Impact of the Financial Turmoil

The insurance sector played an important supporting role in the financial crisis by virtue of the role played by financial guarantee insurance in wrapping, and elevating the credit standing of, complex structured products and thus making these products more attractive to investors and globally ubiquitous.[1] In addition, the narrowly avoided collapse of AIG Incorporated (AIG Inc.), viewed by some as the world's largest insurance group consisting of a global financial service holding company with 71 U.S. based insurance companies and 176 other financial service companies, contributed to the severity of the market turmoil in September 2008. Furthermore, growing corporate insolvencies and a negative credit watch outlook caused important dislocation and retrenchment in trade credit insurance markets, which added considerable stress to business-to-business transactions and increased liquidity pressures on firms in an already liquidity-stressed environment, and thus aggravating the effects of the economic crisis.

However, in general, the traditional life and general insurance sectors have largely been bystanders in the crisis, and have been impacted by its knock-on effects, such as the fall in equity markets, declines in interest rates, economic slowdown and decline in credit quality, and, in some cases, counterparty exposures to failed financial institutions. In some respects, aside from the financial guarantee insurance lines that amplified downward pressures in financial markets,[2] and adjustments in trade credit insurance lines that have added stress to business transactions with attendant economic impacts,[3] the insurance sector has arguably helped to provide a stabilising influence in light of its longer-term investment horizon and conservative investment approach.

Key balance sheet and investment indicators

Generally limited direct exposure to toxic assets

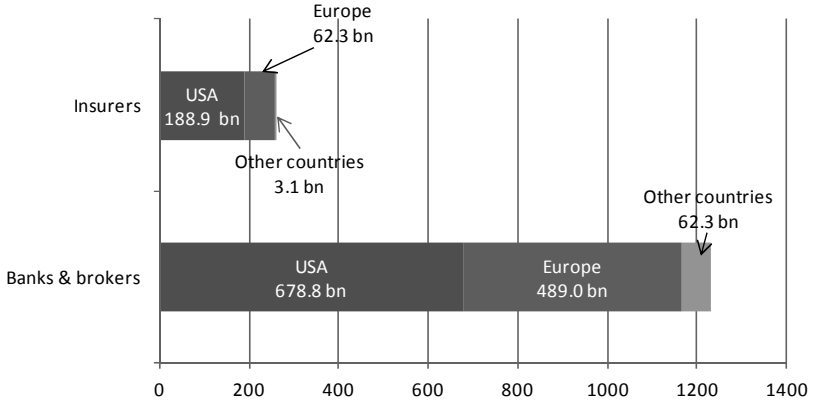
A main channel through which insurance undertakings were affected by the market turmoil was via their asset side investments in equity and debt instruments as well as structured finance products. In terms of direct impact of the crisis, the exposure of insurance undertakings to sub-prime mortgages and related "toxic" assets such as collateralised debt obligations (CDOs) and structured investment vehicles (SIVs), which initiated the current financial crisis, does not appear to have been significant in most OECD countries on the basis of the limited data that has become available. This result appears to reflect, in large part, conservative investment strategies and, to some extent, regulatory requirements such as diversification rules and limitations on investments in alternative investment vehicles.

That said, in some specific OECD countries, certain (re)insurers (particularly life insurers) have had important exposures to sub-prime mortgage and "toxic" products and have therefore had to write down the value of their holdings and recognise material losses (as impairments or unrealised mark-to-market value losses) as the markets for these

products collapsed. Based on aggregated data from Bloomberg, as of January 2010, insurers worldwide have reported write-downs and credit losses of USD 261 billion, compared with USD 1 230 billion in the banking sector. In Europe, the insurance sector reported USD 69 billion of write-downs and credit losses, while the comparable amount for the US is USD 189 billion. As of January 2010, four major insurance groups accounted for 54% of all write-downs worldwide, namely, AIG, ING Groep N.V., Ambac Financial Group Inc and Aegon NV, that recorded write-downs valued at USD 98.2 billion, USD 18.6 billion, USD 12.0 billion and USD 10.7 billion respectively (see Table 1).

Figure 3. **Write-downs and credit losses in the banking and insurance sectors worldwide**

USD billion (as of January 2010)



Source: Bloomberg.

Table 1. **Write-downs, credit losses and capital raised by major insurance companies**

Total since 2007, in USD billion (as of January 2010)

	Writedown & Loss	Capital Raised	Shortfall
Insurance companies			
American International Group (AIG)	98.2	98.1	-0.1
ING Groep N.V.	18.6	24.1	5.5
Ambac Financial Group Inc	12.0	1.4	-10.6
Aegon NV	10.7	4.0	-6.7
Hartford Financial SVCS GRP	9.7	6.4	-3.3
Fortis	9.3	22.7	13.4
Swiss Re	8.5	2.9	-5.6
Metlife Inc	7.2	4.0	-3.2
Allianz SE	7.0	2.0	-5.0
Allstate Corp	6.6	0.0	-6.6
Prudential Financial Inc	6.6	5.9	-0.7
MBIA Inc	5.7	1.0	-4.7
Aflac Inc	5.2	0.0	-5.2
Genworth Financial Inc-CL A	4.8	0.6	-4.2
XL Capital	4.0	2.6	-1.4
CNA Financial Corp	3.1	1.2	-1.9
Zurich Financial	3.1	0.0	-3.1
Other	40.7	14.8	-25.9
Total	261.0	191.7	-69.3
memo item: total US	188.9	127.4	-61.5
memo item: total European	69.0	59.9	-9.1

Source: Bloomberg.

The indirect effects of the crisis – involving large declines in world equity markets from October 2008 to March 2009, changes in corporate spreads and risk-free rates, and developments in the real economy – have been moderate in their impact on the insurance sector but nonetheless became more pronounced in 2008 since the outbreak of the crisis in 2007. These are discussed below.

Balance sheet and investment portfolio trends

In a healthy market environment, it can be expected that industry assets will grow due to continued receipt of premium income, positive reinvested investment returns, stable dividends and share repurchases, debt and share issuance, and, if equity markets are favourable, positive changes in the value of assets. However, in the context of the crisis, the growth in total industry assets of insurance undertakings in OECD insurance markets (for which 2008 data was available) was mixed in 2008. As shown in Figure 4, in nine countries (out of seventeen for which such data was available) total life industry assets fell. Within this category, Australia, Belgium, Finland, Germany and the United States showed the largest drop – in the range of -8% to -50% – with Australia and Belgium reporting the highest decrease in assets in the life segment, down by 14% and 50% respectively in 2008. By contrast, total life industry assets grew exceptionally strongly in Turkey,[4] and strong growth was recorded in Poland and Mexico.

In the non-life sector, the pattern is of more generalised positive growth in industry assets, with only six countries (out of eighteen for which such data was available) experiencing a decrease in their non-life assets. Asset growth was positive or flat for composite undertakings in eight of the nine countries that have provided information.[5]

Generally limited allocation to equity has helped to protect insurers from market volatility

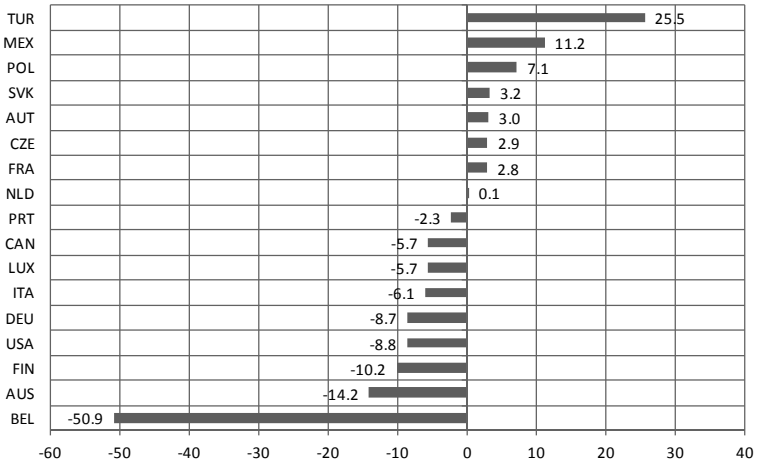
Equity holdings in investment portfolios have been a channel through which the financial turmoil affected insurers and brought about a fall in the value of portfolio holdings. However, this transmission channel appears to have generally been limited for insurers, as equity holdings in many OECD countries do not make up a dominant proportion of insurers' overall investment portfolios, reflecting a downward trend in equity ownership in recent years; that said, there may be cases of insurers within these jurisdictions that have higher equity exposures and thus may have been adversely impacted by equity market declines.

As shown in Figure 5, in most OECD countries that provided information for 2008, bonds – not equity – remain by far the dominant asset class across life, non-life and composite insurance segments, accounting respectively for 67%, 62% and 74%, suggesting an overall conservative stance.[6] There are also OECD countries like Austria, Finland, France, Italy, the Netherlands and Poland that showed significant portfolio allocations to equities, in the range of 23% to 38%.

