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# Insurance Companies and the Financial Crisis

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*The current financial crisis may primarily be a banking crisis, and the solvency of the insurance sector as a whole does not appear to be threatened. Nonetheless, insurance companies have been affected, and in mostly adverse ways. For many insurers, direct exposure to the epicentre of the crisis, the US mortgage market, and to related securities appears to have been limited. But the financial crisis has nonetheless had an increasingly visible impact on the insurance industry, primarily through their investment portfolios, as the crisis spread and financial market valuations and the outlook for real activity deteriorated significantly. Also, a number of concentrated exposures to credit and market risks have been revealed, including in US mortgage and financial guarantee insurance companies, as well as in parts of certain other insurance-dominated financial groups. Thus, while insurers as a group may have cushioned rather than amplified the downward pressures during the financial crisis, some clearly have added to downward pressures. Financial instruments that were at the core of difficulties served an insurance function and, thus, it is not so surprising that some institutions from that sector have been affected by the crisis on one or the other side of their balance sheets.*

* This article was prepared by Sebastian Schich, Principal Administrator in the Financial Affairs Division of the Directorate for Financial and Enterprise Affairs. It is part of a *special report on the impact of the financial crisis on the insurance sector*. The article is a revised and updated version of a paper that the author prepared for and presented at the meetings of the Working Party of Governmental Experts on Insurance (WPGEI) of the Insurance and Private Pensions Committee (IPPC) in March 2009 and the IPPC itself in July 2009. The present article takes into account the discussions at these meetings and written comments received from delegates. It was also submitted for reference at the meeting of the Committee on Financial Markets in early October 2009. The article was released in October 2009. This work is published on the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Organisation or of the governments of its member countries.

## EXECUTIVE SUMMARY

For many insurers, the *direct* exposure to the epicentre of the crisis, the US mortgage market, and to related securities appears to have been limited. But the financial crisis has nonetheless had an increasingly visible impact on the insurance industry, primarily through their investment portfolios, as the crisis spread and financial market valuations and the outlook for real activity deteriorated significantly. The financial crisis may primarily be a banking crisis, and as insurance industry representatives have regularly emphasised, the solvency of the insurance sector as a whole does not appear to be threatened. Nonetheless, companies from that sector have been affected, and in mostly adverse ways. A number of concentrated exposures to credit and market risks have been revealed, including in US mortgage and financial guarantee insurance companies, as well as in certain other insurance-dominated financial groups. Beyond these immediate issues related to the financial health of insurance sectors and companies, the crisis has clearly demonstrated that protection against *systemic* risks should also include monitoring and mitigating risks in the insurance sectors and companies.

Even so, the evidence available so far suggests that the role of the insurance function in this financial crisis has had a stabilising rather than a destabilising influence on the system as a whole (notwithstanding that it may be too early to write a proper *post mortem*). Insurance companies are large investors and they (especially life insurers) typically have longer-term investment horizons than several other financial institutions such as banks. They thus have the capacity to hold a relatively large part of their investments to maturity, which helps the system withstand short-term shocks. In contrast, some other types of market participants have had to sell into falling markets as a result of leverage, liquidity, regulatory and other considerations.

That said, the picture is not as rosy if one zooms from the aggregate picture into specific segments of the insurance sector. In the case of a number of insurance companies, especially those involved in activities traditionally associated with investment banks, valuation and rating pressures have been very significant. These pressures, in turn, have had repercussions that have tended to amplify downward pressures in financial markets during the crisis. Perhaps the most egregious example is afforded by the financial guarantee insurance sector, where subsequent downgrading of the various entities operating in this sector led to waves of downward pressures on market valuations of the securities “wrapped” by these entities and present in the portfolios of many other financial institutions.

Such activities had also contributed to the build-up of imbalances before the crisis. Financial guarantors elevated the credit ratings of complex structured financial instruments, making these products attractive to more conservative investors (including some other insurance companies). Also, the participation of insurance companies as counterparties to investment and commercial banks in credit default swap transactions enabled the latter to hedge their credit risks, thus permitting them to continue to expand their securitisation activities, including in the form of collateralised debt obligations involving sub-prime mortgage-related debt.

What is often less noted is the fact that the financial instruments used in the massive credit risk transfer prior to the financial crisis have had at their core, in many cases, insurance-like innovative financial instruments, that is credit default swaps. Granted, insurers themselves may not have been frequent counterparties to these transactions, as the capacity of these companies to engage in such transactions is

severely restricted by regulation. But the crisis has shown nonetheless that, despite such constraints, some types of insurance companies actually accumulated significant exposure to credit default derivatives on one or the other side of their balance sheets.

In part, the various caveats attached to the overall positive role that the insurance function may have played in this crisis are related to the expansion into investment-bank-like activities of financial companies that conduct insurance business. In the past, different types of financial activities have often been combined under one company's roof and such combinations have often been defended on the grounds of the scope economies associated with the more diversified revenue stream of the group as a whole. But the weight of the empirical evidence suggests that, in crisis situations, asset returns turn out to be more closely correlated than during normal times and more so than has been expected and built into risk management models. As a consequence, the adequacy of the buffer for the group as a whole, e.g. in terms of capital cushion, tends to disappoint as well.

Moreover, such structures can become very complex. An example is American International Group (AIG), which was viewed by some observers as the world's largest insurance company.[1] It was actually quite a complex large financial group, consisting of a global financial service holding company with about 70 US based insurance companies and another more than 170 other financial service companies. Given the company's role in a wide range of financial markets, the volume of business written and in particular the complexity of interconnections created (especially through credit default swaps and securities lending), AIG appears to have become an important counterparty to systemically important banks, thus making the company itself systemically important. The opacity of its structure appears to have hindered the ability of supervisors and stakeholders to properly understand the risks facing the group. The example of AIG has added to the accumulating empirical evidence that specific incentive problems could arise in complex financial groups when different parts of the group pursuing different activities (and generating different risk profiles) either use the same capital base or when some parts of the groups either explicitly or implicitly benefit from capital raised via less risky members of the group.

# INSURANCE COMPANIES AND THE FINANCIAL CRISIS

## I Introduction

The purpose of the present paper is to discuss vulnerabilities in selected segments of the insurance sector as well as to identify specific issues related to the role of the insurance sector in the current financial crisis. The paper is part of a special report on the financial crisis and private pensions and insurance policies to be included as part of the "OECD Strategic Response to the Crisis" and it provides a framework for the analysis in that report.

At the outset, it should be noted that while financial guarantee insurance companies in the United States and the company AIG have attracted considerable attention in the press and are described in somewhat more detail in this paper, problems have not been limited to US-based entities. Other notable examples include insurance companies in Europe.

The financial crisis may be a banking crisis, as insurance industry representatives have regularly emphasised, and the solvency of the insurance sector as a whole does not appear to be threatened. Nonetheless, insurance companies have also been affected, and in mostly adverse ways. The exposure of most insurance companies to the significant deterioration in global financial markets has been primarily through their investment portfolios. This is not surprising as the assets are largely held in bonds and stocks, which simultaneously experienced episodes of significant valuation pressures during this crisis.

Further to these widespread (although mostly limited) pressures on asset portfolios of many life and non-life insurance companies, a number of *concentrated* exposures to credit and market risks have been revealed, however, including in mortgage and financial guarantee insurance companies, as well as in at least one insurance-dominated financial group and one large reinsurance company that took on significant amounts of credit risk.

The remainder of this note first discusses selected aspects of one type of financial instrument at the core of the risk transfers prior to the crisis (*i.e.* a credit default swap) in section II, and developments in selected insurance sectors in section III, before drawing some preliminary lessons regarding the role of insurance sectors in the current financial crisis (section IV). Section V concludes.

## II An insurance-like product at the core of the risk transfers preceding the crisis

*Different views exist regarding the role of the insurance sector*

Different views exist regarding the role of the insurance sector in the context of this crisis, reflecting among other things differences in the interpretation given to some financial contracts that were at the heart of the recent financial crisis. One view, which is shared among at least several insurance industry representatives, is illustrated by the following statement:

> *There are no indications whatsoever that insurers have contributed to the systemic issues that many banks are facing today. Insurers have not originated and repackaged subprime mortgages. They did not act as major investors in mortgage-based financial instruments. To the contrary, the insurance industry displayed resilience in the face of adverse market conditions and was in a position to absorb market volatility as an institutional investor with a long-term perspective. In this sense, the insurance sector acted as a stabilising factor at a time of considerable stress in the global financial system.*[2]

Perhaps at the other end of the spectrum of views is that expressed by the Chief Executive of the US-based insurance company Allstate, as quoted with the following argumentation:

> *It was, after all, an insurance product that contributed to the risk that almost brought down the global economy. It should be no surprise that a big insurer like AIG would be a major issuer of credit default swap. What is surprising is the claim that insurance did not contribute to the recent market failures, and therefore insurers don't need to consider how to prevent them from happening again.* [3]

*Banks' business models have changed fundamentally, increasingly shifting towards the originate-to-distribute mode*

While the discussion about the causal factors for the crisis is ongoing, there is broad agreement that a number of different factors have been at play, not just a single one. Having said that, most commentators agree that the fundamental change in the bank business model that occurred during the last decade or two is *one* of the significant causal factors: banks, rather than holding loans until maturity on their own balance sheets, instead focused on originating and distributing risks such as credit risks. Such a change in business model was accompanied by the spreading of innovative financial instruments.

