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International Association
of Insurance Supervisors

Global Insurance Market Report

(GIMAR)

2012 Edition

About the IAIS

The IAIS was established in 1994. Its membership includes insurance regulators and supervisors from over 190 jurisdictions in some 140 countries. More than 120 organisations and individuals representing professional associations, insurance and reinsurance companies, international financial institutions, consultants and other professional are Observers. The IAIS' mission is to:

- Promote effective and globally consistent supervision of the insurance industry in order to develop and maintain fair, safe and stable insurance markets for the benefit and protection of policyholders; and
- Contribute to global financial stability.

The IAIS provides an effective forum for standard setting and implementation activities by providing opportunities for supervisors to share their expertise, experience and understanding.

The IAIS coordinates its work with other international financial institutions and international associations of supervisors or regulators, and assists in shaping financial systems globally. In particular, the IAIS is one of the parent bodies of the Joint Forum together with the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO). It is also represented on the Financial Stability Board (FSB).

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1 Introduction and Executive Summary

This is the first issue of the Global Insurance Market Report (GIMAR). Key parts of this new report build on the work of the Reinsurance Transparency Group (RTG), which since 2004 has published studies on issues and developments in the reinsurance sector. Most prominently, the RTG issued semi-annually a Global Reinsurance Market Report, which henceforth will be an integral part of the GIMAR and no longer appear separately. The Members of the RTG, however, will continue to play a key role in the further development of the GIMAR.

The GIMAR collects data to document the performance of insurers as well as key developments in the global insurance market. With the exception of two chapters, the data is derived wholly from publicly available sources. For the purpose of this report, the industry is approximated by a sample of about 20 globally active insurers and reinsurers. In order to prevent reverse engineering, we abstain from publishing the entities in the GIMAR database. However, as the GIMAR database grows to include more companies, we are likely to revisit this policy of non-disclosure in future editions.

It resides in the nature of publicly available data that they reflect local accounting rules, which do not necessarily correspond to local statutory reporting. Chapters five and six, however, draw from a data pool built over the years by the RTG. It aggregates data provided by a number of jurisdictions involved in RTG work and confidential information provided by 48 reinsurers. The GIMAR builds on this tradition and will continue to publish this unique data set in future issues.

The GIMAR is produced by the IAIS Secretariat under the lead of the Economic Counsellor. It is data-driven and does not carry normative statements on supervisory issues. The GIMAR is neither an official policy paper nor an application paper, and it is not intended to reflect the views of the Members of the IAIS. The Members of the Macroprudential Policy and Surveillance Working Group have however reviewed and approved the GIMAR.

As the first in a new series, the GIMAR 2012 sets the baseline for subsequent reports. The introductions to a number of chapters are therefore a bit more expansive than they may be in future reports in order to provide context.

All in all, the data show global primary insurers and reinsurers to have been affected by the financial crisis and by the subsequent recession that affected many economies around the globe. This is underscored by the developments in premium growth, but also by key performance indicators.

However, the data attest also to the industry's resilience in the face of adverse developments. The primary insurers and reinsurers surveyed in the GIMAR set achieved sizeable performance improvements after the sharp downturn in 2008, and at the end of 2011 they appear to be better capitalised than at the beginning of the GIMAR reporting period in 2007.

This resilience is also documented in the chapter on reinsurance that specifically looks into the sector's development during and after two major natural catastrophe episodes in 2005 and 2011. The data reveals the reinsurance sector to have absorbed record-high losses in 2011 with a smaller impact on equity capital than in 2005, the former record-setting year with respect to natural catastrophes.

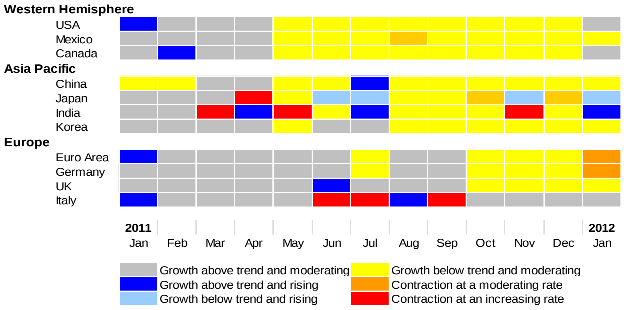
2 Global Insurance Market Developments

In 2011, global economic activity continued to be uneven. While growth in developed countries surprised on the upside, emerging and developing economies grew slower than anticipated. Positives were stronger than expected consumption in the United States, declining and eventually stable oil prices, and resilience in the face of supply-chain disruptions caused by the earthquake in Japan. The slowdown in emerging and developing countries was likely a result of early monetary policy action in reaction to rising headline inflation.