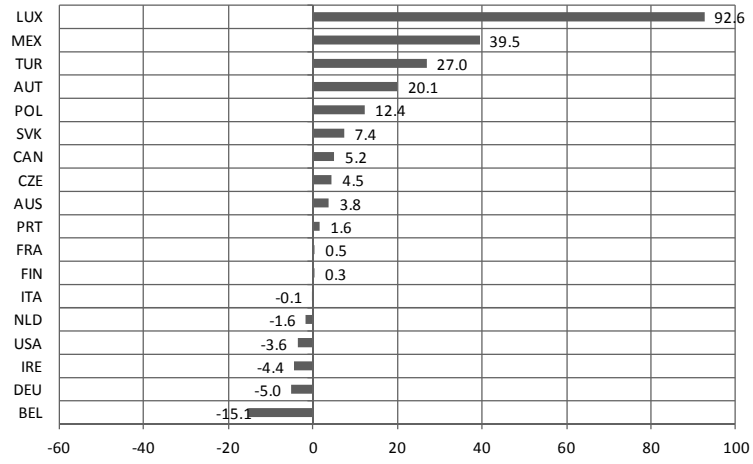
Figure 4. **Annual growth of industry assets by type of segment over 2007-2008 in selected OECD countries**

Percentage

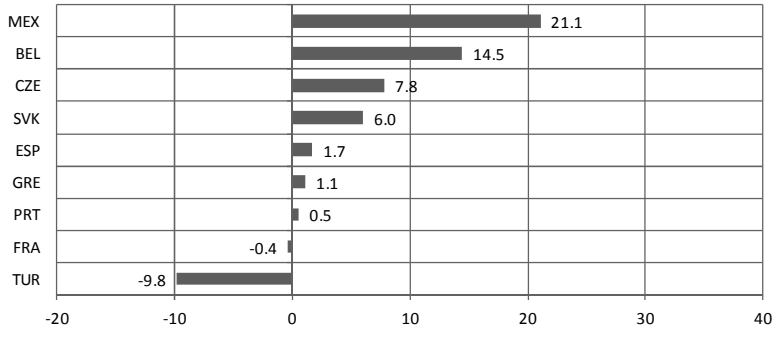
Life



Non-life



Composite



Note: Life segment includes unit-linked.

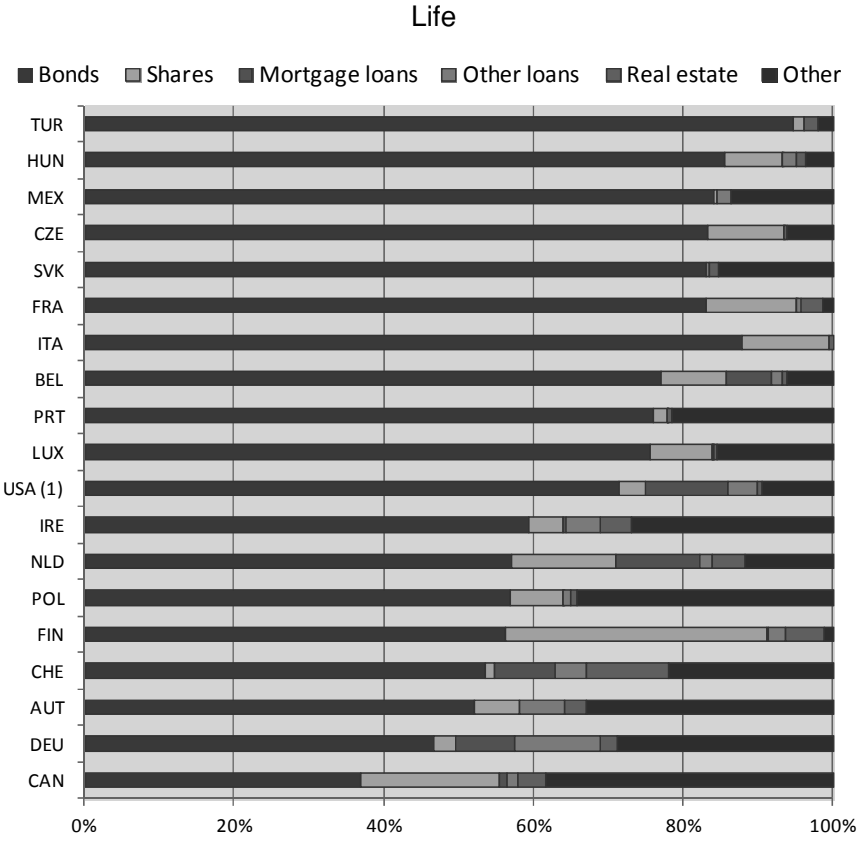
Source: OECD Insurance Statistics.

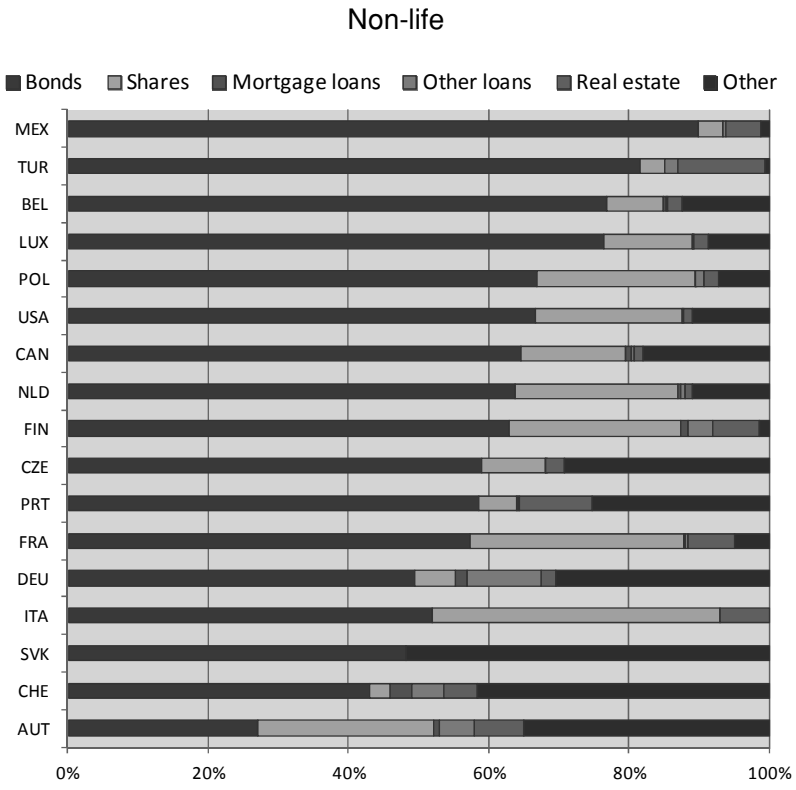
There seems to be a consistent investment pattern among life and non-life undertakings across OECD countries. For most of the countries for which such data was available, life insurance undertakings invest more heavily in bonds than non-life undertakings, respectively 69% and 61% on average (simple average). With respect to investments in shares, non-life undertakings invested on average 15% of their investments in this asset class as opposed to 8% for life insurance undertakings. For example, in Italy, 38.4% of the total non-life portfolio was invested in shares in 2008, as compared to 10.5% of the total life portfolio. Yet, the reverse situation exists (*i.e.*, greater investment in shares by life insurance undertakings when compared to non-life undertakings) in Belgium, Canada, the Czech Republic and Finland.

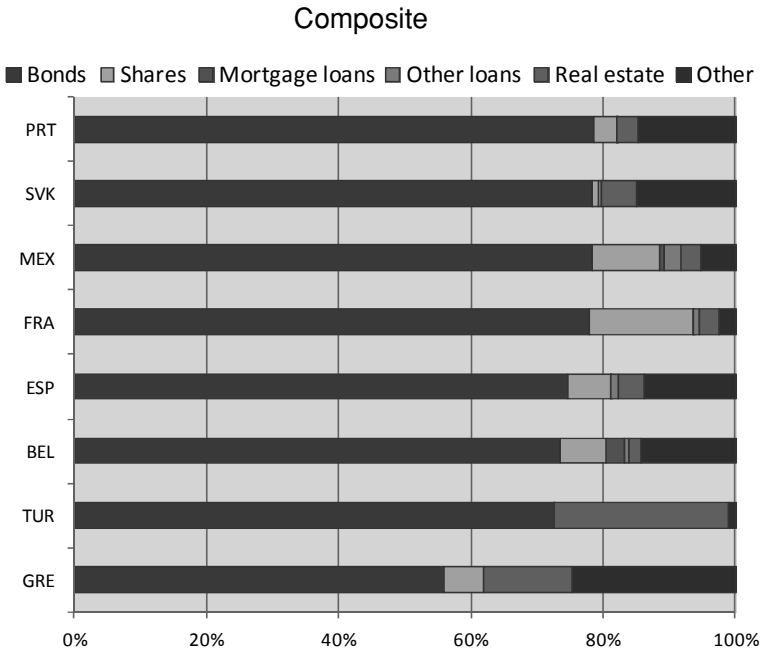
In almost all OECD countries for which such data was available, the weight of equities in portfolios decreased from 2007 to 2008, or increased only marginally (see Figure 6). This may be due to real rebalancing or to a decrease in the weight of equity in the total portfolio owing to the fall in equity prices.

