance securitisation can however also expose insurers to new risks to the extent that they have invested in the insurance securitisation market as part of their asset management, which could make them face losses from insured events that are securitised.

In a typical insurance securitisation deal, the insurer enters into a financial contract with a Special Purpose Vehicle (SPV) which hedges the financial contract by issuing notes to investors in capital markets. Many life insurance securitisations also include credit protection provided by a financial guarantor (also called “monoline” or “bond insurer”). This insurance guarantees the interest and principal payments on the underlying securities.

In recent years insurance securitisation has established itself as an alternative to more traditional financing and risk mitigation methods used by insurance companies. Insurance securitisation can be seen as part of a larger trend towards greater capital market involvement in the insurance sector, both globally and in Europe, to manage capital and mitigate risk. To some extent it can be seen as a substitute for reinsurance for primary insurers where the risk of losses is transferred to financial market investors instead of reinsurers. Reinsurers also use insurance securitisation to spread their risks and although some of their underwriting business has to compete with securitisation, reinsurers are also structuring and managing securitisations for primary insurers and thereby generating fee income.

A variety of insurance risks can be securitised. For example non-life insurers can pass on risk exposures to catastrophic events, such as losses caused by an earthquake or hurricane, by issuing a security that requires the investor to cover losses above a certain threshold provided that a predefined “trigger” has been breached (e.g. an earthquake above a certain level on the Richter magnitude scale which has caused insured losses above a pre-defined level). Life insurers could similarly buy protection against extreme mortality costs (e.g. caused by a pandemic) whereas a non-catastrophe securitisation, usually for life insurance annuity books to securitise the flow of future premium payments, can be seen as more of a financing tool for insurers.

For capital market investors insurance-linked securities can be an attractive investment as they often pay a comparatively high yield due to the risk of potentially very large losses and because they in general have a low correlation with equity and credit markets, thereby allowing for a diversification of risks.

**Size and structure of the market**

Although still growing, the insurance securitisation market remains small when compared with other securitisation markets. However, the global use of insurance securitisation accelerated after the large natural catastrophe losses endured by primary insurers in 2005.14 Between September 2005 and

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14 Most notably hurricanes Katrina, Rita and Wilma in the Gulf of Mexico, totalling about USD 65 billion in insured losses, as well as the winter storm Erwin and various summer flooding in Europe.
December 2006, insurance securitisation issuance volumes totalled over USD 14 billion. This compared with about USD 23 billion capital raised by existing and start-up reinsurers during the same period (see Chart 1). By the end of 2007 the size of the market had grown to around USD 38 billion, up from about USD 30 billion in 2006. As a comparison, the size of the traditional reinsurance market in 2007 was USD 195 billion.

Securitisation has mainly taken the form of catastrophe bond issuance (see Chart 2), with global issuance in 2007 totalling USD 7 billion, up from USD 4.7 billion in 2006 (see Chart 3).

**Financial stability implications**

In general insurance securitisation can be viewed positively from a financial stability perspective as it allows insurers to spread risks and therefore reduce potential vulnerabilities. Insurers relying too much on the strength of investor demand for insurance linked securities might however prove vulnerable and

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16 See also, Fitch Ratings, “Insurance Securitisation - Coming of Age”, December 2006.
face unforeseen capital charges if investor demand was do be reduced. Furthermore, insurance securitisation can also expose insurers to new risks to the extent that they have invested in the insurance securitisation market as part of their asset management, which could make them face losses from insured events that are securitised. Insurance securitisation can also affect reinsurers negatively by lowering demand for their products as securitisation can to some extent be seen as a substitute for reinsurance, although insurance securitisation can also be a source of fee income for reinsurers that underwrite or provide management services of securitisation deals.

From a broader financial stability perspective, the spread of risks that insurance securitisation entails gives rise to new risks for investors, some of whom might not fully understand or be able to bear potential losses. Little data is available on who is investing in insurance linked securities and therefore who is ultimately bearing the risks that have been transferred from insurers but dedicated insurance-linked securities funds, money managers, hedge funds and banks propriety trading desks are likely to account for the lion’s share of the investments. For natural catastrophe-linked insurance securities, some data show that dedicated insurance-linked securities funds account for 44% of total investments followed by money managers with a share of 22%, hedge funds with 14% and banks with 13% (see Chart 4). Investors in insurance securitisation markets also include insurers and reinsurers looking to diversify their risk exposures with an aim of profiting from their knowledge of estimating, for example, catastrophe losses which can be used to determine the risks involved in investing in insurance linked securities.