Financial markets remained volatile. At the beginning of 2012, the International Monetary Fund (IMF) diagnosed increased risks to financial stability. Developed and emerging economies were "susceptible to spillovers from a potential intensification of the euro area crisis."[1] Policy measures to contain potential adverse impacts included low interest rates in advanced economies. These rates continued to feed into low investment yields that now have prevailed for an extended number of years.

The insurance sector appears to have weathered the challenges of 2011 well. Despite losses caused by an exceptional series of natural catastrophes in the Asia and Pacific region, non-life insurers and reinsurers appear to have recovered most of their capital over the course of the year. At the same time, declining interest rates and a widespread recovery of equity markets benefited the year-end valuation of financial assets held by life and non-life insurers. Later sections in this report will examine in more detail the operating and financial performance of life and non-life insurers in 2011 as well as their capital position at the end of the year.

2.1: Global growth dynamics

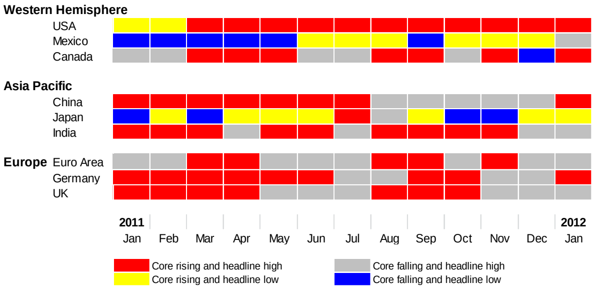


Source: Bloomberg, Datastream

2.1 The macroeconomic environment

At the beginning of 2012, global growth was in a precarious balance. While relatively strong impulses came from a number of Asian countries, North America (with the exception of Mexico) was growing above trend, but at moderating speed. In contrast, Europe was faced with a market growth slowdown. China, the former global growth engine, experienced also moderating growth below trend.

2.2: Global inflation dynamics



Source: Bloomberg, Eurostat

Inflation data, however, do not seem to reflect the sub-par growth developments. None of the countries surveyed in figure 1.1 above reported falling core inflation and falling headline inflation. In four of the nine countries headline inflation was high although core inflation was declining. In four countries, both core and headline inflation were rising and high, respectively.

The prospect of accelerating inflation in a generally weak growth environment raises challenges for the pricing of insurance products.

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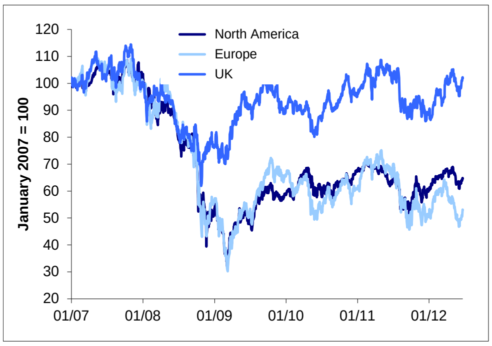
[1] International Monetary Fund (IMF), "Global Financial Stability Report, Market Update", January 2012.

2.3: Insurance industry market performance in selected countries and regions

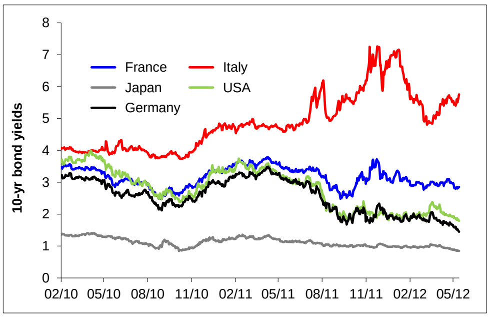


Source: Bloomberg

In advanced economies, equity markets suffered a setback in the first half of 2011, which in most cases was recovered over the course of the second half. However, in most countries share price levels seen at the end of 2011 continued to be lower than the levels recorded prior to the start of the financial crisis in 2007.