There has been a long-standing debate on the advantages and disadvantages of this new business model. It certainly permitted a wider spread of risk, away from bank balance sheets and towards portfolios of other entities, perhaps better able, but more likely just more willing, to bear the additional risk. In any case, with hindsight it is clear that too much additional risk has been created in that process, with indebtedness rising significantly in many sectors of the economy, including in particular in household sectors to levels that proved to be unsustainable.

***The capacity of banks to change their business models depended on the availability of credit risk transfer instruments and on investors willing to add them to their portfolios***

What is sometimes overlooked in this context is that the capacity of banks to change their business models as described depended on the availability of credit risk transfer instruments and on investors willing to add them to their portfolios. Some insurance companies, as large investors in international financial markets, have added credit risk to their portfolios, like many other investors, while other insurance companies have provided enhancements that made these instruments more attractive for many investors.

***Indeed, the massive transfer of credit risk has at the core relied on an insurance-like financial instrument***

Another aspect that is often overlooked is that the massive transfer of credit risk involving entities from various financial sectors has at the core relied on an insurance-like financial instrument: credit default swaps. A credit default swap (CDS) is a contract under which the protection seller agrees to make a payment to the protection buyer in the event that the referenced entity, typically a company issuing a bond, experiences one of several so-called "credit events", which are bankruptcy, reorganisation, or default. The protection seller receives a fee in exchange for this promise. Originally, CDS were used in the context of bond issues, essentially transferring part or all of the risk of the owner of the bond to the seller of credit protection. Literally, the protection buyer "swaps" the risk of default with the protection seller and, in the event of any number of the various credit events actually occurring, the owner of the bond suffers the associated loss on that position, while the swap contract provides full or partial recovery of that loss.

***Some transactions involving CDS are similar to standard insurance contracts …***

This type of transaction may be referred to as a covered credit default swap, to the extent that the buyer of credit protection through a CDS also owns a bond issued by the reference entity. It helps the owner of the bond to manage the risk associated with the bond investment. It is similar in this respect to a standard insurance contract.

***…although others are different***

But CDS transactions are not necessarily linked to specific bond positions on the part of the protection buyer. Actually, CDS can be sold or bought between counterparties independently from any specific bond or other asset positions on the part of either of the parties involved, and indeed, this aspect explains a large part of the rapid growth of the CDS market since its inception.

In this context, the New York State Insurance Department, in May 2008, began using the term "naked CDS" to describe swaps in which the protection buyer does not own the particular reference obligation. The motivation behind the use of the term "naked" as opposed to "covered" appears to have been an attempt to distinguish contracts depending on the motivation for writing them, that is in terms of the mix of either insurance versus speculation motives.[4] Clearly, in practice, distilling the motivations of partners to financial transactions is notoriously difficult. On 22 September 2008, the New York State Insurance Department announced that it planned to begin in 2009 regulating (covered) credit default swaps as a type of insurance contract.[5] In the meantime, the issue of regulation of CDS more generally has been intensively discussed in various international forums and the proposals currently under discussion include establishing an exchange, a central counterparty and a clearing house for CDS.

*On a conceptual level, an insurance function has been involved in the risk transfer prior to the crisis…*

Whatever the specific outcome of these discussions, the main point that is relevant for the issue under consideration in the present paper is that CDS, at least some types of CDS, are similar to insurance contracts. Thus, it would seem that, the *insurance function* has been involved in the run-up to and evolution of the financial crisis, at least on a conceptual level.

*…but institutional involvement is another issue*

But these considerations regarding the insurance function broadly defined may or may not have implications for the role of insurance in an *institutional* sense, that is, for the question of the role of *insurance companies per se* in the current crisis. Actually, in practice, the capacity of insurers to engage in derivatives activities differs from one jurisdiction to another. For example, in some European countries, insurers are limited by existing regulation in their capacity to sell but not necessarily buy credit protection through credit default swaps.

## III Developments in selected insurance sectors

### *Overview of selected vulnerabilities on asset and liabilities sides*

*Insurance and reinsurance companies are major investors in capital markets*

The conceptual considerations developed in the previous section notwithstanding, exposure of most insurance companies to the financial crisis has been primarily through their investment portfolios. Insurance and reinsurance companies are major investors in capital markets, and their investment portfolios include exposures to subprime residential mortgage-backed and related securities, to shares and debt securities of financial service firms under stress, and other equity and debt securities. The valuation of many of these asset types has come under pressure at the same time as the financial crisis worsened and the outlook for real activity deteriorated rapidly. Conversely, the price gains in several markets over recent months have provided these investors with some relief in this respect.

*Where mark-to-market valuations of securities are used, losses become apparent more quickly*

Where mark-to-market valuations of securities are used, losses become apparent more quickly, although the existence of liquidity premia in stressed market conditions may exaggerate the extent of losses ultimately realised on those securities. Like banks, insurance companies are required by accounting rules to mark to market their securities. Banks tend to hold a relatively larger share than insurance companies in assets that are subject to full fair value principles, and this situation has implications for the speed with which asset impairments feed through to financial institutions' actual reported losses. In addition, the specific criteria used for the assessment of asset impairment differ across jurisdictions. To the extent that these various factors play an important role in explaining observed differences in the mark-to-market losses reported so far by the banking sector and by the various insurance sectors (an issue beyond the scope of the present note), it could be that insurers are actually holding future losses in their portfolios.

***Expected losses on financial assets as a result of the financial crisis have spread well beyond the subprime mortgage universe***

Insurance companies tend to have widely diversified portfolios and to focus on high-quality investments; thus they were relatively well protected initially during the period of financial turbulence, when asset value declines were concentrated in lower-quality and higher-risk assets. These companies became increasingly more affected, however, as the turbulence developed into a full-grown crisis in which even high-grade securities were significantly affected. At this point, it is clear that expected losses on financial assets as a result of the financial crisis have spread well beyond the subprime mortgage universe.

In some insurance market segments there is underwriting exposure to the epicentre of the financial crisis, however. Such exposure stems from the issuance of mortgage guarantee coverage for lenders, financial guarantee coverage for structured financial products (see for both types of activities examples above), and liability coverage for directors and officers (D&O) and for errors and omissions for various entities with liability exposures related to the problems in financial markets. Estimates of the potential losses associated with the latter type of activity suggest however that the exposure is somewhat limited. There is also exposure on the liability side of insurance-dominated financial groups that have been sellers of credit protection through financial instruments such as credit default swaps.

***The outlook for underwriting is uncertain...***

Looking ahead, the outlook for insurance underwriting is uncertain. One the one hand, the decline in real activity and in household wealth (reflecting in part the declines in housing values and financial asset prices) will have an adverse effect on the demand for some types of insurance products and insurance, thus perhaps reducing underwriting revenues. Also, insurance fraud is expected to increase under these circumstances.

***...although the increased demand for safety associated with the financial crisis tends to be positive for the demand for various insurance products***

On the other hand, a positive factor is that the loss of confidence and increased demand for safety associated with the financial crisis tends to be a positive for the demand for several insurance products, including those with some form of capital and/or return guarantee. Indeed, actual losses and declining confidence typically provide a potent mix for changes in behaviours and in demand for specific types of financial products. This development should be beneficial for those insurance companies offering those products. Moreover, to the extent that new capital would be slow to enter the market, this development should benefit existing companies in particular.

In this context, there is indeed empirical evidence that (natural or man-made) catastrophes are not necessarily "financial catastrophes" for insurance and in particular reinsurance companies, as their equity valuations often outperform the general market subsequent to such events. It is not so clear to what extent this argument can be applied to the current crisis, however. It is certainly too early to support such firm conclusions as have been launched in the trade press,[6] and it is not surprising that rating agencies tend to be somewhat sceptical as regards the outlook for many major insurance sectors.

### *Overview of selected concentrated exposures*

***Concentrated exposures to credit and market risks have been revealed in specific insurance sector segments and companies***

The insurance sector as a whole does not appear to be threatened. Nonetheless, insurance companies have been affected, and in mostly adverse ways. In this context, a number of concentrated exposures to credit and market risks have been revealed, including the following ones:

- ***Mortgage insurers*** in the United States have been at the epicentre of the crisis and have been hard hit. Their financial health is largely determined by housing market and foreclosure developments, which are not expected to improve rapidly.
- ***Life insurance companies***, especially in the United States, have come under significant market valuation pressures, as investment losses rose, while the costs of hedging to limit the downside of equity-based contracts with guaranteed returns spiked.
- ***Financial guarantee insurance companies*** have been under rating and market pricing pressures and the large entities have lost their triple-A rating status, which was the core of their business model.
- Some ***large insurance–dominated financial groups***[7] were affected either through their institutional links to banks or their in-house units performing investment-bank-like activities. For example, the world's largest insurance group collapsed as a result of losses incurred through its financial product unit, which had been a major seller of credit protection. The government extended parts of its financial safety net to this financial group, as its role as a counterparty to systemically important banks appears to have made this company itself systemically important.

These various experiences are discussed in more detail in the following sub-sections.