Figure 5. **Direct insurers' asset allocation for selected investment categories by segments in selected OECD countries[7], 2008**

As a percentage of total investments







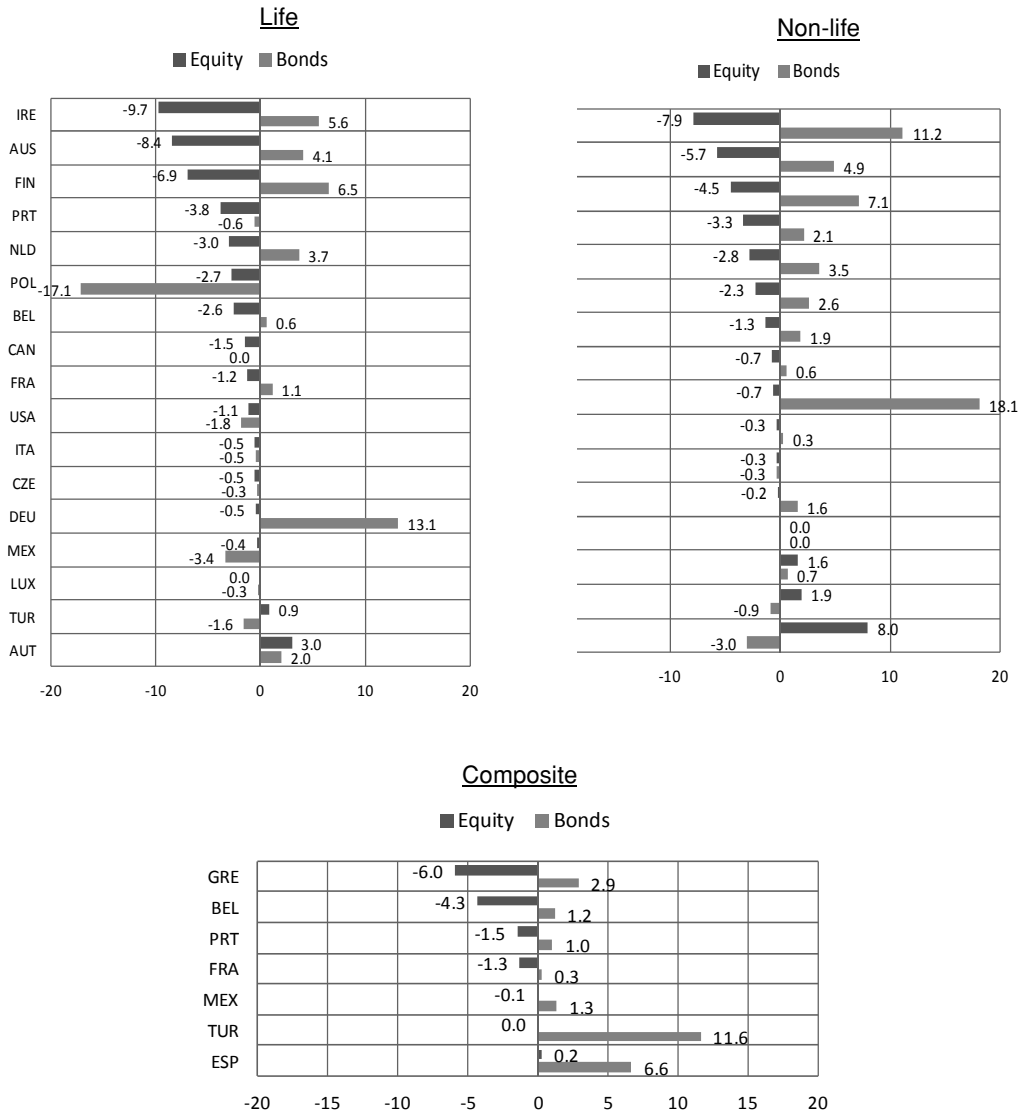
Note: The category of investment identified as 'Other' includes primarily cash, deposits and to a much less extent alternative investments (hedge funds, private equity, and commodities, among others).
(1) "Bonds" includes only long-term bonds. Short-term debt investments are included in "other investments".

Source: OECD Insurance Statistics.

The important role of equity investments in privately held equities in some OECD countries

Six OECD countries out of eleven for which such data was available displayed a share of privately held equities equal or more than half of total equities held by insurers (see Figure 7). This asset class, not traded on an active market, is valued at book value in certain jurisdictions (*e.g.*, Portugal). In the case of long-term assets such as investments in other companies, the book value does not reflect the actual value. Should the value of the company's stock increase over time, the value of the asset remains hidden until the shares of equity are sold and an actual cash flow is realised.

Figure 6. **Variation in equity allocations as a share of total portfolio investment, by segments, 2007-08 in selected OECD countries[8]**
in percentage points

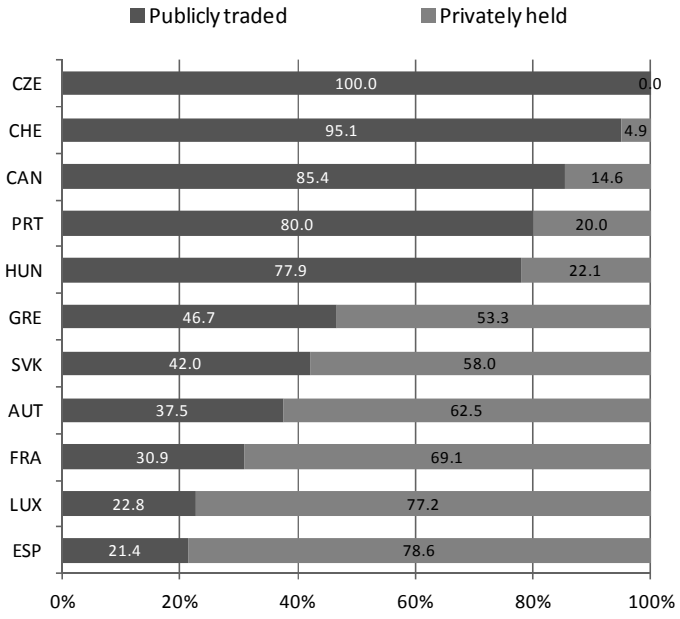


Note: Data refer to direct insurance only.

Source: OECD Insurance Statistics.

Figure 7. **Breakdown of publicly traded vs. privately held equities for all segments[9] in selected OECD countries, 2008[10]**

As a percentage of total equity investments



Note: Data refer to direct insurance only.

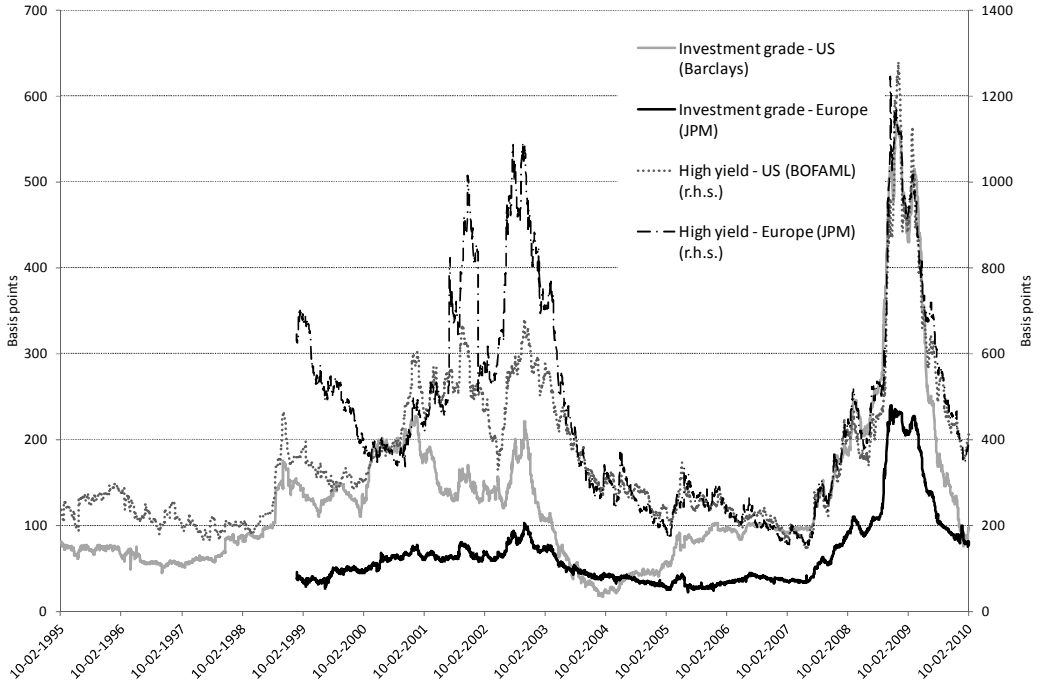
Source: OECD Insurance Statistics.

Fixed-income securities may also be an important source of vulnerability

In comparison with equity, fixed-income securities, which capture a large share of insurer portfolios, have been a source of vulnerability. The financial turmoil, by severely constraining the ability of corporations to access credit and liquidity, negatively affecting economic conditions, and thus increasing the probability of corporate defaults and increasing risk aversion, led to an extremely sharp widening of corporate spreads (see Figure 8). This widening required insurers to revalue a portion of their corporate bond holdings (specifically, those corporate bonds in their portfolios available for trading or sale – which are marked to market – as opposed to those held until maturity) to reflect lowered market values, and thus to recognise losses. The deteriorating environment for corporate bond valuations was partially offset, however, by a fall in risk-free interest rates – reflecting monetary easing – which is generally supportive of valuations of existing corporate bonds. In 2009, corporate spreads improved significantly, which may lead to gains in corporate bond holdings over 2009.

The credit exposures of life and non-life insurers to the banking sector through their fixed-income holdings of bank-issued money market and debt instruments has been a source of continued risk for the insurance sector, but this risk exposure has largely been mitigated by governmental measures to safeguard the safety of the financial system and the banking system in particular, as well as reduced by the improved financial position of the banking industry in 2009.