The outlook for the insurance securitisation market

Growth of the insurance securitisation market has been hampered by various factors, such as difficulties in aligning the interests of investors and insurers, limited investor confidence owing to the limited size of the market, and the sometimes complex and non-standardised structures, which are often expensive and time-consuming to structure or for investors to analyse. Improvements have however been made, and the market could therefore have the potential to grow further in the future.

The financial market turmoil that started in mid-2007 amid problems in the US subprime mortgage market has confirmed that insurance-linked securities have limited correlation with credit and financial market instruments and the insurance securitisation market weathered this turmoil, as shown by its expansion by some 25%, to USD 38 billion, during 2007. In the future some positive effects for the insurance securitisation market from the recent structured credit market turmoil could be expected. Investors might be attracted by the limited correlation with stock and credit markets and increased investor diligence with improved risk management could speed up the progress in achieving more standardised and transparent insurance securitisation deals.

Potential impact of Solvency II on the insurance securitisation market

The new Solvency II Framework constitutes a key development for the insurance securitisation industry as it expressly recognises securitisation and derivatives as effective risk mitigation techniques. The framework acknowledges the economic substance of insurance activity and focuses on risk and the management of risk.
Under the framework European insurance and reinsurance undertakings can use securitisation in the same way they use reinsurance to meet their capital requirements which should have a positive effect on supply and facilitate the development of insurance securitisation market. These techniques can be used to obtain commensurate solvency capital relief, provided that insurers can demonstrate that they understand the nature and limitations of such techniques, and provided that there is a real transfer of risk.

The increased transparency and quantification of risk generated by the Solvency II process should provide a strong foundation for the growth of securitisation as an effective risk transfer tool. The capital markets have a significantly greater capacity to absorb risk and will provide increased diversification for insurance firms as well as providing improvements in the cost of capital i.e. the reduction in the cost of capital achieved through securitisation is greater than the cost of servicing the securitisation structure.

5. Developments in the European pension fund market17

This section highlights the main developments recorded in the European pension funds sector, mainly on the basis of qualitative and quantitative feedback provided by members, as well as market-based information. Not all EU countries are covered, as in some of them IORPs (i.e. pension funds falling under the scope of the EU Directive) are still non-existent or are just starting to be established (BG, CZ, HU, RO). In FR the occupational retirement provision is treated as a line of insurance business.

Major policy and institutional developments in 2007

A number of countries have changed, or are in the process of changing their national pension legislation and regulations. Some of the major issues addressed with these changes are:

- the membership coverage of supplementary pensions;
- the funding and the sustainability of the plans;
- the investment process, risk management and the governance mechanisms;
- the communication to members.

Some countries are introducing or proposing extensive changes to increase the coverage of occupational retirement provisions. In IT, the diversion of the so-called TFR (a sort of severance pay accrued annually and equal to about 7% of salary) to pension funds on a no-objection basis for all private-sector

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17In this report, we refer to pension funds that qualify as Institutions for Occupational Retirement Provision (IORPs) that fall under the scope of Directive 2003/41/EC on the activities and supervision of institutions for occupational retirement provision. This means that e.g. book reserve schemes and non-occupational pension plans (common in several central and eastern European countries) are not covered by the report. Please see Annex 2 for an overview of the scope of pension funds in the respective member countries.
employees (about 12.2 million) became effective during the first half of 2007. Although the majority of workers preferred to opt out and keep the TFR, the reform has indeed already increased significantly the number of employees that are members of pension funds, to a total of about 3 million at end-2007 (64% more than end-2006). Many company funds and some industry-wide funds reached very high coverage rates.

Also the UK is expecting to introduce a major structural reform aiming at increasing coverage - from 2012 onwards a requirement on all employers to auto-enroll their employees into either a new scheme – an universal defined contribution trust based occupational scheme (Personal Accounts) or into an alternative qualifying scheme that offers benefits that are at least equivalent. Members can however opt out of such schemes. It is worth noting that the introduction of PersonalAccounts is expected to increasingly influence the occupational pensions sector, as employers come to terms with auto-enrolment and the likelihood that scheme membership and hence their contributions could increase (especially for DC schemes where uptake is variable and can be relatively low). There remains uncertainty as to how group personal pensions will fit into the new regime.