### *US mortgage insurance companies*

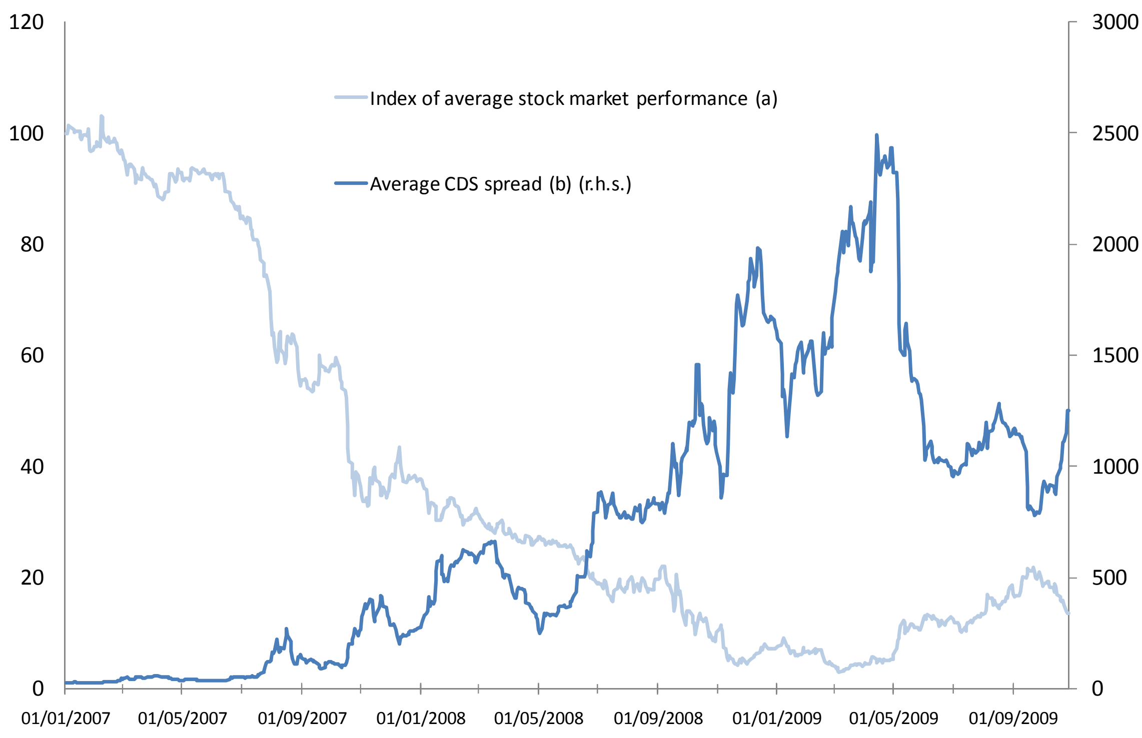
***Mortgage insurance companies in the US have the most direct exposure of any insurance sector to mortgage credit risk***

Looking at the problems at the epicentre of the crisis, the mortgage sector, one finds mortgage insurance companies in the United States having the most direct exposure of any insurance sector to mortgage credit risk and consequently being the institutions most rapidly hit in a significant manner. This outcome is not so surprising given that the crisis started in the United States residential mortgage market and that these entities' core business consists of guaranteeing to other financial service companies that either individual loans or a portfolio of mortgages will retain their value. Moreover, they insure relatively high-risk (*e.g.* where the loan-to-value ratios exceed a specific percentage, such as 80 per cent) or otherwise non-standard loans (*e.g.* the absolute amount of the loan exceeds specific limits).

As a result of mortgage market developments since the second half of 2006, there have been sizable losses on the part of several of these entities, which have depleted substantial amounts of the capital buffers that many of them had been able to build up beforehand. Already in April 2007, New Century Financial Corporation, a leading US subprime mortgage lender, filed for Chapter 11 bankruptcy protection. The largest independent US mortgage insurers (MGIC Investment, PMI Group, and Radian) have posted significant quarterly as well as full-year losses. Rating agencies predict a return to profitability to be an unlikely event before 2010. At least one of the ten largest US mortgage insurers by 2008 sales has entered "run-off", continuing to pay claims and book profits or losses from previously sold policies, but not writing new policies.

Reflecting these developments, share prices fell significantly both for independent mortgage insurance companies and for those insurance companies that have significant mortgage insurance subsidiaries. At the same time, prices for protection against default of these companies rose significantly (Figure 1).

**Figure 1. Equity market performance and credit protection costs for selected mortgage insurance companies**




*Notes:* (a) Average of share price indices (1/1/2007=100) relative to S&P 500 of Genworth Financial Inc., MGIC Investment Corp., PMI Group, and Triad. (b) Average of senior 5yr CDS spreads of Genworth Financial Inc., MGIC Investment Corp., and PMI Group Inc.
*Source:* Thomson Reuters DataStream.

*The outlook for that segment depends on US housing market and foreclosure rate developments*

In reaction, mortgage insurance companies implemented several rounds of underwriting changes that should result in more conservative credit portfolios going forward. But the legacy portfolios remain large and their performance will only stabilise, as US housing markets stabilise and foreclosure rates fall, which is unlikely as long as real activity growth is weak and unemployment rising. That said, home prices in the United States have shown signs of stabilising as judged by developments in the Federal Housing Finance Agency's seasonally adjusted purchase-only house price index and the Shiller-Case composite index of the top 20 metropolitan statistical areas in the country.

### Life insurance companies

*Life insurance companies have come under valuation pressures, reflecting their investment exposures...*

Life insurance companies came under market valuation pressures, reflecting to no small extent the losses on their own investments in stocks and in mortgage-backed securities. While these companies tend to have relatively limited exposure to lower quality residential mortgage backed securities (RMBS) and structured financial instruments (such as CDOs) involving such securities, they are nonetheless significant investors in many securities markets, including equity and corporate bond markets, where valuations declined almost simultaneously. On the liability side, the decline in government bond interest rates implied a substantial increase in actuarial liability levels.

*...and the fact that they have made a significant amount of fixed payment promises to policyholders*

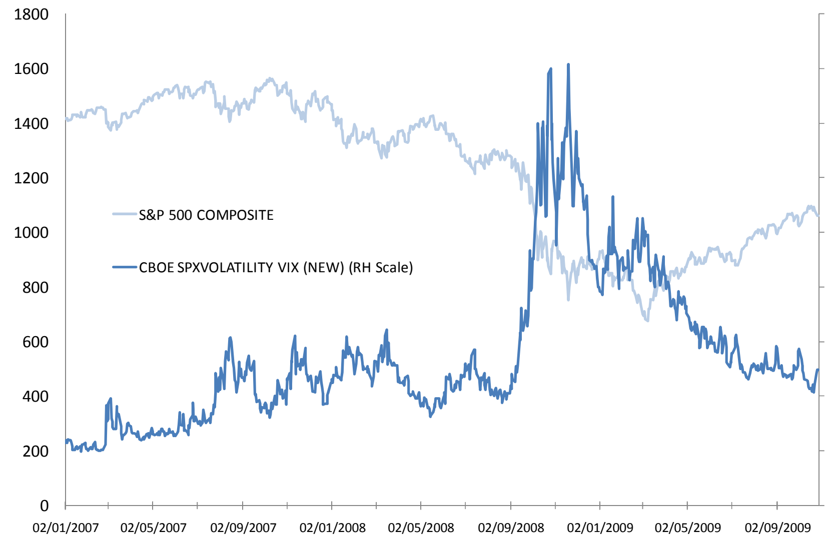
In addition, many of these companies have written variable annuities contracts, several of which have guaranteed minimum income streams or other guarantees that are costly to fulfil in deteriorating capital market valuations and environments of low (or moderate) government bond interest rates. While the increase in corporate spreads may provide some offset (as they promise higher nominal returns), this offset comes at the price of increased credit risk. Thus, valuation pressures reflected in many cases the combination of adverse developments affecting *both* the asset and the liability sides of the balance sheets of these entities, giving rise to important asset-liability management challenges.

*Hedging strategies have become more costly…*

Meanwhile, the costs of hedging strategies that many insurers adopted in recent years to limit their downside on variable annuities spiked as a result of heightened market volatility (Figure 2), thus tending to reduce life insurance companies' profit margins from this type of activity.

**Figure 2. Indicator of uncertainty of future equity market valuation**

Chicago Board Options Exchange Volatility Index, often referred to as "investor fear gauge"




*Source:* Thomson Reuters DataStream.

In reaction, many insurers have adjusted and are planning to adjust the pricing of variable annuities and/or their specific features so as to reduce their exposure to the risk of rising hedging costs. Such retrenching, even if limited in scale, may represent a strategic reversal in one important insurance business activity: In recent years, insurers have expanded their activity in the potentially lucrative baby boomer market by making more elaborate minimum return promises to ease the baby boomers concerns about the adequacy of their retirement incomes when life expectations are expanding and traditional defined benefit pensions are on the decline.

***...and have not yet been tested under prolonged adverse market conditions***

The recent financial crisis has put the spotlight on the observation that the hedge programmes designed to underpin the strategic move into this business area have not yet been tested under prolonged adverse market conditions.[8] These challenges have lessened somewhat as volatility has continued to decline (Figure 2), but the issue continues to be relevant, especially if government bond yields do not remain at somewhat higher levels for sustained periods.

***On the positive side, leverage is limited***

On the positive side, life insurance companies do not employ much leverage and have long-term liabilities, which implies that their exposure to liquidity risk is generally much lower than in the case of banks and other more leveraged financial institutions.

One risk is, however, that the perception on the part of policyholders of the growing financial stress at life insurance companies may affect policyholder behaviour. In particular, it cannot be ruled out that policyholders concerned about the company's financial health exit more frequently from their contracts even if they have to accept termination fees and investment losses.

*Credit rating downgrades can have a number of adverse consequences*

Another risk is that credit ratings of insurance companies would be downgraded, and indeed, for example, the current rating outlook for insurance sectors by at least one rating agency implies that the number of downgrades is expected to exceed the number of upgrades. To the extent that insurance companies are counterparties to any derivatives trades, margin requirements may increase as a result of rating downgrades, in which case liquidity needs in that sector would increase.