Figure 8. **Corporate bond spreads, 1995 – early 2010**

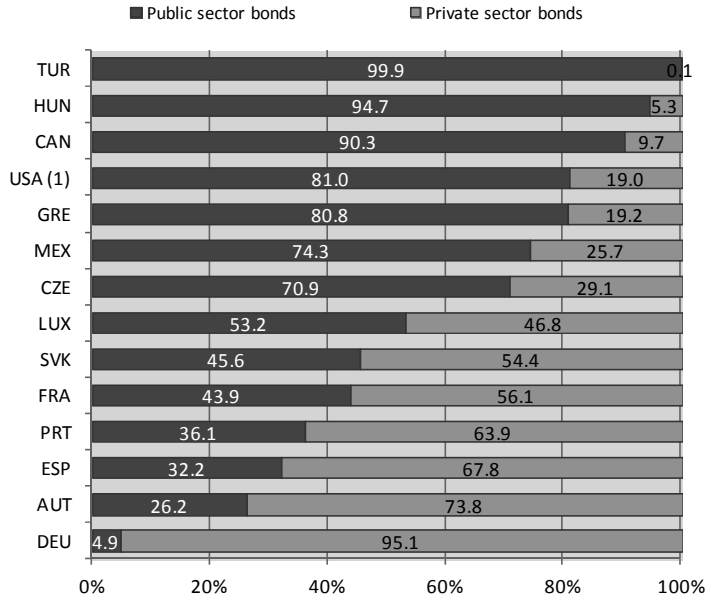


Note: Investment grade spreads are yield spreads over treasury benchmark bonds; high-yield spreads are spreads over investment grade bond yields.

Source: Thomson Reuters Financial Datastream.

Figure 9. **Share of public-sector and private-sector bonds for all segments11 in selected OECD countries, 2008**

As a percentage of total industry bond investment



Note: (1) Data for US include both short-term bonds and long-term bonds.

Source: OECD Insurance Statistics.

The extent of insurer vulnerability to the widening of corporate spreads depends on the extent to which privately issued debt is held by insurers within their investment portfolios. In this context, it is relevant to note that within the "bond" category, the insurance industry in Canada, the Czech Republic, Greece, Hungary, Luxembourg, Mexico, Turkey and the United States, invest a significant share of the bond holdings in bonds issued by the public sector; by contrast, the insurance sector in Austria, France, Germany, Portugal, the Slovak Republic and Spain, display a greater preference for bonds issued by the private sector (see Figure 9).

Poor industry portfolio investment returns in some countries

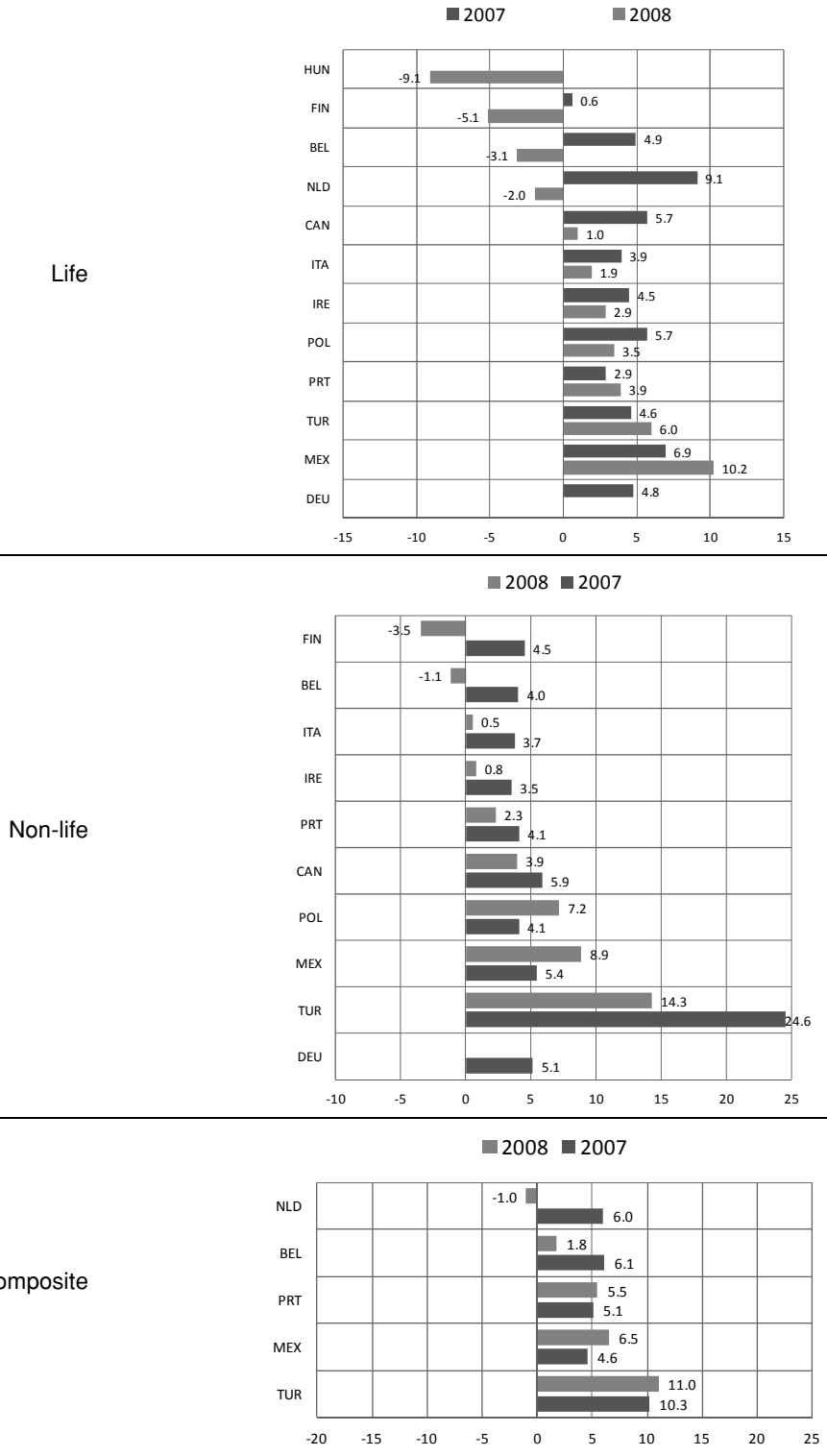
There were only four countries (out of twelve for which information is available) with negative investment return reported in at least one of the segments. Based on this limited data, the picture is that the life and non-life segment experienced a degradation of investment returns in 2008 compared with 2007, with investment returns in the non-life sector showing greater overall stability relative to the life sector, where investment returns in some countries fell substantially in relation to 2007 performance, such as in Hungary, Belgium, Finland and the Netherlands (see Figure 10).

Challenging time for asset-liability management in the context of the crisis

Asset-liability management in the insurance sector has, in the context of the current crisis, been challenging. With the yield environment in the U.S. and Euro area reaching significant lows in late 2008 and early 2009 (see Figure 11), material risks arose on the liability side of insurer balance sheets, particularly for life insurers with interest-rate sensitive liabilities, such as deferred annuities or products with guaranteed yields. Lower government bond yields translate into lower discount rates used for the calculation of these liabilities, thereby increasing the present value of future payment obligations, and increasing reinvestment risk as insurers may find it more difficult in the future to secure fixed-income assets with sufficient yields to cover guaranteed rates. The impact of lower risk-free interest rates may vary from country to country, and from company to company, depending on the precise method used for the calculation of the discount rate. Where the discount rate used for the calculation of liabilities is derived from the yields on the fixed-income assets covering liabilities, and not independently extracted from government bond yields, there will be some offsetting effects on the asset side of the balance sheet.

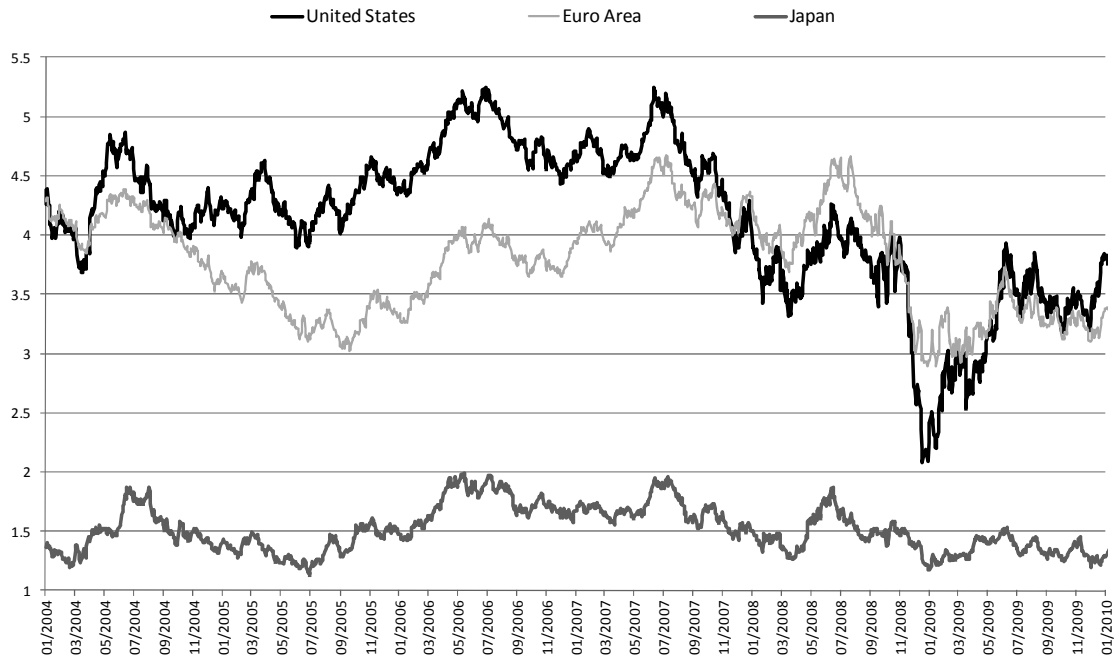
In the United States the yield on the benchmark 10-year US government bond was 3.59% in end-January 2010, against 3.99% in July 2008 (See Figure 11). Since January 2009, the benchmark has displayed a rebound from its extremely low level in late 2008 and early 2009. This development has likely moderately eased strains on the balance sheets of life insurers with interest-sensitive liabilities.