FI is proposing to introduce DC schemes: this initiative can be seen as an important departure from the current DB-only framework, but its impact in terms of coverage will probably be modest in the short run.

Regarding the funding and the sustainability of plans, a few countries introduced changes taking stock of the provisions of the IORP directive, often aiming at reinforcing security and offering at the same time more flexibility in order to take into account the characteristics of the plans. In BE a new prudential framework for the calculation of technical provisions was introduced, where IORPs set on a prudent basis the discount rate to be used, whereas it was previously fixed by law. The sponsoring employer has to commit to a financing plan, which is becoming more important as a tool to provide financial and legal certainty to both members and beneficiaries.

In the UK, in the context of a confirmed tailor-made approach to the calculation of technical reserves, the regulator is being given strengthened powers to intervene if the technical provisions set by trustees are calculated using assumptions which are not considered prudent. The mandatory indexation to price inflation of deferred benefits will be capped at a lower maximum rate (the ease of indexation requirements was recently decided also in the NL, as a major component of the policy for making DB plans more affordable). In ES, the activity of actuaries in the calculation of reserves has been defined more clearly, and reserve requirements have been made more flexible; the gender equality in the calculation of premiums is promoted.

One country (PT) has made some interesting changes to pillar I provisions to limit the cost by introducing a sustainability factor in the pensions’ calculations, measured by the life expectancy at age of retirement divided by the life expectancy in 2007. Three ways are proposed to overcome this factor: accept the decrease in pension benefits, work longer (over 65) or contribute more. Where this applies also to private pension funds, these provisions would be useful for ensuring their sustainability isolating them from longevity risk.
Other changes consistent with the IORP directive have been made in several countries in relation to investment rules and the risk management process. An particular case is AT, where standards have been introduced for the risk management process (risk policy, identification, analysis, valuation, steering, monitoring, documentation and reporting). The adoption of these standards is voluntary, i.e. if a pension fund demonstrates its compliance with these standard, it will be enabled to apply more liberal (i.e. less quantitative) terms in its asset allocation, thereby strengthening the prudent person principle. The regulation has been well-received by the industry, and most pension funds have already introduced a comprehensive risk management structure.

Also other countries, such as BE, ES and PT, introduced changes to investment rules to make them more consistent with the prudent person principle set by the IORP directive, and enlarging the set of financial instruments that pension funds are allowed to hold. NL has issued guidelines directed to pension funds for the assessment of risk management in relation to alternative investments.

In DE, the requirements for risk management (development of a risk strategy, organisational and operational rules, establishment of an appropriate internal management and control system, an internal audit system) were explicitly regulated by law. This regulation underlines the move towards a more principle based supervision which, in return, leads to higher demands on the decision-making process within a pension fund.

More in general, several countries introduced policy and regulatory changes aimed at reinforcing the overall governance of pension funds, asking for more responsible and professional management. In the NL, after new guidelines on pension fund governance were issued at the beginning of 2007, the supervisor is closely following their implementation. The supervisor in BE has also drafted governance guidelines, and expects that, given the diversity of IORPs, they are implemented in a reasonable and proportionate manner. IT, PT and ES have also reinforced governance and internal control mechanisms. IT introduced monitoring bodies representative of members in occupational plans instituted and managed by financial companies, and required that all pension schemes, occupational and individual, are monitored by an independent person; whistleblowing duties to the supervisor have been established.

In many countries there is a growing attention to disclosure requirements and to the information to be given to members, in particular when they bear the investment risk and are required to make investment choices. This is typically the case when DC pension plans are increasing in importance, or these are the only kind of schemes offered to new members. In IT information requirements were strongly reinforced, following the entrustment to a single, specialized supervisor of regulatory and supervisory powers for all types of pension plans. A single standard for a comprehensive information document was introduced, together with synthetic cost indicators, easing comparability between plans; pension projections based on uniform assumptions will have to be provided to all members starting from the second half of 2008. Increased information obligations have been set also in ES and PT.