The credit rating outlook for the US life insurance sector was revised to "negative" from "stable" during fall 2008 by at least one of the three major rating agencies, while the outlook is negative for many other jurisdictions, including in Europe. Forward-looking financial market indicators point in a similar direction: since the beginning of the financial crisis in mid-2007, (relative) stock market valuations of both US and EU life insurance sectors have declined strongly, actually much more strongly than non-life insurance sectors. More recently, life-insurance sector stock market valuations have risen again, however.

### *Financial guarantee insurance companies*

Financial guarantee insurance companies have been under market pricing and rating pressures, as losses and write-offs mounted on mortgage-related structured securities for which they had provided credit enhancements, especially when such protection was in the form of financial derivatives sold. Losses on these instruments, unlike on traditional insurance contracts, showed up rapidly in the profit and loss accounts of these entities.

*The large financial guarantors have lost their triple-A rating status, which was the core of their business model*

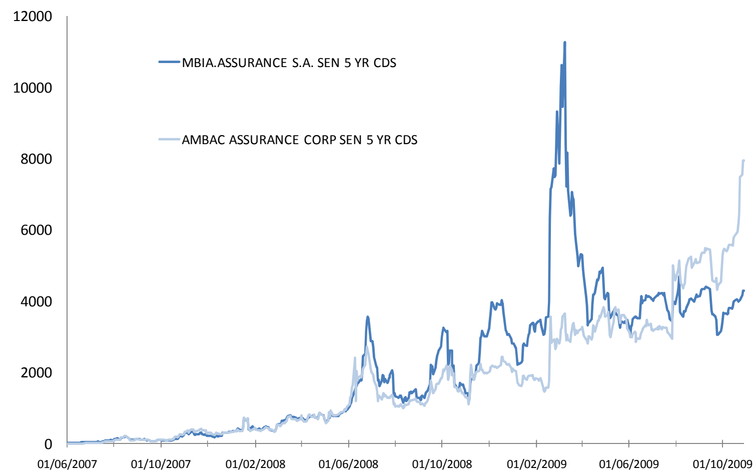
The large financial guarantors have now lost their triple-A rating status. This observation is remarkable, as the high rating was the core of their business model: essentially, their (traditional) business consisted of renting out their high rating to lower-rated debt issuers, guaranteeing the servicing of interest and principal payments on the debt issues of the latter as these payments become due.

Financial guarantee insurance companies have thin capital layers and tend generally to be highly leveraged institutions. As a consequence, to the extent that they are forced to deleverage during times of stressed market liquidity, they tend to add to dislocations in credit markets and exacerbate systemic risks.[9]

*The difficulties experienced by these entities amplified downward pressures in financial markets*

As the ratings of these companies were lowered, their equity prices fell and premiums for insurance against credit default by these entities rose (Figure 3). And the difficulties experienced by these companies fed back in to the value of the enhancements they provided, with negative effects on securities such as structured finance products and municipal bonds, and for banks and other entities and markets that rely on insurance provided by financial guarantors. Thus, the difficulties experienced by these entities have amplified downward pressures in financial markets through different channels.

**Figure 3. Credit default swap premiums for major US bond insurers**




*Source:* Thomson Reuters DataStream.

In the United States, where responsibility for insurance regulation resides with the states, the New York state insurance regulator has been working with counterparties of financial guarantors on plans to close out some of the contracts written and recapitalize and, perhaps, restructure some of these entities. In February, one large financial guarantor received regulatory approval to split into two, one municipal-guarantee unit and another one focusing on asset-backed structured products.

***There is considerable public interest in financial guarantee insurance facilitating municipal bond issuance***

At the same time, given the public interest in financial guarantee insurance facilitating municipal bond issuance (prior to the crisis, financial guarantors insured about half of the outstanding municipal bonds), regulators have generally facilitated the entry of new firms, and at least one significant new competitor has entered that market. Also, in May 2009, the National League of Cities has suggested that it would seek support from the US Treasury to establish a new financial guarantor, including by requesting an interest-free loan for capitalising the new entity it plans to establish. The new entity would conduct municipal bond business only. The entity would be the first publicly owned financial guarantor.

***Effective and robust regulatory and supervisory frameworks for financial guarantee insurers are crucial***

Whatever the outcome in the case of this specific proposal, developments in the financial guarantee insurance sector have put the spotlight on the regulatory and supervisory framework for this type of financial service. It is clear that an effective and robust regulatory and supervisory framework for financial guarantee insurers is crucial to allowing this type of financial service to play its role most usefully. In this context, questions have arisen however as to how to improve the frameworks in place. In the United States, where many large financial guarantors are based, this framework relies on supervision to be performed by the respective state insurance regulator, as financial guarantors are regulated by states under their respective insurance laws.

One question is whether and how existing arrangements can be improved and, in this context, the New York State Insurance Department has undertaken to rewrite the regulations for bond insurance to prevent companies from taking an inappropriate risk in the future. One question arising in this context is whether consideration should be given to requiring separate capital bases for, and institutional separations of, the conduct of business related to structured financial products on the one hand and municipal bond business on the other hand.

### *(Complex) insurance-dominated financial groups*[10]

***AIG was a major seller of credit protection***

American International Group (AIG) was viewed by some observers as the world's largest insurance company, consisting of a global financial service holding company with 71 US based insurance companies and 176 other financial service companies. Although not the only insurance-dominated financial group to have sold credit default protection through derivatives, the company was special in that it was a major seller of such protection (including in the form of credit default swaps on collateralised debt obligations such as residential mortgage-backed securities) through its Financial Products unit, which was managed at the level of the groups' holding company.

Unfortunately, the risk management arrangements of the unit appeared to have been inadequate for this line of business. The risk management models initially used for this purpose did not measure the risk of future collateral calls or write-downs and more sophisticated risk management models were reportedly not effectively applied until after 2006, by which time the company had already built up most of its exposure to derivatives.[11]

In 2008, the company's Financial Product unit reported a spectacular loss of around USD 10 billion for the full year 2007 and, later, an even higher loss for the first half year of 2008. In March 2009, AIG reported, at USD 60 billion, the highest quarterly loss a US corporation has ever reported, marking also the fifth straight quarterly loss for that company. Financial market indicators of the parent company's health deteriorated especially during fall 2008 and spring 2009 (Figure 4).

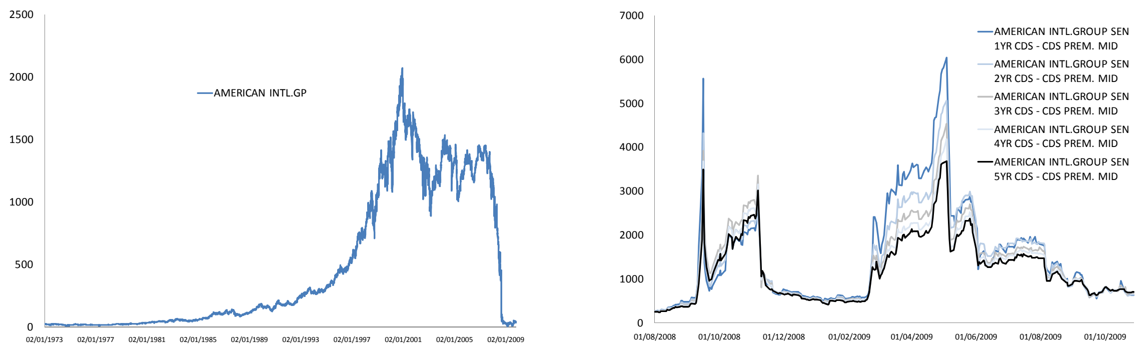
***As a result of the company's credit rating downgrade, the company had to post additional collateral, which it was unable to do without support***

In mid-September 2008, AIG's credit rating was downgraded. As a result, the company was required to post a substantial amount of collateral to its counterparties. But given the adverse market environment the company had difficulties in liquidating significant amounts of assets quickly enough. Thus, shortly after the company's downgrade, the US government felt obliged on systemic grounds to provide a support package for AIG, agreeing to initially lend USD 85 billion in exchange for an equity stake of close to 80 per cent.[12] The rescue package was expanded to USD 150 billion in November 2008, partly to fund an entity designed to retire credit default swap contracts by purchasing the underlying assets from banks. In March 2009, the rescue package was restructured for a second time in four months.