Figure 10. **Average nominal net investment return by type of segment in selected OECD countries, in 2007 and 2008** (percentage)



Source: OECD Insurance Statistics.

Figure 11. **10-year Government benchmark bond yields, Jan. 2004 – Jan. 2010**



Source: Thomson Reuters Datastream.

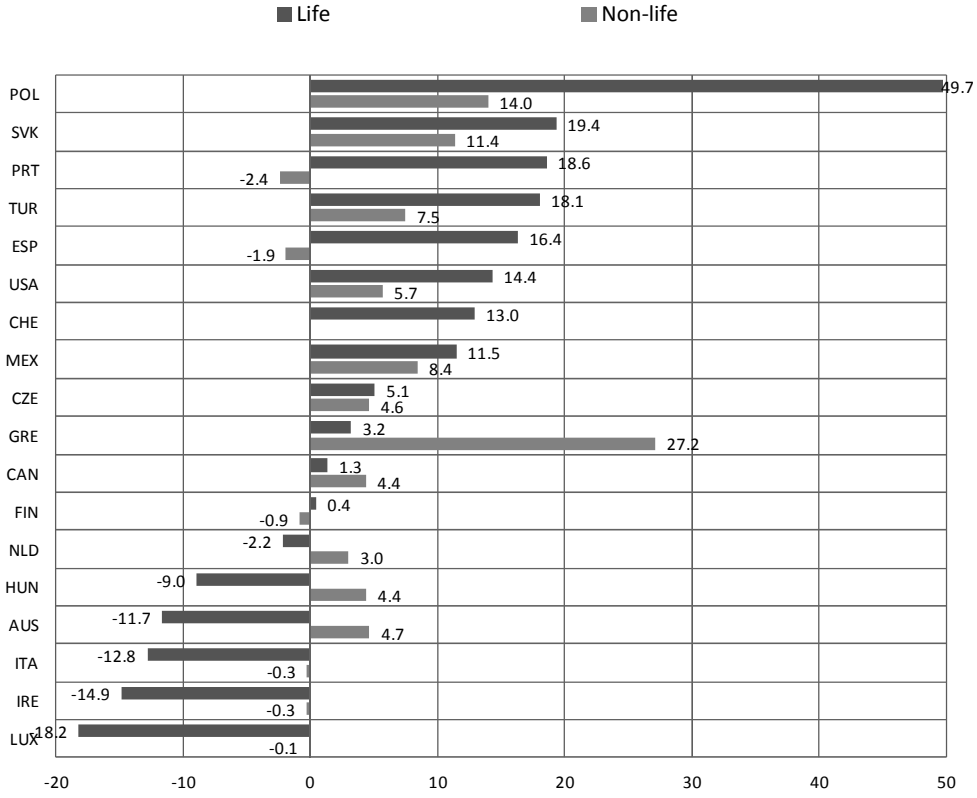
In considering the balance sheets risks of life insurers, it is important to recognise that their balance sheets have, in recent years, grown substantially due to high growth rates in unit-linked insurance products, which are investment-type products similar to mutual funds, where the investment risk resides with the policy holder, not the insurer (see Figure 13 for the proportion of gross premiums in 2008, or for the latest year available, attributable to unit-linked products in selected OECD countries). To the extent that unit-linked products make up a large share of insurer assets, market, credit, and interest rate risks are borne by policy holders, not by the insurers. Life insurers that sold relatively risky products to customers with low risk tolerances may, as a result of the crisis, face increased reputational risk. The Madoff scandal has revealed that unit-linked products of some European insurers had invested directly or indirectly in Madoff funds.

Premiums

Despite the economic slowdown, many OECD countries still displayed robust growth of premiums in the life segment and steady growth in the non-life segment in 2008

For the reporting OECD countries, total aggregate net premiums written in the non-life sector increased on average by 5.1% in 2008 compared to 2007. In the life sector, premiums displayed slightly higher growth; the OECD-weighted average net premium increased by 6.2%. However, five countries, namely, Australia, Hungary, Ireland, Italy and Luxembourg, experienced a sharp drop in their life segment, respectively -11.7%, -9.0%, -14.9%, -12.8%, -18.2%.

Figure 12. **Growth in life and non-life insurance net premiums written in selected OECD countries**
2007-2008 (percentage)



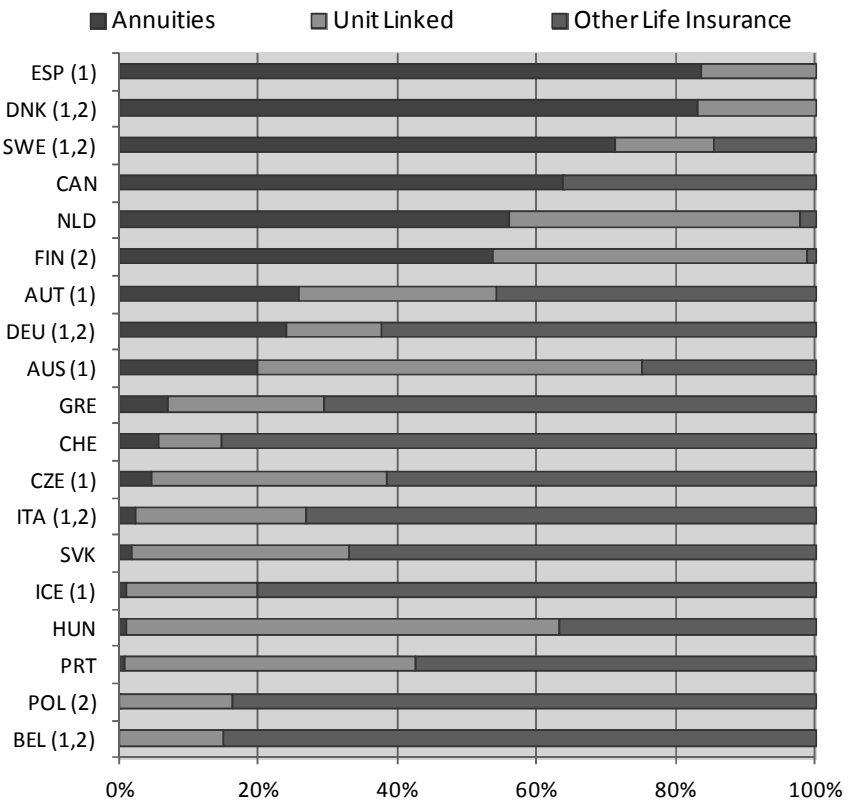
Source: OECD Insurance Statistics.

While detailed 2008 premium data is not yet available, information provided to date by member countries suggests that premium growth in unit-linked business – which has constituted an engine of premium growth and profitability for the life insurance sector in recent years – took the brunt of declines in premium growth in the life sector. With a few exceptions, it generally suffered across OECD countries due to adverse developments and volatility in equity markets. For instance, in France, it has been reported that premiums for unit-linked business fell by 42% in 2008, whereas premium growth for non-linked life insurance business remained stable; in Greece, the drop was reportedly 23%.

More generally, premium growth for life insurance products combining a savings component moderated in some countries in 2008 in light of financial market and economic conditions and heightened competition from bank products. Increased market volatility also contributed to declining sales for variable rate products as consumers shifted their focus to fixed annuities with stable returns. In some countries, the drop in sales of insurance products with a savings component was dramatic; for instance, in Finland, sales dropped by more than 40% in 2008. Moreover, in some countries (*e.g.*, Greece, France, Hungary and Poland), there was an increased trend of surrenders on life insurance policies, which may have reflected attempts to limit losses, liquidity strains facing policy holders, or investment reallocation.