An interesting case is the NL, where the need to improve communication to members has been pursued in the context of a DB-based system, in order to deal with the uncertainty surrounding future benefits, as indexation is not
mandatory but is nevertheless sought by pension funds as a target. A qualitative benchmark ("the indexation label") is introduced, which is intended to offer members an insight into the extent to which their pension’s purchasing power will be protected. The design of the indexation label will be tested on large groups of members. A separate calculation model is also being developed for pension funds which have not yet conducted any continuity analysis (the basis for the indexation label). Finally the label needs to be calibrated. For that purpose, pension administrators have to submit calculations to the supervisor in 2008 on the amount of indexation likely to be granted in a pessimistic scenario. Once the steps have been completed, the rules will be finalized. From 1 January 2009 pension administrators will then be obliged to include the indexation label in the uniform benefit statement.

**Preliminary assessment of the pension fund activity and results in 2007**

In first half of 2007, European pension funds continued to significantly increase their assets and, in general, strengthen their financial position, mainly due to the continued positive trend of stock markets. In the second half of the year, since the subprime crisis, the situation worsened: although all available evidence indicates that pension funds were only marginally involved directly in subprime-related investments, they were negatively affected by the general pressure on stock market prices. On average, the results for the entire year 2007 are likely to be only slightly positive, although the situation is worsening again from the beginning of the year 2008.

In NL, at the end of 2007, the average funding ratio increased to 143%, some 6% points higher than a year ago. The most important underlying cause is the increase in long-term interest rates, that occurred in particular in the first part of the year. Based on historical data, a 1% increase in the price of long-term zero coupon bonds is reflected, on average, in a 1.4 % fall in the funding ratio. This is because the mark-to-market value of the technical provisions is highly sensitive to interest rates. Many funds do not hedge the 'interest rate mismatch' between these liabilities and their fixed-income investments. The real funding ratio - assuming 2% indexation per year - came to 107% at the end of last year. This means that on average there is sufficient funding to keep pensions inflation-proof with a limited buffer to absorb downward risk. Certain funds that reduced the indexation in view of their financial position have applied catch-up indexation in the fourth quarter of 2007.

On the other hand, in the UK funding levels are expected to end somewhat lower than at the start of the year 2007. The reason for this opposite outcome is that in the UK context real interest rates are more relevant than nominal rates for the funding levels, owing to the mandatory indexation of benefits (see above), and real interest rates are estimated to have slightly fallen in 2007 (from 1.1% to 0.9%).

The increase in longevity estimates is also contributing to the worsening of funding conditions in several countries. In particular, two member states reported improving longevity (NO and UK) with NO introducing a new mortality table and UK reporting newly published mortality data which disclosed further longevity gains, with no sign of easing in the rate of improvement in longevity.
The reported trends in the allocation of investments in 2007 show some movement from equity towards bonds and an increased interest in alternative asset classes such as private equity and hedge funds. In the UK, according to market sources, funds are increasing their use of contingent assets and there is some switching from equities to fixed income assets, down to 55% from 60% over the year, with fixed income up to 29% from 26%, and more schemes investing in property and hedge funds. The NL report that at the beginning of 2007 alternative investments accounted for some 4% of the total pension fund investment portfolio. In 2007 the switch from equities to bonds occurred also in some DC-based countries, such as IT.

As already reported above in the section on the subprime crisis, there is very little direct exposure to subprime-related investments in the pension fund sector. The vast majority of member states reported no or negligible direct exposures, but do record concerns about the indirect effects. NL has had a limited impact with few pension funds having direct exposures to subprime-related instruments and the indirect exposures, e.g. via hedge funds, are limited too. Nonetheless, the pension funds sector has been hit by the worldwide correction on equity markets. Based on historical data, a 1% drop in the MSCI World Index causes, on average, a 0.5% drop in the nominal funding ratio. The reason is that pension funds invest just under half of their assets in equities.

In the UK the direct involvement is also very limited, as investments in other than traditional assets is less than 3%. However indirect effects are already seen from the widening of credit spreads showing falls in corporate bonds and, of more concern, an increase in borrowing costs for sponsoring employers and of credit insurance. Another concern is the financial strength on investment firm counterparties with whom trustees transacted in swaps and other derivatives.

Finally, in terms of development in membership in 2007, a few countries (for instance, AT, DE in the case of Pensionsfonds, IT and LV) reported significant growth in membership in 2007, but others show stability and in fewer cases even a reduction.