**Figure 4. Financial market indicators for AIG**

Equity price development since 1975

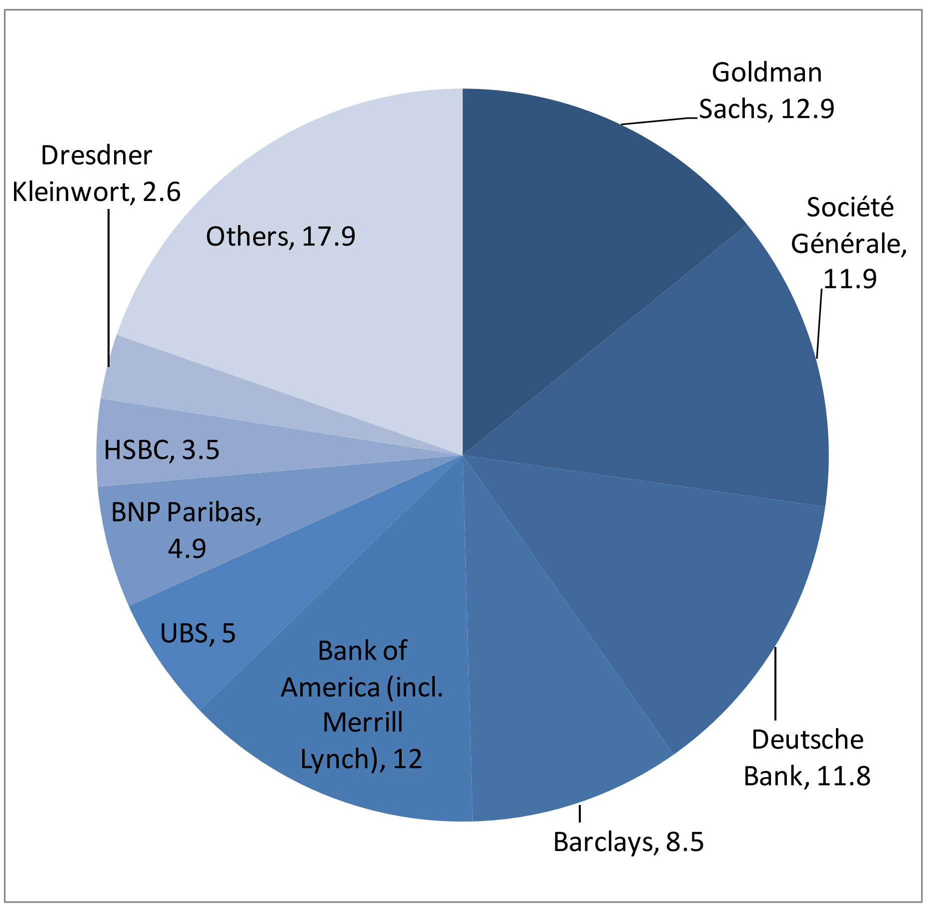
Credit default swap premiums since August 2008




*Source:* Thomson Reuters DataStream.

**Figure 5. Payments made by AIG in relation to CDS contracts and securities lending business**

Sum of both types of transactions in case of each counterparty (in USD billion) since September 2008




*Source:* Secretariat estimates based on data provided in the appendices to AIG Press release, "AIG Discloses Counterparties to CDS, GIA and securities lending transactions", New York, March 15, 2009.

*AIG appears to have become an important counterparty to systemically important banks*

Given the company's role in a wide range of financial markets, the volume of business written, and the complexity of interconnections created (especially through credit default swaps and securities lending), AIG appears to have become an important counterparty to systemically important banks (Figure 5).[13]

This situation has had the effect of making the company itself being considered systemically important.[14] Effectively, the capital injections and other liquidity-provision measures provided by public authorities for that company implied that this component of the financial safety net, which traditionally has had commercial banks as its prime focus, was extended to cover a wider set of financial institutions, including insurance companies.

## IV Selected lessons and policy issues

### *The role of insurance companies as shock absorbers in this crisis*

*Insurance companies are major players in global financial markets*

Insurance companies are major investors in financial markets. On aggregate, the largest investors worldwide are investment funds, followed by insurance companies and pension funds (Figure 6). Moreover, a part of the assets under management of private equity and hedge funds are owned by insurance companies (and pension funds), making these investors major players in global financial markets. These aggregate numbers hide some differences across major markets in the relative importance of these different groups of financial entities. For example, insurance companies are particularly important players in relative terms in some European markets and in Japan.

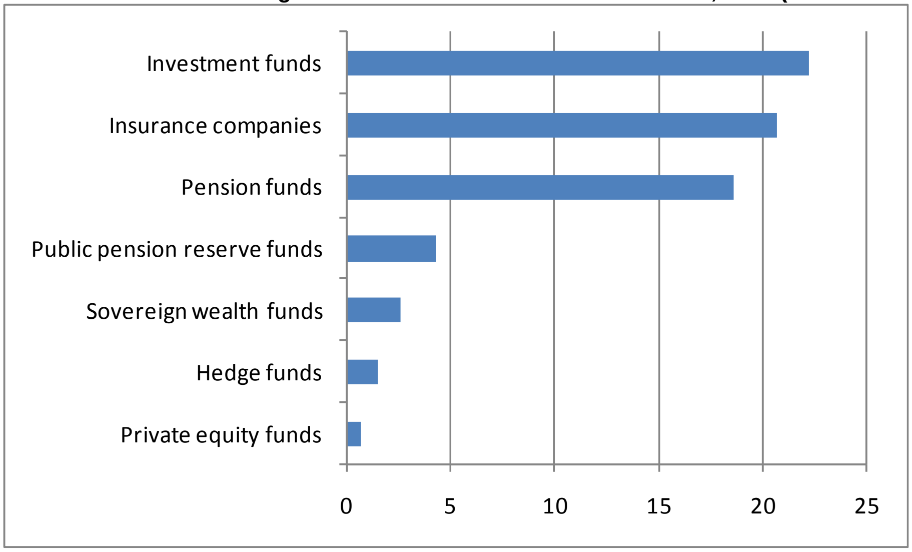
*Insurance companies have the capacity to adopt investment strategies with long-term horizons*

Insurance companies, especially life insurance companies, are financial institutions with longer-term liabilities than commercial and investment banks and thus they have the capacity to adopt investment strategies with longer-term horizons. To the extent that they adopt such strategies and do not sell into falling markets when many other types of investors do, they are a stabilising element of the financial system. Most parts of the insurance industry appear to have acted as a stabilising element in this sense during the current crisis.

*The insurance function has tended to have a stabilising effect during the current financial crisis*

Moreover, many insurance companies continue to provide insurance coverage against a variety of hazards, and they have the ability to reinvest the proceeds in financial assets. Premium incomes have continued to increase until 2007 (Figure 7), especially in life insurance business, although the situation has reportedly been less favourable in the latter sector during 2008. Actually, according to some estimates, global insurance premium income may have fallen (in real terms) for the first time since 1980.

**Figure 6. Total assets under management within selected financial sectors, 2007 (in USD trillion)**

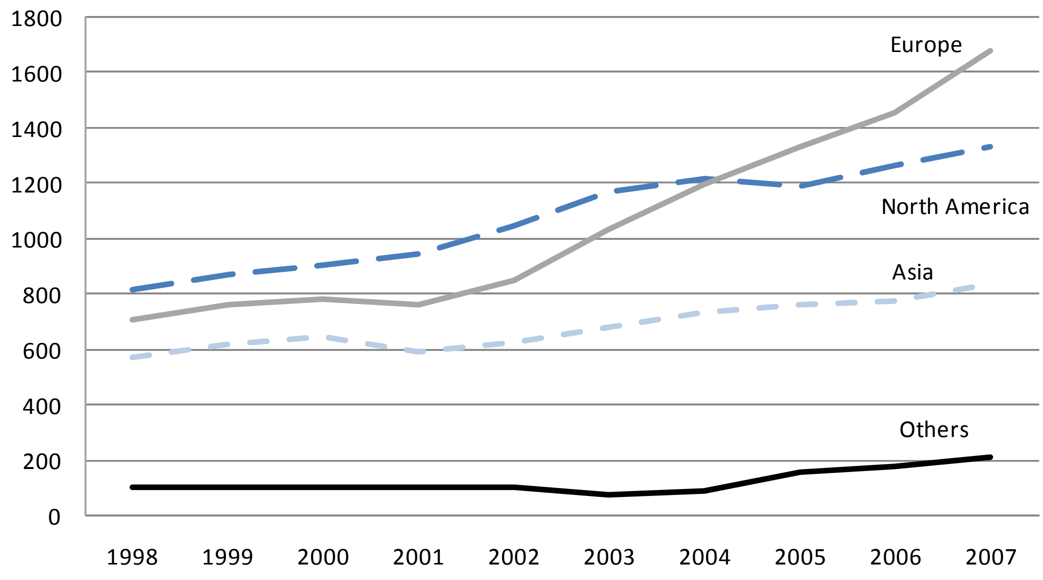



*Notes:* These types of estimates differ considerably depending on the timing of the data collection and the definitions used. To give but one example, a recent estimate of assets under management by sovereign wealth funds, using a broader definition, by International Financial Services London is that they have grown to USD 3.9 billion by the end of 2008 (as compared to USD 3.3. billion as of end-2007).

*Source:* OECD Private Pension Outlook 2008 (available at http://dx.doi.org/10.1787/514780601273).

**Figure 7. Global insurance premium volume by region**

In USD billion




*Source:* International Financial Services London, November 2008.

As a general rule, to the extent that insurance companies realise net profits from their insurance business activities, they could reinvest the profits in financial markets, which would tend to support prices. But even if they do not realise net profits on their insurance function but instead generate underwriting losses through rising claims from policyholders, this situation helps prevent the consequences of the financial crisis from being compounded. In particular, the claims paid by the insurance company reflect a compensation received by the policyholder, which should mitigate the consequences of its financial or other type of misfortune. Actually, the availability of such mechanisms is crucial for an economy; it encourages productive investment and innovation, and thus supports real activity growth, which in turn should be beneficial for the growth of financial markets.

***Issues related to the repartition of credit losses between banking and insurance sectors***

***Most of the losses at insurance companies stem from their investments as opposed to their underwriting***

While net earnings may have declined in many jurisdictions over the past few months, most of the losses at insurance companies stem from their investments, however, as opposed to their traditional underwriting activities.