Figure 13. **Total life insurance gross premiums by type of contracts in selected OECD countries, 2008**

Percentage of total life insurance



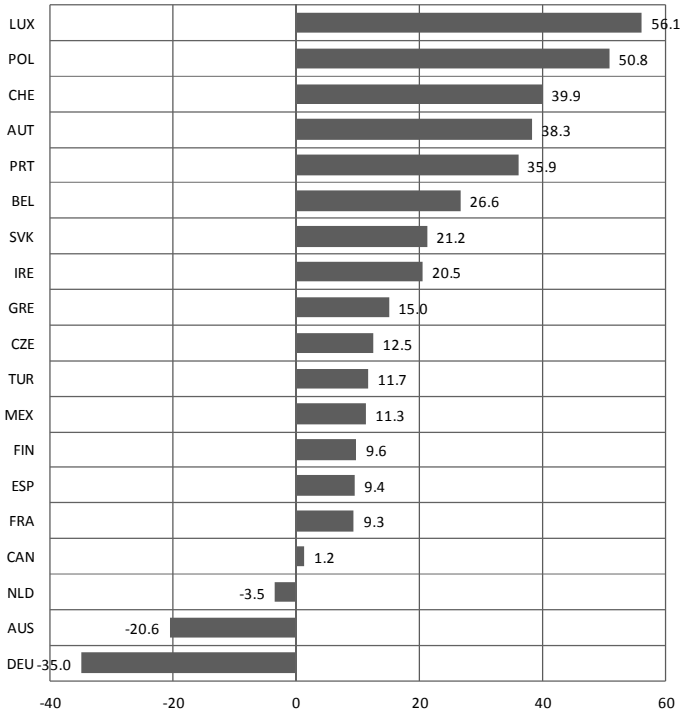
Note: (1) Data refers to the year 2007, (2) Direct business only.
Source: OECD Insurance Statistics.

Claims

Growth in claim payments between 2007-08 was highest in the life segment

On the basis of available data, a fairly sharp increase in gross claim payments, above 10%, occurred in the period in twelve OECD countries out of nineteen for which such information was available. Figure 14 shows four groups of countries. The first group consists of countries for which growth in total gross claim payments were steady in the range from 20% to 56%. This is the case of Austria, Belgium, Ireland, Luxembourg, Poland, Portugal, the Slovak Republic and Switzerland. The second group consists of Czech Republic, Finland, France, Greece, Mexico, Spain and Turkey that exhibited a moderate 2008 growth ranging from 9% to 15%. The third group, comprising Canada and the Netherlands, reported almost no growth or a slight decline in total gross claim premiums, respectively 1% and -3%. Finally, the fourth group consists of Australia and Germany that reported a sharp decrease in total gross claims, respectively -20 and -35%.

Figure 14. **Growth in total gross claim payments in selected OECD countries, 2007-2008**
(percentage)



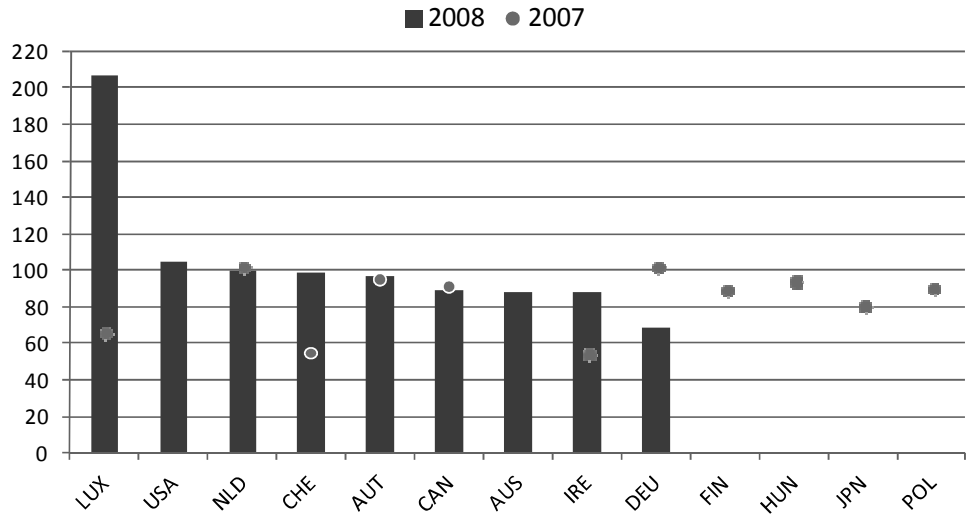
Source: OECD Insurance Statistics.

Combined ratio

The underwriting combined ratio[12] measures core business profitability and allows the sources of profitability to be highlighted. An improvement in the combined ratio can be due to higher premiums, better cost control and/or more rigorous management of risks covered in insurance classes. Typically, a combined ratio of more than 100% represents an underwriting loss for the non-life insurer. A company with a combined ratio over 100% may nevertheless remain profitable due to investment earnings. An improved underwriting performance was observed only in Germany while in Austria, Canada and the Netherlands it remained stable (in the range +/- 5%). Ireland, Luxembourg and Switzerland experienced a substantial increase of their combined ratio (respectively, 33%, 44% and 139%).

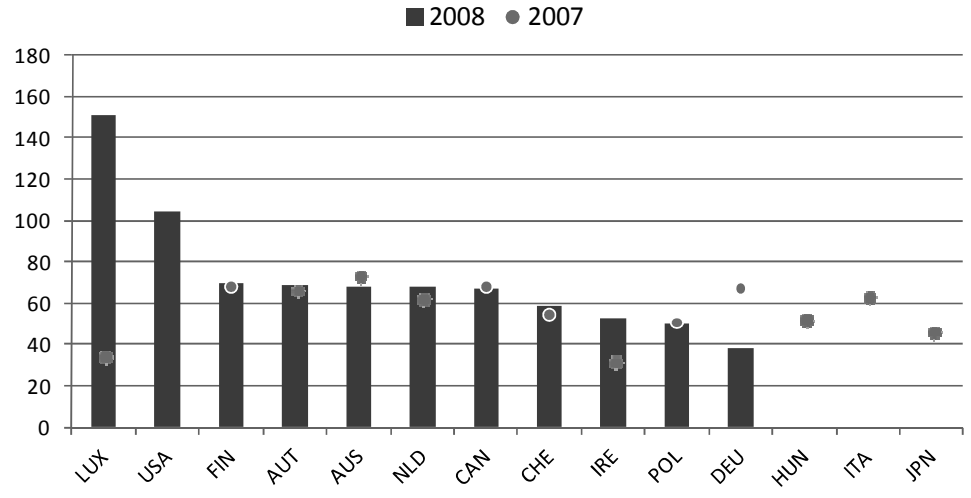
In the non-life segment, the loss ratio[13] improved in Germany, and slightly in Australia and Canada (see Figure 16). Evidence suggests that while in Europe there have been no major catastrophes in 2008, a higher frequency of smaller weather-related events occurred, impacting negatively the loss ratios of major European insurance companies.

Figure 15. **Non-life combined ratio in selected OECD countries, 2007-2008**



Source: OECD Insurance Statistics.

Figure 16. **Non-life loss ratio in selected OECD countries, 2007-2008**



Note: Given uncertainty regarding how countries have reallocated the business of the composite segment across the life and non-life segments and the need to ensure comparability across countries, the loss and combined ratios were not calculated for Belgium, Czech Republic, France, Greece, Mexico, Portugal, Slovak Republic, Spain and Turkey. [Note: The Secretariat is examining this issue to see if it can be resolved prior to publication].

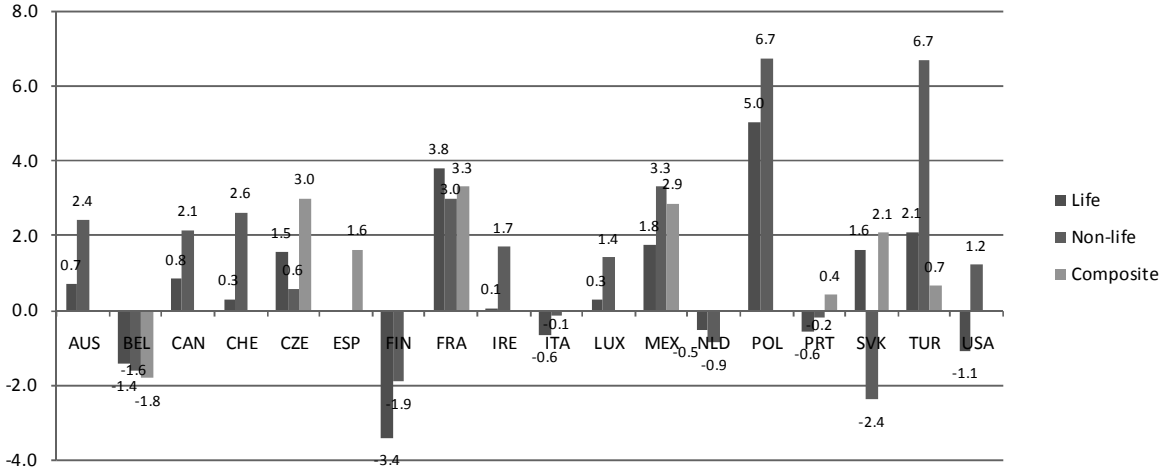
Source: OECD Insurance Statistics.

Profitability

The profitability of the insurance sector was affected by the crisis in 2008

Industry profitability in 2008 in OECD countries (for which data is available) varied across countries and, within countries, across industry segments. Industry-level return on assets (ROA) and return on equity (ROE) have been used as indicators of profitability (at a company level, the former provides an indications of the return a company is generating on the firm's assets, and the latter an indication of the return a company is generating on its owners' investments). In a number of countries, industry ROA in 2008 was positive and, in some cases, relatively elevated, such as in France, Mexico, Poland and Turkey, However, in other countries, industry ROA fell below zero, for instance in Belgium, Finland, and the United States (see Figure 17). Similarly, industry-level ROE performance in a number of OECD countries was strong in 2008. However, there are a few country instances where ROE was significantly negative, such as in the life sector in Italy, Portugal and the United States, while Belgium recorded a sharp drop in all segments (see Figure 18).