**Structural trends in the occupational pension funds sector**

At the time of drafting of the present report, a more comprehensive, quantitative analysis of structural trends in the European pension funds was feasible making reference to data for the period 2004-2006 collected according to the Eurostat reporting requirement.

In general, sustained growth of the occupational pension fund sector has occurred in the recent years as public and private initiatives started to deal with the rapid demographic changes in terms of a declining ratio of contributors-to-beneficiaries. Pension reform efforts in several countries have been geared towards the economic implications of increasing life expectancy and towards promoting retirement provisions through Pillar II and Pillar III pension schemes. Growth in these types of schemes helps diversify some of the longevity risks, especially in countries that traditionally rely on pay-as-you-go (PAYG) social security systems. It is expected that, by supplementing PAYG state pensions with funded private pensions, the cost and risks of an ageing population become manageable. In the coming years these trends are expected to continue and possibly to accelerate further.
The total size of assets as a % of GDP gives a good indication of the relative wealth accumulated by the pension fund sector (see figure 10). The size of pension funds is to a large extent related to their maturity and labour market coverage. This is especially the case for countries like NL, where pension fund assets exceed by large GDP. In NL retirement provision is mainly financed through occupational pension funds. Where traditional public sector pensions, other similar national arrangements and group life insurance contracts play a dominant role in the retirement system, the size of the occupational pension fund sector is relatively small. This is especially the case for continental European countries (AT, BE, DE, ES, IT and LU).

**Figure 10: Relative size of pension fund sector: Total assets as % of GDP**

In general, Central and Eastern European countries that have started from a relatively small asset base (PL and LV) are experiencing strong growth in net additions to the pension funds (see figure 11). This growth is often accelerated by fiscal incentives (tax deductibility of employer contributions (e.g. PL), tax relief on investment income and/or benefits paid to employees, as well as an exemption from social security tax on employee contributions). However, the labour market coverage often remains low due to the limited financial education and awareness of the benefits of pension plans or due to the high cost of servicing such pension plans.
**Figure 11: Net technical additions* in % of Total Assets**

![Net technical additions in % of Total Assets](image)

* Net technical additions = total net contributions - total net benefits + net transfers to/from other funds + change in technical provisions.

Source: EuroStat

As an alternative or in addition to a pension plan, in many countries a large part of the pension schemes is offered by life insurance companies, either through group life contracts with shared contributions or individual pension savings plans. Figures 12 and 13 compare the gross written premiums received by the life sector and the pension sector in the various countries. Some countries are experiencing a significant amount of transfers of pension obligations into life insurance companies in the form of group life contracts.

**Figure 12: Life insurance sector: gross written pension premiums***

![Life insurance sector: gross written pension premiums](image)

* Pension arrangements of non-linked and linked life assurance and group pension assurance.
The pension reform efforts have also resulted in a trend of DB schemes gradually being phased out in a number of countries. This would mean that substantial increases in contributions into new defined contribution plans (DC) can be expected in future years. This trend will help to transfer a growing part of the investment risk to the household sector. This could be especially the case for those countries that currently still largely operate DB plans (BE, DE, FI, IE, NL, NO, UK). The possibility that the reduction of DB schemes might entail a reduction of (future) pension benefits may have resulted in more focus on private pension plans (pillar III) in some countries (SE).

Other countries have accumulated largely or exclusively DC plans (IT, LV, PL, SI). On average (both in terms of gross contributions and number of members by type of plan), the retirement landscape in Europe is largely organised by DB plans (see figure 15).
For the purpose of this report pension fund financial strength is expressed in terms of available funding as a % of accrued (or projected) value of pension obligations. The financial strength ratio's and asset cover ratio's are heavily dependent on developments in pension premium and benefits as well as on asset performance. The recovery of financial markets in 2005 and 2006 has generated positive returns on assets (based on net investment income; see figure 16) in most reporting countries. However, differences in rates of return and development in return rates between countries are substantial.

A large number of countries (NO, BE, PT, NL, LU, DE) continue to consistently capitalize substantial amounts into their funds. Based on net investment income only, all countries have benefited from strong returns.