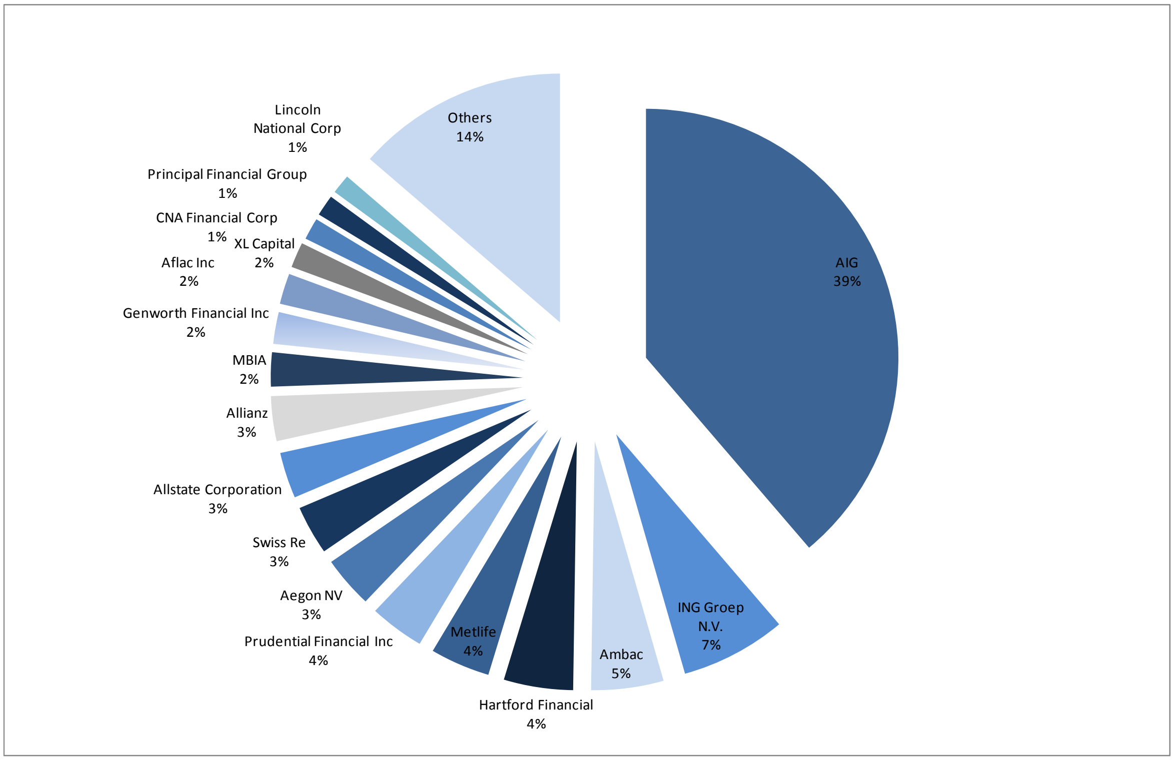
Still, investment losses of insurance companies appear to be much more limited than those of banks. While it is difficult to estimate the ultimate repartition of (investment) losses associated with the financial crisis among different financial sectors, especially as placement data for the various types of securities including structured financial products are imprecise, some estimates are available. According to one such estimate published in August 2009 by the company Bloomberg (Figure 8), the insurance industry may have absorbed about USD 261.2 billion of losses and write-downs from the crisis so far. This compares with an estimated USD 1102.3 billion (more than one trillion) on the part of major banks and USD 237.9 billion on the part of US government-sponsored enterprises (Freddie Mac and Fannie Mae). The figure shows that the company AIG accounted for an estimated almost 40 per cent of total losses incurred by insurance companies since the beginning of 2007. Insurance companies have also raised capital, although with the exception of one insurance company, the capital raised fell short of the sum of write-downs and losses. The aggregate shortfall between write-downs and losses on the one hand and capital raised on the other is estimated to amount to USD 103.6 billion for the selected insurance companies covered by Bloomberg.

***The losses disclosed are largely mark-to-market losses on hard-to-value assets***

The losses disclosed by affected financial institutions are, thus far, largely mark-to-market losses on hard-to-value assets. It remains to be seen whether the full extent of the implied credit losses will eventually be realised on the underlying loans. If the outturns ultimately prove less severe than currently feared, it cannot be ruled out that those financial firms still holding these assets will see some offsetting valuation gains on the asset-backed securities and structured credit products in their portfolios. At the same time, the losses currently disclosed by insurance companies are likely to underestimate the share of ultimate losses to be borne by these entities to the extent that rules regarding the reporting of asset impairments imply that the latter are only slowly feeding through to profit and loss accounts.

**Figure 8. Write-downs and losses at selected insurance companies**

Since beginning of 2007, total of USD 261.2 billion




*Source:* Bloomberg, 13 August 2009.

Both International Financial Reporting Standards (IFRSs) and US Generally Accepted Accounting Principles (US GAAP) imply that an increasing share of assets and liabilities of banks and other financial institutions are to be measured at fair value. Under these two sets of standards, the definition of fair value is not exactly the same but the basic framework is very similar. The objective of fair value accounting is to determine the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction. The approach implies that financial instruments are valued using market prices (if there is a market) or using the market of a similar instrument if there is no market for this specific instrument, or using model-based valuation techniques (with or without market data inputs depending on their availability).

*The crisis has highlighted issues related to the valuation*

The financial crisis has highlighted a number of critical issues related to the valuation of financial instruments in an environment of *of securities in an environment of stressed market liquidity*

stressed market liquidity. They apply to both complex instruments but also to more traditional simpler ones both of which became illiquid. As liquidity quickly evaporated in the market for many complex structured and other products and primary and secondary transaction prices became unavailable, most banks and financial institutions switched from valuation methods based on observable prices – or deemed to be observable (indices) – to methods that relied more on model-based valuations. In some instances, such model based valuations required the extensive use of unobservable inputs.[15] As a result of these various uncertainties, counterparties of financial institutions and market participants more generally have found it difficult to assess the health of many financial institutions, and this situation has added to the market pressures on the latter.

In this context, some observers have argued that fair value is not appropriate for valuing assets of all types of financial institutions, particularly not for long-term investors like some insurance companies. The question of how accounting rules need to be adopted in the case of different types of financial institutions to ensure transparency for investors and policyholders remains an important policy issue.

### *Insurance companies considered too large and/or too interconnected to be allowed to fail*

*AIG has been an insurance-dominated financial groups deemed too big or too interconnected to fail*

AIG was the first financial conglomerate with significant insurance operations to receive substantial US government aid before a broad-based programme to help financial institutions was established.[16] In the process, the financial safety net was subsequently expanded to support other insurance companies as well. For example, in the United States, under the US Treasury Department's Capital Purchase Program, six insurers were considered in May 2009 to have qualified for capital infusions because each had restructured itself as a bank holding company (not all applications by insurers were granted positively). Elsewhere, insurance organisations have also received government support, including in the Netherlands and Belgium.

The perception that these companies enjoy some benefits of the financial safety net has been a positive for these companies' ratings and the prices of their securities traded in financial markets.[17] That said, given the limited number of insurance companies that benefited from the financial safety net, observers (including rating agencies) find it difficult to identify to what extent government support for the financial industry will generally be available going forward. There appears to be a growing perception however that such support has now become available for such entities to the extent that they are either considered big or interconnected enough to have a systemic importance.[18]

This situation raises the issue of how the systemic threat emanating from such an institution can be properly controlled and/or reduced, and as to whether and how the other elements of the financial safety net, including the regulatory and supervisory framework, need to be adapted to reduce the potential moral hazard that could arise under the new circumstances.

Incidentally, there have also been adverse indirect effects stemming from the expansion of the financial safety net. Specifically, governments have provided expanded coverage for bank liabilities. These developments raise "level playing field" issues between banks and other financial institutions such as insurers. For example, government guarantees have been provided in many countries for unsecured bank bond debt. Insurers are issuing debt that has to compete with government-guaranteed bank bonds for investments on the part of high-quality bond investors and, reportedly, some insurers have had difficulties placing their bonds or placing them at what they considered reasonable prices, given the presence of government-guaranteed bank bonds. The OECD is working, within the context of its "Strategic Response to the Crisis", on the "exit strategy" issue, among other things, with the aim of better understanding the costs and benefits of the safety net expansion and how additional costs could be limited in the process of exiting from unusual policy measures.

***The emergence of liquidity risk as an issue for insurance companies***

***Insurance companies typically have stable funding***

A positive for insurance companies is that they are typically funded by a relatively stable flow of premiums, with very limited reliance on short-term market funding. As a result, they typically bear far less liquidity risk than commercial or investment banking firms.

***They are not completely immune to liquidity risk however, as rating downgrades could trigger collateral calls***

They are not completely immune to liquidity risk however, as rating downgrades could trigger collateral calls. Under these circumstances, liquidity risk management on the part of insurance companies is becoming an increasingly important task. The financial market environment during the crisis has made this task difficult, however, not least because banks have been reluctant to extend new credit lines. Also, there is the risk that market participants might consider any massive drawing by an insurance company on existing lines, at the current juncture, as a sign that the situation at the company in question is worse than its peers.

Central bank and other liquidity support, as a general rule, used to be not as readily available for insurance companies as it was for banks. The liquidity support provided to AIG was unusual in that respect, although some other insurance companies have also recently received financial support from public authorities.

It is perhaps too soon to know whether these events mark an important watershed, and whether – going forward – liquidity support will be more readily available for insurance companies. In light of the stresses facing the financial system, and the desire to have arrangements in place to ensure that financial institutions could continue to have access to necessary liquidity, governments throughout the OECD have established special financial market stabilisation programmes. So far, most programmes to provide liquidity (outside of central bank lender-of-last-resort facilities) have largely been targeted to banks.

What is clear however is that liquidity risk has become a more relevant issue for some insurance companies as a result of the changes in the types of activities pursued and that, consequently, the risk management function of insurance companies (as well as the insurance regulator and supervisor) needs to pay greater attention to liquidity risks. That said, some delegates at the meeting of the OECD's Insurance and Private Pensions Committee (IPPC) emphasised that there continues to be a significant difference between banks and insurance companies with respect to liquidity, as liabilities differ considerably. On a conceptual level, the insurance function as such does not involve any liquidity risk, as fees are collected upfront.