In general, the insurance industry mirrored broader equity market developments in both the downturn and upturn stages of the recent economic cycle.

2.4: Government bond yields in selected advanced economies

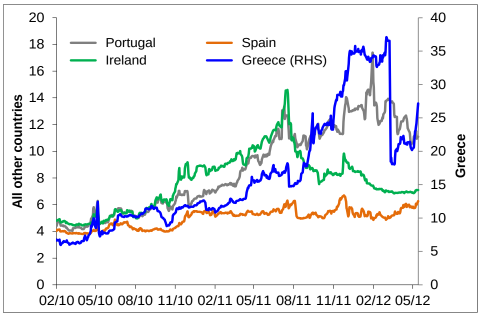


Source: Bloomberg

On the backdrop of weak economic growth and continued weakness particularly of European banks, the central banks of the US, the UK and the Euro Area (EA) kept policy interest rates at low levels. The near-zero interest rate policy was complemented by various forms of quantitative monetary easing, which appears to have mitigated, at least in the short term, potential bank funding pressures.

Market interest rates followed broadly the central bank lead. By the end of 2011, yields of sovereigns with high financial strength ratings were lower than at the beginning of the year. Exceptions were sovereigns in distress (see below) and those countries which, over the course of the year, had suffered a downgrade of their financial strength rating.

2.5: 5-yr CDS prices of high-spread Euro Area countries (basis points)

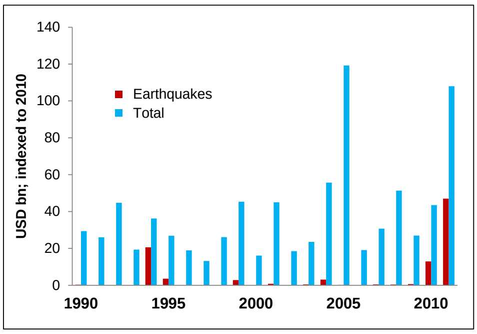


Source: Thomson Datastream

The EA sovereign debt crisis has resulted in a sharp deterioration of market-based financial strength indicators. In the case of Greece 5-year credit default swaps (CDS) traded at spreads of about 12,000 bp for a prolonged time. Such levels suggest that market participants reckon with a near 100% probability of Greece to default.

With the exception of Greece, CDS spreads for countries in the EA periphery have eased. But even at the much lower levels observed in the case of Portugal, markets continue to assign a comparatively high probability (larger than 50%) for distress.

2.6: Natural and man-made catastrophes (global)



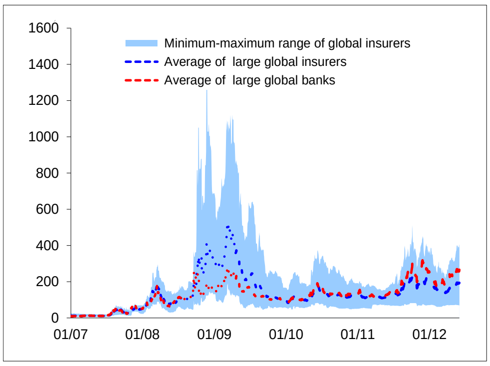
Source: Swiss Re

According to preliminary estimates, in 2010 total insured losses for the global (re)insurance industry from natural catastrophes and man-made disasters were US$ 108 bn. This is more than double the losses registered in the previous year and close to the record of 2005, when hurricanes Katrina, Wilma and Rita caused claims of more than US$ 100 bn in the United States alone.

While the total of insured losses fell slightly below the losses recorded in 2005, the last year brought a record in total economic losses, which reached US$ 350 bn. The bulk of the economic losses was accounted for by the earthquake in Japan, followed by the tsunami and a severe nuclear catastrophe.

(See also section 4 of this report.)