Figure 17. **Return on assets (ROA) by type of segment in selected OECD countries, 2008**[(1)]

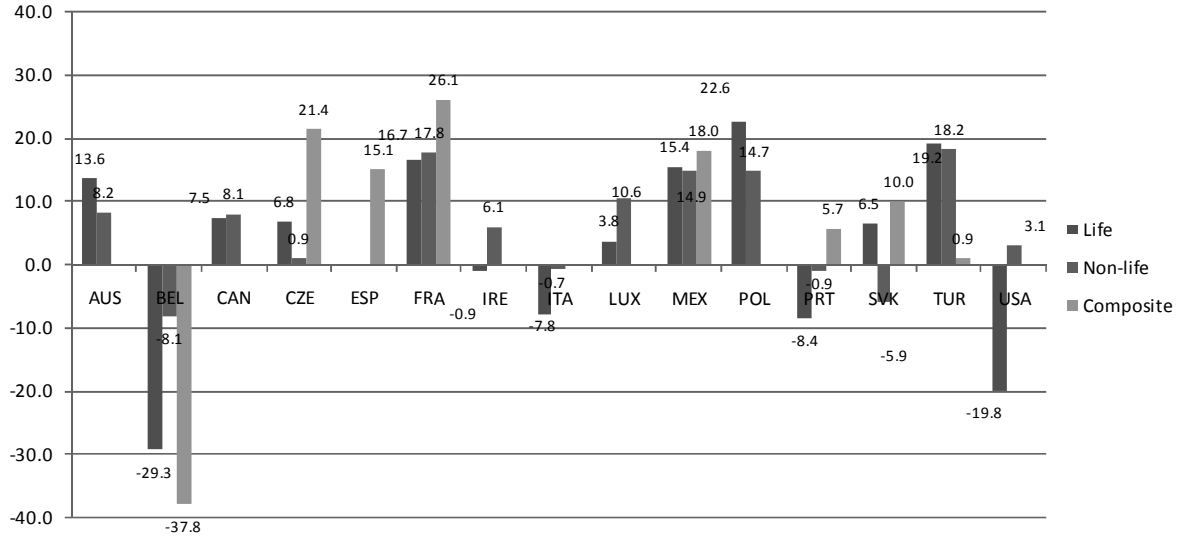


Note: (1) For the life segment, assets exclude unit-linked products. ROA was calculated by dividing segment net income for 2008 by average segment assets over 2007 and 2008.

Source: OECD Insurance Statistics.

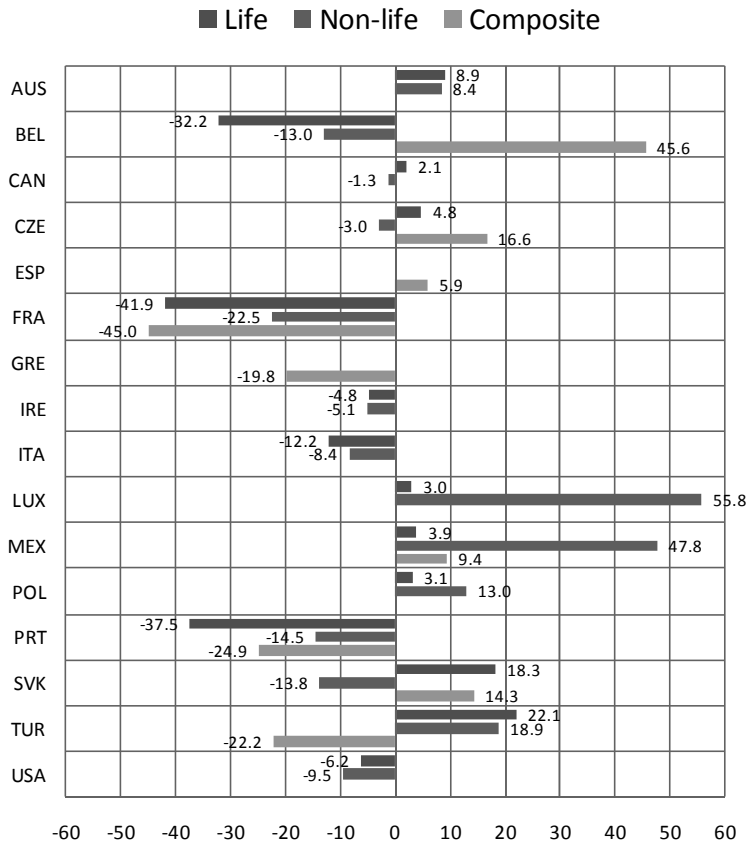
As not all changes in a firm's balance sheet position flow into the income statement, but rather appear as changes in equity, it is helpful to examine changes in equity. This is particularly relevant for insurers since they hold held-to-maturity assets whose changes in value are not, under accounting standards, reflected in income until sale or impairment; instead, mark-to-market gains and losses flow directly into equity. Figure 19 provides a snapshot of changes in industry-wide equity levels from 2007 to 2008. In countries such as Belgium, France, and Portugal, the equity position across segments were severely impacted by the financial crisis, particularly in the life and composite sectors. Other countries, such as Italy, and the U.S., registered material declines, while, in other countries, such as Slovakia, the picture was more mixed. In a few countries, such as Luxembourg, Mexico, and Turkey, the life or non-life industries (or both such as in Turkey) recorded strong positive changes in equity.

Figure 18. **Return on equity (ROE) by type of segment in selected OECD countries, 2008(1)**



Note: (1) ROE was calculated by dividing segment net income for 2008 by average segment equity over 2007 and 2008.
Source: OECD Insurance Statistics.

Figure 19. **Change in equity position (2007-2008)**



Source: OECD Insurance Statistics.

Solvency

The crisis started having an important impact on industry solvency positions in 2008

The solvency margin, which puts available own resources in relation to the own resource requirement, shows that most countries, for which such information was available as of December 2008, still display solvency buffers over minimum statutory solvency requirements (see Table 2). However, there are countries in which the market turmoil and economic crisis had a significant impact on industry solvency position in 2008.

For instance, available solvency levels approached minimal levels in the life segment, for instance in Spain and, to a lesser extent, France, Italy, and Portugal. Table 1 (see earlier) shows the capital that has been raised by publicly traded insurers to replenish capital and raise solvency buffers. Given differences among countries (particularly outside the EU) in the calculation of solvency requirements, it is difficult to perform international comparisons of industry solvency levels.

Table 2. **Solvency margin[14] by type of segment in selected OECD and non-OECD countries**
2007-2008

Country	Life insurance		Non-life insurance		Composite undertakings	
	2007	2008	2007	2008	2007	2008
AUS	..	..	201.9	185.9	..	..
AUT	163.9	202.3	434.2	539.6	..	..
BEL	160.4	186.5	394.5	451.1	214.0	207.9
CAN	222.4	225.6	240.1	236.4	..	..
CHE	..	201.8	..	325.3	..	..
CZE	284.5	..	393.8	..	..	..
DEU	207.2	..	308.4	..	..	..
ESP	198.1	112.6	342.6	321.2	..	..
FIN	359.0	242.8	372.6	287.3	..	..
FRA	259.5	168.9	705.2	450.1	262.6	139.4
HUN	..	202.2	..	..	..	..
IRE	296.0	217.4	359.4	368.7	..	..
ITA	191.0	170.5	274.2	263.1	..	..
LUX	158.6	164.5	295.4	289.2	..	..
MEX	222.5	290.4	161.4	170.4	178.1	172.4
NLD	262.6	..	275.0	..	..	..
POL	347.3	285.8	667.0	642.7	..	..
PRT	148.4	139.6	221.0	200.0	165.4	154.3
SVK	247.2	363.8	672.6	608.0	270.3	311.6
TUR	295.6	309.4	140.0	148.0	366.4	351.0

Note: There are no composite undertakings in Denmark, Finland, Germany, Iceland, Japan, Korea, Poland, and the United States. In Turkey, composite companies are no longer permitted to operate; therefore, composite companies refer only to those non-life companies that still have outstanding life insurance policies in their portfolio.

Source: OECD Insurance Statistics.

Impact of the crisis on credit insurance markets

Dislocation and retrenchment

The financial crisis, and the economic crisis that has followed, has had an important impact on specific lines of non-life business, such as director and officer liability and professional liability, given the relationship between rising corporate insolvencies and ensuing litigation; these insolvency-related lines of business have reported large increases in premiums and some reduction in reinsurance capacity.[15] Possibly the greatest impact, however, has been on the availability of insurance used to facilitate commercial relationships, namely trade credit insurance (hereinafter called "credit insurance"). Credit insurance offers protection to firms supplying goods and services on credit against non-payment by their clients, due generally to client insolvency or default. Credit insurance has been referred to as the "life insurance" of companies: "Credit insurance…protects one of the key assets of the balance sheet, which is trade receivables".[16] This assertion is especially true as bank credit may depend on the existence of a credit insurance policy.