These positive trends are also reflected in the adequacy of cover ratios of technical provisions for most countries (see figure 17). Countries that report results for 2006 and 2007 point to an improvement in financial strength, as the number of IORPs that didn’t fulfill its solvency requirements diminished,
based on the steady increase of long term interest rates as well as developments on the stock markets. It should be noted however, that the actuarial bases for calculating minimum technical provisions differ between jurisdictions (e.g. ABO\textsuperscript{18} method, PBO\textsuperscript{19} method, the use of technical interest rate or term structure, or other methods) which in turn means that cross-country comparisons are not very meaningful. In addition, in some countries (FI, NL) the increase in the average cover ratio is, at least partly, the result of recent changes in the actuarial basis for technical provisions or an amendment of the benefit system (such as in NL from projected final-career salary to a lower average-career salary).

\textbf{Figure 17: Average cover ratio (%)}

![Graph showing average cover ratio](image)

\textit{Source: EuroStat}

It can be expected that pension funds allocation might shift away from equities, as a market downturn such as the one seen in 2000 and more recently in 2008 can quickly lead to a sharp fall in funding surpluses. In addition, stock market volatility exposes funds to larger swings in the coverage of their pension obligations, which under IAS/IFRS accounting rules will be reflected in the sponsoring entity’s balance sheet.

\textsuperscript{18} Accumulated Benefit Obligations (ABO) refers to a method for calculating the present value of future pension obligations towards employees on the basis of actual salaries, inflation and mortality rates.

\textsuperscript{19} Projected Benefit Obligations (PBO) refers to method for calculating the present value of future pension obligations towards employees on the basis of prospective assumptions about future salaries, inflation and mortality rates.
In a number of countries pension funds are also exposed to interest rate risk on their fixed income holdings, especially in defined benefit plans. In the case of defined contribution plans, some countries require pension funds to guarantee a minimum return on employer contributions and on employee contributions, so that the sponsoring entity is exposed to the investment risk as well. However, the allocation of assets into equity or fixed income investments varies across countries.

**Major Risks and challenges**

A vast majority of reporting countries identify equity market risk as one of the three most relevant among those listed in the template. The concern for equity market risk is spread over many countries, as a prolonged stagnation or decline of stock prices would affect both DB and DC-based schemes.

Interest rate risk is the second most reported risk. In this case, the concern for a possible renewed downward trend of nominal yields of high-quality bonds may come in particular from countries where DB schemes are most common, as the technical provisions would have to increase more than possible capital gains on the bonds held in the pension fund portfolios. In the UK, also rising inflation is seen as a relevant risk factor, as the combination of rising prices with nominal interest rates would imply the real interest rates to decline substantially, and technical provisions to be increased in order to take into account the mandatory commitments to the indexation of benefits. Improving longevity is seen as the third most common risk factor, in particular in countries where pension funds directly offer annuities.

<table>
<thead>
<tr>
<th>Risk</th>
<th>Number of member States</th>
<th>Member states</th>
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<tbody>
<tr>
<td>Equity market</td>
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<tr>
<td>Interest rate</td>
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<tr>
<td>Improving longevity</td>
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<td>DE, IE, NO, ES, UK</td>
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<td>Risk Factor</td>
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<td>Tax and pension reform</td>
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<tr>
<td>Consumer confidence</td>
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<tr>
<td>Regulatory and reporting changes</td>
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<td>BE</td>
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Fewer countries identified consumer confidence as an important risk factor. This may be particularly relevant where members bear the risk of investment, and the recent financial market turmoil might hinder the trust in the capacity of pension funds to fulfil their pension promises in the long run. In this perspective, financial education and the empowerment of pension fund members in order to allow them to make informed choices on their pensions is going to be one of the most relevant challenges for the years to come. Concerns about consumer confidence are also linked to those regarding tax and pension reforms, in particular as regards the stability or the increase of fiscal incentives in favour of supplementary pensions.
### Annex 1: Country abbreviations

<table>
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<tr>
<th>Code</th>
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Annex 2: Scope of CEIOPS’ pension fund data

The current scope of analysis on the financial conditions and financial stability of the pension fund sector is based on data provided by national competent authorities to EuroStat according to the data definitions prescribed in the Methodological Manual for Pension fund Statistics\(^{20}\). The business statistics on pension funds are developed in the frame of Council Regulation n° 58/97 concerning structural business statistics. This regulation is the main legal reference for the collection, compilation and transmission of EU structural business statistics in the various sectors, including the occupational pension funds sector.