2.7: CDS spreads of global insurers

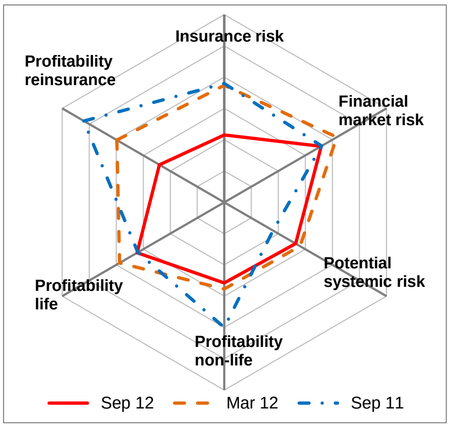


Source: Bloomberg

The financial market's perception of default – as expressed in credit default swaps (CDS) – shows distinct patterns for insurers and banks during the two phases of the current financial crisis. In the first phase, which approximately lasted from August 2008 through early 2010, our sample of globally active insurers was, on average, perceived to be more at risk of default than the average of the sample of global banks. The explanation for this comparatively negative view of insurers has to be seen in the explicit and implicit government guarantees extended to large banks in almost all countries. With few exceptions, guarantees were not granted to large insurance groups or conglomerates.

The situation became different in the second phase, which started in the summer of 2011 with the onset of the sovereign debt cum banking crisis in the euro area. By 2011 it was no longer clear whether highly indebted governments in particular would be financially capable and politically willing to extend guarantees to large banks. Consequently, market participants began to apportion a higher probability of default to the average of banks than to the average of insurers. The fact that insurers are also showing an increased perception of default must be attributed to their unavoidable investment exposure to large European sovereigns and to their continued exposure to debt instruments issued by European banks.

2.8: Key risks in the insurance sector



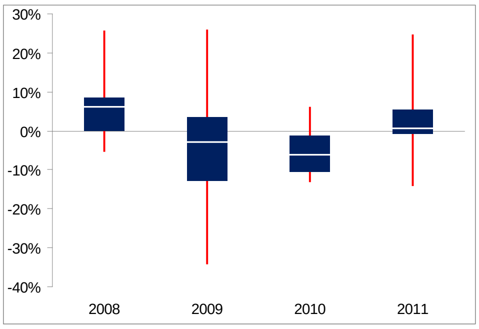
Source: IAIS

Insurance supervisors have a nuanced assessment of the risks impacting the sector. Starting in September 2011, the IAIS has been conducting surveys among selected supervisors at six-month intervals. This graph reports results that integrate the survey's granular findings, with each corner in the spider graph representing an aggregation of individual factors contributing to the specific risk.

The global summary reflects a comparatively benign risk assessment in September 2012 compared to the two previous periods. Supervisors see decidedly reduced risks to the profitability of all three sectors, which by extension would imply that solvency is also less at risk. The reinsurance sector experienced the largest improvement in supervisors' risk perception, which appears to be a reflection on – so far – benign natural catastrophe developments.

2.2 General Insurance

2.9: GPW growth in the general insurance sector



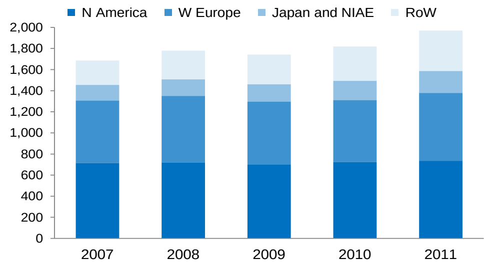
Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

Source: Bloomberg / IAIS calculations

The general insurance sector (in some jurisdictions also called non-life insurance) shows a marked reaction to the recession caused by the global financial crisis. On average (white line), premium growth (yearly rate of change of gross premium written – GPW) was negative in 2009 and 2010.

In 2009, the performance spread was rather wide, ranging from a negative 34% for the worst performer to a positive 26% growth rate reported by the best performer (the sample average was -3%). In 2010, the spread narrowed considerably, ranging from -13% to +6%, although with an average growth rate of -6%. In 2009 nearly 50%, and in 2010 all of the general insurers in our sample, recorded negative premium growth.