The implicit or explicit provision of credit by sellers to buyers is a common practice in OECD countries. For instance, in Spain, it is reported that 60% of GDP involved the extension of trade credit to buyers, with credit insurance coverage estimated to be 30% of the total volume of trade credit, or roughly EUR 200 billion.[17,18] In France, credit insurance covered, in 2008, roughly one quarter of company receivables in France, or approximately EUR 320 billion,[19] with a majority of risks covered by credit insurance linked to small and medium-sized companies. In the U.K., in 2008, credit insurers insured over £300 billion of turnover, covering over 14,000 UK clients in transactions with over 250,000 U.K. businesses. A private-sector credit insurer, Coface, has noted that for every 5 euros of short-term credit given to firms, 1 euro comes from banks while 4 euros come from suppliers.[20]

According to Marsh, total annual premium income for credit insurance in 2008 was over USD 8 billion, with 90% of business conducted by three major firms, Euler Hermes (36%), Atradius (31%), and Coface (20%).[21] In the past five years, the exposure levels of these credit insurers reportedly grew as they competed for market share through price competition that involved the assumption of increasingly marginal risks.[22] With the financial crisis introducing significantly worsened credit conditions in 2008 and early 2009, resulting in a rising number of payment defaults and corporate insolvencies, credit insurers started facing fast-rising claims, with loss ratios rising to 73% at Coface, 78% at Euler Hermes, and 99% at Atradius in 2008; these negative trends continued in early 2009 with Euler reporting an 88% loss ratio and Coface 116% in the first half of 2009.[23] In order to contain rising losses, the major credit insurers began reducing their exposures to specific countries, sectors, and buyers, leaving suppliers with either reduced levels of coverage or, in some cases, a full withdrawal of coverage[24]. Some industry sectors and countries reportedly became "off-cover" and loss-making policies experienced significant premium increases.[25] The sectors considered to be difficult to insure included construction, retail, commodities, electronic consumer goods, automobiles, and transport.[26] Moreover, multi-year credit insurance policies became difficult to find.[27]At the same time as coverage was being reduced, there was increased demand for credit insurance products given the desire of suppliers to control their risks in an increasingly turbulent economic and financial environment.

Concerns have been raised in a number of OECD countries about the "domino effect" of bankruptcies among suppliers caused by the reduction or withdrawal of credit

insurance, threatening supply chains throughout the economy. Buyers slip into bankruptcy in the absence of trade credit; meanwhile, suppliers cut back on sales as a means of managing credit risks, further restricting trade credit and creating spillover problems, while other firms may still continue to do business and provide trade credit to high-risk buyers, but then potentially find themselves in bankruptcy as a result. Furthermore, some banks may be cutting back lending to small businesses with reduced or withdrawn coverage[28], thereby reinforcing the domino effect. Concerns about the domino effect led to calls for government intervention in credit insurance markets (particularly export credit insurance), which resulted, in some countries, in the creation of special temporary programs, mainly in support of export-oriented trade. For instance, the Confederation of British Industry called on the U.K. government or Bank of England to be the domestic credit "insurer of last resort" as a temporary measure.[29]

Interpretation of statistical data

Analysis based on balance sheet data has its limits, because shifts in risk exposure through the use of off-balance sheet instruments (*e.g.* interest rate swaps) or within the bond portfolio (*e.g.* towards longer-term bonds) may not be visible. Due to the lack of consistency in accounting standards followed across countries, some caution should be taken when interpreting the data. This complicates risk exposure assessments. Moreover, allocations to alternative investments are typically lumped together with "other investments". For such reasons, assessment that draws from official administrative data could be usefully supplemented by evidence from additional sources such as micro data from major insurance companies worldwide.

Table 3. **Asset valuation methodologies across countries**

Country	Valuation methods (as of May 2009)
Australia	Mark-To-Market
Austria	Book value
Belgium	Book value
Canada	Mark-To-Market
Czech Republic	Mark-To-Market
Finland	Mark-To-Market
France	n.d.
Greece	n.d.
Germany	n.d.
Hungary	Book value
Italy	Book value
Japan	Mark-To-Market
Mexico	n.d.
Netherlands	n.d.
Poland	n.d.
Portugal	Mark-To-Market
Russian Federation	n.d.
Slovak Republic	Book value
Spain	Book value
Turkey	Mark-To-Market
United States	n.d.

Conventional signs

n.a.: not applicable

n.d./..: not available

Notes

1. For further details on the role of monoline insurers in the financial crisis, see Sebastian Schich (2008), "Challenges Relating to Financial Guarantee Insurance", *Financial Market Trends* Vol. 2008/1, OECD, Paris.
2. See Sebastian Schich (2010), "Insurance Companies and the Financial Crisis", *Financial Market Trends* Vol. 2009/2, OECD, Paris.
3. See section on the *Impact of the crisis on credit insurance markets*, at end of Part A.
4. Financial data on pension undertakings operating solely in the retirement branch is excluded from all data on Turkish insurers.
5. In Turkey, composite companies are no longer permitted to operate; therefore, composite companies refer only to those non-life companies that still have outstanding life insurance policies in their portfolio.
6. Based on simple, unweighted averages.
7. Excluding assets linked to unit-linked products sold to policyholders.
8. Excluding assets linked to unit-linked products sold to policyholders.
9. Life, non-life and composite.
10. Excluding assets linked to unit-linked products sold to policyholders.
11. Life, non-life and composite.
12. Combined ratio = "Loss ratio" + "Expense ratio", where Expense ratio = (Gross operating expenses + commissions) / Gross earned premiums.
13. In order to be able to compare figures across countries, a simplified calculation of the loss ratio was used, as follows: gross claims paid as percentage of gross written premiums (the latter used as a proxy for gross earned premiums).
14. Solvency ratio (in %) = (available solvency capital / required solvency capital) x100. The purpose of the table is to highlight trends within a country, not across countries, given differences in solvency regulation.
15. See, for instance, *Casualty Specialty Update*, Guy Carpenter, September 2009, p. 5.
16. "What is trade credit insurance?", Adeline Teoh, *Dynamic Export*, 24 April 2009.
17. "Unas 45.000 empresas se beneficiarán de los avales de seguro de crédito del Consorcio de Compensación", Europa Press, 27 March 2009, from *www.lukor.com*
18. "Consorcio de Compensación de Seguros avalará operaciones de seguro de crédito, con un mínimo del 5%", Europa Press, 27 March 2009, from *www.lukor.com*.
19. See Communique de presse, "Dispositif de soutien et d'accompagnement à l'assurance crédit", 27 novembre 2008 (from *www.minefe.gouv.fr*)

20. *RiskAssur – hebdo*, 30 March 2009.

21. See *Trade Credit Insurance and the Global Credit Crisis* (Marsh, September 2009), p.1 (see global.marsh.com).

22. Ibid, p.1.

23. Ibid, p.1; Coface press release, "Coface continues to play its role, supporting companies despite the crisis", 4 September 2009 (see *www.coface.com*).

24. In Spain, for instance, in Spain, for instance, it is reported that 15% of Spanish firms lost their credit insurance coverage during the first 9 months of 2009 (see "El 15% de las empresas españolas perdió su seguro de Crédito", Inese, 30 October 2009, from *www.inese.es*).

25. Ibid, p. 2.

26. Ibid, p. 2.

27. See footnote 16.

28. "Credit insurance difficulties threaten banks' lending", *Insurance Daily*, 17 December 2008.

29. See CBI press release, "CBI calls for immediate government action to protect jobs", 24 November 2008 (see *www.cbi.org.uk*).

Governmental and Supervisory Responses to the Crisis in the Insurance Sector

Public authorities, at the outset of the crisis in mid-2007, focused on the liquidity positions of banking institutions given the remarkable and unprecedented seizure of international interbank lending markets in August 2007 and the sudden high risk aversion displayed by capital markets toward banking institutions due to concerns about bank exposures to sub-prime mortgage assets and the ability of some banks to manage their funding and liquidity risks. Central banks responded with the provision of large amounts of liquidity to the banking system.

By contrast, insurers, due to the nature of their assets and liabilities (in the life sector, there is a longer-term horizon and often charges associated with early surrenders of policies; and in the non-life sector, payment of liabilities is linked to the occurrence of an insured event), and ongoing premium earnings, were not subject to the immediate severe liquidity stresses affecting banks but nonetheless were affected by the broader shutdown in money markets. In addition, and more importantly, concerns were raised, given the high rate of growth of securitised markets and credit risk transfers in recent years, about the potential size of insurer exposures to sub-prime assets and derivative instruments referenced to such assets or exposures.

Governmental authorities and insurance supervisors therefore responded promptly to the crisis and began heightened monitoring of developments and sought to assess the size of insurer exposures to "toxic" and other sub-prime mortgage assets and derivative products linked to these assets. This intense monitoring has been ongoing since the outbreak of the crisis and constitutes one of the key elements of the governmental response to the crisis in the insurance sector. At the supervisory level, more frequent and detailed data have been collected from insurers, with a special focus on structured products such as collateralised debt obligations, asset-backed securities, and counterparty exposures; supervisory authorities have required insurers to conduct stress testing and scenario analysis; strong supervisory attention has been paid to the financial condition and risk management practices of insurers, particularly the large financial groups and conglomerates; there has been regular reporting to Treasury ministries; and special task forces have been established to facilitate coordination within and across governmental agencies.

In light of the stresses facing the banking system, and the desire to have arrangements in place to ensure that financial institutions buffeted by the crisis could continue to have access to necessary liquidity or capital as appropriate, governments throughout the OECD, in coordination with central bank authorities in some cases, have established special financial market stabilisation programmes. These programmes have typically addressed two key concerns: one, the issue of liquidity arising from market disruptions, through the provision of mechanisms for short-term financing, guarantees of debt issuance, or creation of special inter-institutional lending facilities, among others; and the