The coverage of the business statistics on pension schemes is generally limited to Pillar II schemes that are linked to a professional occupation. Such schemes usually operate on a funded basis. Moreover, they frequently provide cover for biometric risks (mortality, invalidity and longevity). Occupational schemes are organised either as autonomous pension funds or trusts, non-autonomous pension funds (or book reserve mechanisms) or group life insurance contracts, depending on institutional and traditional differences between countries.

Autonomous pension funds or trusts are established separately from any sponsoring undertaking or trade. They receive the contributions, invest them and pay retirement benefits. Non-autonomous pension funds mainly refer to the book reserve system. The employer undertakes to pay benefits to his employees and makes provision for commitments on the liabilities side of his balance sheet. In the case of group life insurance contract, the contributions are paid to a life insurance company which invests the contributions and pays the benefits. These schemes are excluded from the pension business statistics as they are already covered by the insurance services statistics.

Likewise, Pillar I compulsory social security schemes and Pillar III individual retirement savings are excluded from the scope as these are not covered by the business statistics on pension schemes. It should be noted that not all countries of the EEA operate occupational pension provisions (see annex 1 for an overview of the reporting basis for each country). Data availability varies substantially among the various countries, which hampers a thorough analysis and comparison of the pension market developments between countries.

Austria:
Data includes all occupational pension contributions to Pension Companies covered by the Austrian “Pensionskassen Act”. The Pillar 2 provisions are not compulsory. Contributions cover about 11% of the working population.

Belgium:
Pension fund statistics relate to institutions for occupational retirement provisions, i.e. occupational pension funds and so called "pensioenkassen" for the self-employed.

Czech Republic:
The Czech private pension funds are not occupational based in nature. The beneficiaries can enter in a contract with the pension fund directly regardless of their occupational status.

Finland:
Statistics do not include Finnish statutory pension schemes operated by individual companies/foundations/funds. Statistics only relate to occupational pension funds by Directive 2003/41/EC.

Germany:
The pension funds statistics relate to institutions for occupational retirement provision that fall under the scope of the IORP Directive, i.e. Pensionskassen and Pensionsfonds. Beside these two types of implementing occupational pensions there exist three further types, namely Direktzusage (book reserves), Unterstützungskassen (support funds) and Direktversicherung (direct insurance) that do not fall under the scope of the IORP Directive and are therefore not considered.

Italy:
Data covers autonomous pension funds instituted both as independent legal entities (contractual pension funds) and as pools of segregated assets (open pension funds) set and managed by financial intermediaries. The data does not include book reserve schemes.

Luxembourg:
Pension fund statistics cover pension funds governed by the law of 13 July 2005 relating to institutions for occupational retirement provision in the form of pension savings companies with variable capital (SEPCAVs) and pension savings associations (ASSEPs). The Commission de Surveillance du Secteur Financier (CSSF) is the competent authority for SEPCAVs and ASSEPs.

Netherlands:
Pension fund statistics relate to all Pillar II institutions for occupational retirement provisions.

Norway:
Pension fund statistics relate to institutions for occupational pensions (so-called "pensjonskasser"), and cover both private and municipal pension funds.

Poland
Occupational pension schemes operated in Poland cover:
1. occupational pension fund
2. agreements with life insurance companies
3. agreements with investment fund companies
4. foreign management companies
All information included in the pension funds statistics relates only to occupational pension funds. The activity of the occupational pension funds in Poland is based on similar regulations as the open investment funds.

Portugal:
Data include all occupational pension schemes including funds from the banking and telecommunications sectors established through collective agreements. No figures regarding technical provisions are provided due to the distinctive legal framework under which Portuguese pension funds operate.

Slovakia:
No data was reported for 2003 until 2005 as recent pension system reforms have introduced mandatory funded occupational pensions only as of January 2005.

**Spain:**
All the data relates only to occupational pension funds (by Directive 2003/41/EC) which account for about 40% of the total pension fund sector. In addition, there are also individual and associated pension funds operated in Spain.

**Sweden:**
The Swedish pension fund statistics refers to a special form of “friendly societies” and accounts for less than 10% of the overall non-state related occupational pensions. The remaining occupational pensions are almost entirely covered by life insurance companies.