2.10: Non-life insurance regional growth distribution *(US$ bn)*



NIAE: Newly industrialised Asian economies
RoW: Rest of the World

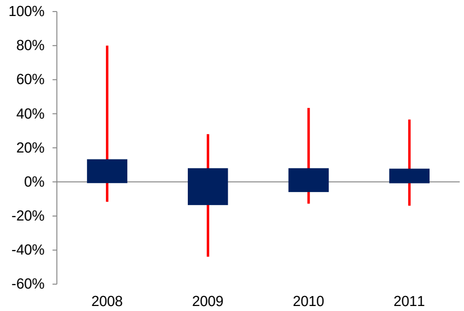
Source: Swiss Re

The regional growth performance of the general insurance sector again reflects the recession suffered mainly by Europe and the United States. In 2009, the whole Western European general insurance sector experienced a contraction of nearly 6%, followed by a contraction of a bit more than 1% in 2010. In contrast, the 2009 contraction in the North American general insurance segment was milder (-2.4%), and these insurers reported positive growth of 3% in 2010.

In contrast, the general insurance sectors in the Rest of the World (which lumps Latin America; Central and Eastern Europe; the Middle East; Central, South and East Asia; Oceania and Africa), as well as in Japan and the newly industrialised Asian economies, achieved positive growth rates in all periods. In 2010 and 2011, the general insurance sectors in the Rest of the World reported growth rates of 15.6% and 17.8% respectively.

2.3 Life Insurance

2.11: GPW growth in the life insurance sector



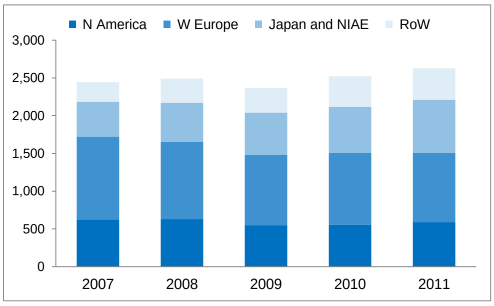
Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

Source: Bloomberg / IAIS calculations

In contrast to general insurance, our sample of life insurers was not nearly impacted as strongly by the recession in Europe and the United States. On average (white line), the life insurance sector contracted in 2010 only (-1% growth), but the performance range attests to a marked deterioration already in 2009, with nearly half of the companies reporting negative performance.

In 2009, the worst performing company in our sample reported a contraction of 44%, which was 10 percentage points worse than the performance of the negative outlier in our general insurance sample. With growth of 28%, the positive outlier in the life insurance sample performed slightly better than the best performing general insurance entity.

2.12: Life insurance regional growth distribution *(US$ bn)*



NIAE: Newly industrialised Asian economies
RoW: Rest of the World

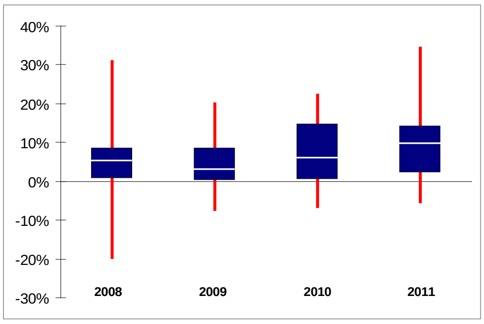
Source: Swiss Re

The regional growth performance (here again for the whole global industry as reported in the Sigma studies assembled by Swiss Re) shows a strong financial crisis cum recession impact only in 2009. In that year, the whole global life insurance market contracted by 4.9%, which was nearly 3 percentage points more than the contraction experienced in the general insurance sector. The North American sector contracted by 12.7%, while GPW in the Western European life insurance sector declined 8.8%.

As was true in the general insurance sector, Japan and the newly industrialised Asian economies as well as the regions lumped together in our Rest of the World category showed positive and at times double-digit growth rates throughout the whole period.

2.4 Reinsurance

2.13: GPW growth in the reinsurance sector



Yearly percentage change; maximum, minimum, interquartile distribution, and average

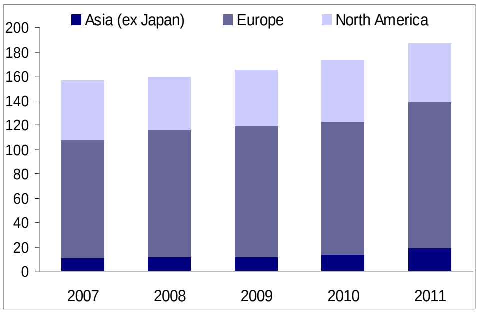
Source: Bloomberg; IAIS calculations

In reinsurance, average premium growth rates (white lines) were positive, ranging from 5% to 10% for the period 2008-11. The interquartile range (blue bar) was also positive, showing that 50% of the selected reinsurers experienced positive yearly growth rates in gross premiums written throughout the whole period since 2008.