***Insurance-dominated financial groups expanding their activities beyond core business***

***Negative spillovers from one part to another part of a financial group appear to have been significant enough to threaten the survival of the whole group***

Although the experiences discussed in the previous chapter differ considerably from one another, several of them have in common that they add to a growing list of examples where the benefits to be had from revenue or risk diversification in large complex financial institutions have been called into question. Rather, negative spillovers from one part to another part of the same financial group appear to have been significant, significant enough indeed to threaten the survival of the whole financial group.

***In many cases, the problems for the group stemmed from units that conducted investment-bank-like activities***

In many cases, the problems for the insurance-dominated financial group as a whole stemmed from units that operated in capital markets and conducted either investment-bank-like activities or provided credit protection via derivatives or both. These activities were traditionally mostly associated with investment banks, although the situation in that respect has been changing for some time now. For example, commercial banks have also increasingly changed their business model to now include more elements that traditionally had characterised investment banks.[19]

Judging by results published so far, many insurance companies have not built up significant exposure in such a risky niche business area however. By and large, only those insurers that own banks or specialised credit insurance[20] and other financial product units involved in investment-bank-like activities have revealed substantial exposures to the "toxic" end of the credit spectrum.

For example, in the case of the company AIG, the losses from the holding company's financial products unit were so large that the benefits to be had from supposedly diversified revenue sources at the holding company level turned out to be insufficient to cover them. In the case of one large European reinsurer, losses from a unit that was involved in writing credit default swaps, providing credit protection and capital market trading outweighed the profits from (well-performing) core business to be had at the consolidated level of the group. Also, somewhat similarly, in the case of the financial guarantee insurance companies, the continuation of these companies' traditional business, which was to insure municipal bonds, was rendered impossible as these companies lost their main asset (their high ratings) as a result of the large losses incurred by these entities in the more recent business line of selling credit protection related to structured financial products.[21]

Clearly, these financial instruments are not a priori and in general harmful for insurance companies, but the writing of some of them and the investing in others on the part of insurance companies highlights the need for and importance of a well functioning internal control system, risk management and corporate governance in these companies. Incidentally, some of these activities were traditionally mostly associated with investment banks, but as discussed in section II of this article, (at least some types of) CDS are similar to insurance contracts, so that the involvement of insurance companies in this type of activity may not be so surprising (at least on a conceptual level).

***This situation has upped the ante for having a comprehensive regulatory and supervisory framework in place***

This situation has also increased the need for having an adequate regulatory and supervisory framework in place. As contagion risk from unregulated or lightly regulated entities within a financial group can create risks and liquidity demands for the group as a whole, it is important to ensure that this framework is comprehensive.[22]

### *A period of de-conglomeration of complex financial groups lying ahead?*

***When the result of parts of a group turned out to be very negative, the adequacy of buffers for the group as a whole also disappointed***

In the past, different types of financial activities have often been combined under one roof and such combinations have often been defended on the grounds of the scope economies associated with the more diversified revenue stream of the group as a whole. But the weight of the empirical evidence suggests that, in crisis situations, returns in different business areas turn out to be more closely correlated than during normal times (or less negatively correlated) and, as it turns out, more so than has been expected and built into risk management models. As a consequence, the adequacy of the buffer for the group as a whole, *e.g.* in terms of capital cushion, tends to disappoint as well.

***The financial crisis is forcing insurers (and bankers alike) to rethink the way they do business together***

This observation again calls into question the benefits of insurance companies expanding to include commercial and/or investment banking or investment-bank-like insurance activities under one roof. Actually, the financial crisis is forcing insurers (and bankers alike) to rethink the way they do business together and, since the fall 2008, some European bancassurance groups have either been broken up or restructured.[23]

Also, in the United States, one of the largest financial guarantors has entered into a fundamental restructuring, essentially separating the traditional municipal from the structured finance business. In this context, it is interesting to note that the company's press release emphasised that municipal business would be conducted by a separate operating and legal entity that "will have no exposure to structured finance business". In spring 2009, the rescue operation for AIG's holding company involved a planned break-up of the conglomerate into separate divisions.

Earlier work by the IPPC and the Committee on Financial Markets indicates that while some diversification benefits from combining banking and insurance activities in a single financial group exist, they may fall short of expectations exactly when they are needed most.[24] For example, during the difficult financial market environment between 2000 and 2003, the benefits derived from having diversified revenues from more than one type of financial service proved to be far more limited than many observers had presumably anticipated. The work in question, which was endorsed by both Committees, concluded that the profit experience during previous years offered only limited support for the "financial-group" business model, although it was acknowledged that many groups had been formed only a short time before the downturn and that, perhaps, more time might be needed before such benefits could be realised.

***Could there be a period of "de-conglomeration" lying ahead?***

More recently, related discussions in other forums seem to suggest that there may be a growing perception that a period of "de-conglomeration" or "ungrouping" may lie ahead, with an increasing separation of joint ownership of insurance, commercial and investment banking activities.[25] Such conclusions may be somewhat premature however, and they are not borne out by recent developments *e.g.* in the United States, where struggling financial entities have been absorbed by and merged with other entities (often with public support), in some cases (although not in others) involving entities with traditionally different types of activities.

***Going forward, there may be a premium for simplicity in institutional structures***

There are some observations that might one lead to expect that institutional structures would evolve away from complex ones. In particular, the current crisis has put the spotlight on the issue of complexity, and it has underscored the difficulties that can arise in assessing and valuing complex structures. These complex securitised credit risk transfer instruments have been at the heart of the risk transfer that has occurred in the run-up to the current crisis and the accompanying build-up of debt and leverage positions that ultimately turned out to be unsustainable. The difficulties in valuing such complex, heterogeneous and opaque instruments especially in situations of market stress has turned out to be extremely difficult, if not impossible. As bank balance sheets are heavily burdened by these securities, the valuation problems associated with these securities directly translate into uncertainty about the valuation of banks themselves, which in turn has resulted in the severe impairment of the financial intermediation process that has characterised the current financial crisis. Going forward, one might speculate that there may be a premium for simplicity in both financial *instruments* as well as *institutional* structures.

The example of AIG has put the spotlight on the observation that specific incentive problems could arise in complex financial groups when different parts of the group pursuing different activities (and generating different risk profiles) either use the same capital base or when some parts of the groups either explicitly or implicitly benefit from capital raised via less risky members of the group. Against the background of this observation, a number of regulatory responses have been suggested to eliminate the cross-subsidisation and to address the incentive problems arising in this context. They range from a positive list of allowed activities, the disallowance of certain activities, and the imposition of an extra capital charge for the group as a whole to the ring-fencing of different parts of a group.

One recent proposal has been to require financial institutions to adopt specific corporate structures that ensure the separation of capital for the different types of uses. Specifically, it has been proposed to require financial institutions that pursue more than one type of financial activity to adopt the structure of a non-operating holding company.[26] Such a corporate structure has reportedly been adopted voluntarily by one large financial institution in Australia. Whether and how the government should foster the formation or break-up of complex group structures is another issue.

***Group supervision and supervisory co-operation***

In light of the experiences of financial groups with insurance entities, regulatory and supervisory authorities have assessed whether and to what extent there is room for improvements in the current system of supervision of insurance groups and financial groups involving insurance activities. One of the key problems in the current crisis, as highlighted by the experiences of some large financial groups, was the lack of adequate group supervision.

There currently appears to be an emerging consensus that more extensive information-sharing and co-ordination activities among supervisors and closer scrutiny of the activities of all financial group entities are needed. As regards the latter, effective group supervision should capture all entities of a group and take into account intra-group relationships, governance and risk management procedures, capital requirements and allocation, transferability of funds, etc. As regards the former, efforts to enhance co-ordination and co-operation have already taken place at national level and, on an international level, considerable emphasis has been placed on co-operation between the supervisory authorities involved and on the establishment of new colleges of supervisors.[27]

## V Concluding remarks

### *Selected vulnerabilities in the insurance sector*

*The financial crisis has begun to have a more visible impact on the insurance industry, reflecting investment exposures*

For many insurers, the direct exposure to the epicentre of the crisis, the US mortgage market, and to related securities appears to be limited. Nonetheless, the financial crisis was having a more visible impact on the insurance industry as losses on financial assets spread beyond mortgages and related securities and as the outlook for real activity deteriorated, in large part reflecting exposures in insurance companies' investment portfolios.

*The outlook for underwriting is uncertain, but not all negative*

As regards insurance underwriting, declining real activity and household wealth will tend to reduce demand for many insurance products. At the same time, actual losses and declining confidence typically provide a potent mix for changes in behaviours and in demand for specific types of financial products. In particular, this development might be a positive for insurance companies that offer guaranteed products, such as life insurers offering guaranteed minimum returns.

*On a specific issue, questions arise as to the effectiveness of life insurers' hedging programs under prolonged adverse market conditions*

Having said that, over the past couple of years, life insurers, especially in the United States, have made more elaborate minimum return promises to baby boomers, through a variety of products with embedded put options such as in variable annuity products. As it turns out, such guarantees can raise important asset-liability management issues and are costly to fulfil in periods of deteriorating capital market valuations. Questions arise as to the effectiveness of life insurers' asset-liability hedging programs under prolonged adverse market conditions. These questions remain valid even if most recent gains in broad stock market indices may have reduced the sense of urgency on the part of these entities for providing responses to such questions.