However, the financial crisis and the ensuing recession in Europe and the United States created a large performance difference, with GPW growth performance ranging from a negative 20% to a positive 30% already in 2008. The best growth performance in the four-year period was reported in 2011 with GPW growth of 34%.

In 2011, 50% of our reinsurance sample reported GPW growth rates between 2% and 12%, with an average growth rate of 10%. Only one reinsurer reported a negative GPW growth rate of 5%.

2.14: Reinsurance regional distribution *(US$ bn)*



Source: Bloomberg

The review of gross premiums written (GPW) by region of domicile shows that over the last five years GPW of selected large reinsurers have steadily grown from US$ 157 bn in 2007 to more than US$ 180 bn in 2011. This represents a 19% increase for the period and may be used as an estimate for the overall market growth.

Growth was primarily driven by European reinsurers whose GPW increased 22%, from US$ 98 bn to US$ 120 bn. European reinsurers account for more than 60% of our sample GPW in each of the five years. In contrast, North American reinsurers wrote between 26% and 31% of gross premiums over the same period, while the remainder was written by Asian entities, excluding Japan.

3 Investment and Capital Market Activities

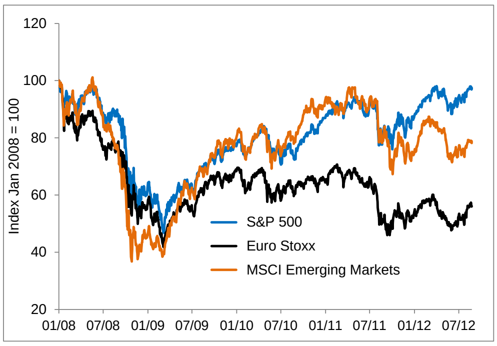
Ever since the start of the financial crisis in August 2007 the environment for insurance investment and other capital market activities has become very challenging. The first phase of the crisis, which was characterised by a sharp collapse in the values of a broad range of financial assets, appeared to have left the industry – with a small number of glaring exceptions – relatively unscathed. Average returns on investments (ROIs) captured in our sample of primary insurers have been comparatively unaffected, and the bulk of our sample was able to generate positive ROIs through the whole period since 2007.

The second, and still on-going phase of the crisis, began in 2011 with the outbreak of the sovereign debt crisis in the euro area. It is characterised by market concerns about debt sustainability and the continuation of support for adjustment programs in the smaller countries of the euro area's periphery. In the summer of 2012 these concerns threatened to broaden and contaminate also countries in the euro area's centre.

For the time being, however, policy interventions staged by major central banks, and above all the European Central Bank, have prevented yet another tail event. That said, financial markets continue to be on edge, investment returns are likely to be volatile for some time, and interest rates, both as result of policy action and, in certain countries, flight to safe havens, will likely stay at historically low levels.

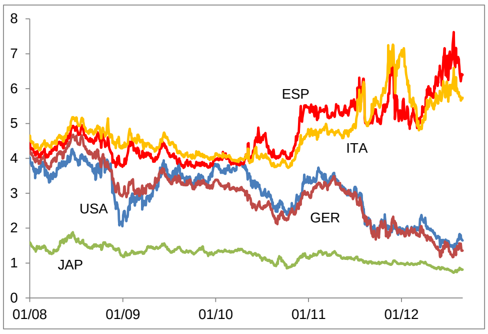
3.1 Financial market environment and impact on insurance investments