*Liquidity risk is becoming more of an issue for some insurance companies*

Also, another caveat to the rather sanguine overall assessment of the insurance sector is the growing importance of liquidity considerations. It appears that at least some insurance-dominated financial institutions have become more exposed to liquidity risk than they traditionally had been and perhaps more than had been factored into the risk management models that they used.

### *Considerations regarding the issue of the role of the insurance function in the current crisis*

*The insurance function overall appears to have had a stabilising effect in the current crisis...*

As regards the role of the insurance function in general as a shock absorber in the current crisis, it may be too early to write a proper post mortem. That said, the evidence so far suggests that there have been several stabilising factors. Insurance companies have generally not had to sell into falling markets as a result of leverage, liquidity, regulatory and other considerations. They also have continued to write insurance business in a variety of areas, thus not only supporting economic activity in this context, but also generating premium incomes that have at least partly been re-invested in financial assets, thus supporting their prices.

***...although some segments and companies have amplified downward pressures in financial markets***

Having said that, the picture is not as rosy if one zooms in on certain specific insurance sector segments. In the case of insurance segments and companies involved in investment-bank like activities, valuation and rating pressures have been very significant. These pressures, in turn, have tended to amplify downward pressures in financial markets. The most egregious example is afforded by the financial guarantee insurance sector, and by the deteriorating financial health of at least one large complex insurance-dominated financial group, which threatened to have systemic implications.

***Negative spillovers from units conducting investment-bank-like activities have been significant enough to threaten the survival of the entire group***

In large part, the various caveats attached to the overall positive role that the insurance function has played in this crisis are related to the expansion of insurance-dominated financial groups into financial activities other than typical insurance activities. For some, negative spillovers from one part (especially from the units conducting investment-bank-like activities) to another part of a financial group appear to have been significant enough to threaten the survival of the whole group.

In the past, different types of financial activities have often been combined under one roof and such combinations have often been defended on the grounds of the scope economies associated with the more diversified revenue stream of the group as a whole. But the weight of the empirical evidence suggests that, in crisis situations, asset prices and returns turn out to be more closely correlated than during normal times and, as it turns out, more so than has been expected and built into risk management models.

***There may be a premium for simplicity in institutional structures, going forward***

Moreover, such structures can become overly complex and opaque. These aspects hinder the ability of supervisors and stakeholders to properly understand the risks facing an insurer, and greatly complicate the swift and orderly resolution of failed institutions. Going forward, one might speculate, there may be a premium for simplicity in institutional structures. If true, insurance companies might want to sharpen the focus on their core business.

## NOTES

[1] There is no generally accepted label for either AIG or other large financial institutions combining several types of activities. The current paper uses the term “financial group” and distinguishes between “bank-dominated” and “insurance-dominated” financial groups. For example, a financial group is defined as an “insurance-dominated financial group” if the group is dominated by an insurance entity or if it is a mix consisting of a variety of different entities, the majority of which conduct insurance activities. One delegation of the OECD’s Insurance and Private Pensions Committee has suggested in its written comments however to use the term “financial group with insurance subsidiaries” instead of “insurance-dominated financial group” to label the company AIG.

[2] See “The Credit Crisis and the Insurance Industry: 10 Frequently Asked Questions” (The Geneva Association, Etudes et Dossiers No. 351), response to question 1: “Have insurers contributed to the subprime and subsequent financial crisis? A more recent assessment by the CEA is as follows: “The specific characteristics of the insurance business model and the management of assets and liabilities by insurers have protected the insurance industry from the worst impacts of the financial turmoil. This model is entirely different from banking and, with very few exceptions, has shown resilience to the continuing shocks to the financial system.” (CEA Letter to Rt. Hon. Gordon Brown MP ahead of G-20 Summit Meeting in London.)

[3] The New York Times, “Regulate Me, Please”, 16 April 2009.

[4] In a way, one might argue that “naked” swaps are not “swaps” properly speaking, as there is no transfer or swap or risks, but instead risk is created by that transaction. See for example, “Supervisory Lessons From the Current Financial Crisis: Initial Observations From the United States”, The Geneva Association PROGRES Report No. 48, December 2008.

[5] See New York State Insurance Department Circular Letter No. 19, dated 22 September 2008.

[6] See for example, .World Insurance Report, Issue 849, “Reinsurers full of hope”, 3 November 2008.

[7] As discussed at the outset, an alternative label suggested by one delegation for this financial institution is “financial conglomerate with significant insurance operations”.

[8] The example of the regulatory filing of (at least) one large US life insurance company testifies to the relevance of this issue: the company’s regulatory filing for the third quarter said that its hedge programme left the company with a substantial realised capital loss as the guarantees’ liability outpaced the hedging gains. Moreover, the filing cautioned that “continued equity market volatility could result in material losses in our hedging program”. As a result, and despite regulatory change allowing the company to increase the statutory surplus it records for its life insurance operations as of December 2008, the company experienced very significant equity market valuation and credit default protection price pressures.

[9] See also Schich (2008).

[10] As discussed at the outset, an alternative label suggested by one delegation for this financial institution is “financial conglomerate with significant insurance operations”.

[11] “Faulty computer models helped sink giant AIG”, The Wall Street Journal, 3 November 2008.

[12] Subsequently, on Wednesday, 8 October 2008, the Federal Reserve announced that it would lend AIG an additional $37.8 billion. On Monday, 10 November 2008, the Federal Reserve Board and the US Treasury announced the restructuring of the government's financial support to AIG. The US Treasury announced that it would purchase $40 billion of newly issued AIG preferred shares under the Troubled Asset Relief Program, so as to allow the Federal Reserve to reduce from $85 billion to $60 billion the total amount available under the credit facility established earlier. In addition, the interest rate on the facility will be reduced. Furthermore, it was announced that the Federal Reserve Board had authorised the New York Fed to establish two new lending facilities relating to AIG.

[13] Additional results based on a similar analysis are contained in OECD (2009).

[14] An AIG report highlights the various inter-linkages and interdependencies in the financial system arising from that company's own activities (See "AIG: Is the Risk Systemic?", Draft, March 6 2009, available http://www.aig.com/aigweb/internet/en/files/AIG%20Systemic%20Risk2_tcm385-152209.pdf).

[15] Under accounting standards, there is no clear definition of what constitutes an "active" market and under which conditions financial institutions can switch from using market prices to using model-generated prices. Also, there is also no clear and widely agreed definition of what constitutes a "distressed" or "forced sale" as compared to a regular sale under "normal" conditions.

[16] According to rating company FitchRatings, only three "stand-alone insurance organisations" have received government support as of early 2009. They include AIG in the United States, AEGON N.V. in the Netherlands, and Ethias, a small Belgian insurance company. In addition, four insurers that are part of bancassurance groups (for definition of that term, see footnote 26 of the present article) – Fortis, ING Verzekeringen N.V., KBC Verzekeringen N.V and SNS REAAL – have received government financing as part of support also provided to the affiliated bank operation. See FitchRatings, "Insurance Ratings Criteria: Application in a Stressful Environment", 10 February 2009.

[17] This view has been expressed already before the actual inclusion of life insurers in the US Treasury Department's Troubled Asset Relief Program (TARP). See for example, FitchRatings, "TARP for U.S. Life Insurers Positive for Financial Strength", 9 April 2009.

[18] See also FitchRatings, "Insurance ratings Criteria: Application in a Stressful Environment", 10 February 2009. This rating company believes that "government support would more likely be provided to the larger, 'brand name' insurance companies in a given country that local governments view as providing the highest degrees of systemic risks, and that governments view as viable".

[19] See Blundell-Wignall, A., P. Atkinson, and S.H. Lee (2008).

[20] For example, in the case of the Belgian-French financial services company Dexia SA, a substantial part of the losses linked to the financial crisis stemmed from losses at Financial Security Assurance. See "Dexia to sell bond-insurance arm", The Wall Street Journal, 17 November 2008.

[21] One delegation emphasised its view that the US-based insurance entities of that financial group remained viable. Moreover, even if an insurance company actually became insolvent in the United States, other companies would take over existing insurance policies. This course of action and the fact that there are guarantee arrangements in the United States ensures that policyholders are safe.

[22] On a specific issue, establishing a robust regulatory and supervisory framework for financial guarantee insurers is necessary to ensure a continued role for this type of financial service. A question is whether consideration should be given to a structural separation into i) financial market products and ii) municipal debt. Another, related, issue is how to reconcile or harmonise the accounting treatment of different forms of credit insurance protection provided, be it in the form of traditional insurance contracts or in the form of credit default swaps.

[23] The term bancassurance is typically used to characterise either one of two basic models. In one, which has been popular in the 1990s, banking and insurance business are combined under one roof by banks buying insurers or insurers buying banks, as well as by, for example, banks setting up insurance subsidiaries. In the other, which in a way is a less ambitious interpretation of the bancassurance model, institutions form partnerships and joint ventures in which one entity's network is used to sell another entity's products; in most cases, insurance products are sold and distributed through a bank's network. In the latter case, one entity may also acquire equity stakes in the other.

[24] See "The Performance of Financial Groups in the Recent Difficult Environment", by S. Schich and A. Kikuchi, OECD Financial Market Trends No. 86, March 2004, pp. 63-81.

[25] See, for example,.the report on a recent IAIS conference in "Supervisors and rating agencies blamed for crisis", in: World Insurance, Issue 849, 3 November 2008.

[26] See, for example, Blundell-Wignall, A., P. Atkinson, and S.H. Lee (2008) and OECD (2009).

[27] In this context, the de Larosière Group report on the future of European financial regulation and supervision, submitted to the European Commission in February 2009, proposed a number of structural measures to strengthen European coordination.
See http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf.

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