3.1: Equity market developments by region



Source: Bloomberg

3.2: Selected government bond yields
(*10-year bond yield in %)*



Source: Bloomberg

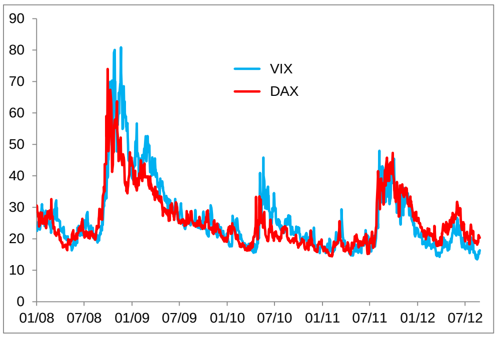
Regional equity markets developed on different trajectories after having reached nearly simultaneously the financial crisis-induced nadir in October 2008. Through April 2011, the US stock market S&P 500 index and MSCI Emerging Market index recovered, almost recovering from the previous losses. Over the same period, the European market decoupled, and as the sovereign debt crisis in the euro area became acute, European stocks suffered comparatively more than equity shares in other regions.

Set-backs accompanied by flare-ups in market volatility (see fig. 2.2) continued through recent times, creating a challenging investment environment for insurers. In 2012, market conditions worsened significantly in the second quarter, with measures of risk aversion and financial stress reverting to the levels last observed toward the end of 2011.

Sovereign bond markets were also reflective of the stress situations caused by the financial crisis. The flight to safe assets continued to drive down the yield of government bonds in the United States and Germany (but also in smaller safe havens such as Switzerland) to historical lows, while the yield on the Japanese bond continued to hover at a very low level. The safe-haven inflow to these countries led also to a sizeable appreciation of the yen, US dollar und Swiss franc, but not of the euro.

Developments in the euro area were overshadowed by the sharp increase in yields of those countries for which markets had developed concerns about the pace of economic growth, the health of banks, and the sustainability of high and ever increasing public debt-to-GDP ratios.

3.3: Expected volatility of the German and US stock markets *(in %)*



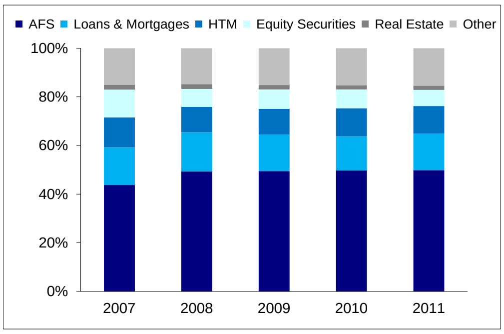
Source: Bloomberg

While stock market volatilities have recovered from the sharp spikes observed at the peak of the financial crisis, the end of 2011, and to a smaller extent the second quarter of 2012, saw renewed surges. Investors appear to have seen significant risk that the markets would suffer a sharp directional change (low expected volatility values would indicate that investors see little upside or downside risk in the market).

3.2 Insurance investments

Composition of investments

3.4: Composition of insurance investments



AFS: Bonds, available for sale
HTM: Bonds, held to maturity

Source: Bloomberg

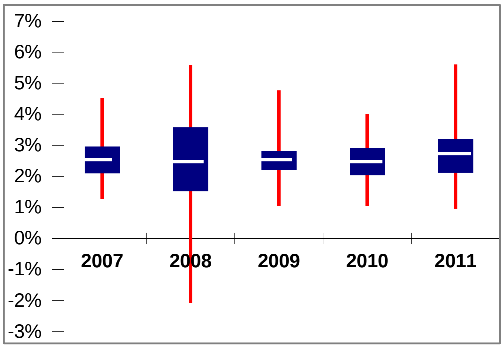
For the period 2007 through 2011 the investment portfolios of insurers reflect a considerable degree of balance sheet de-risking.

The major proportion of insurance investments is allocated to fixed income securities both available for sale (AFS) and held to maturity (HTM). Between the years 2007 and 2011, insurers increased the share of these two categories from 56% to 61%. The bulk of this growth occurred in the AFS category; its proportion increased from 44% to 50%.

At the same time, and evidently under the impression of volatile and at times depressed stock markets, primary insurers reduced the proportion of equity shares from 11% to 7%. While the reallocation allowed for a short-term de-risking of the balance sheet, it comes at the price of higher interest rate risk at some time in the future.

Return on investments

3.5: Return on investments of primary insurers



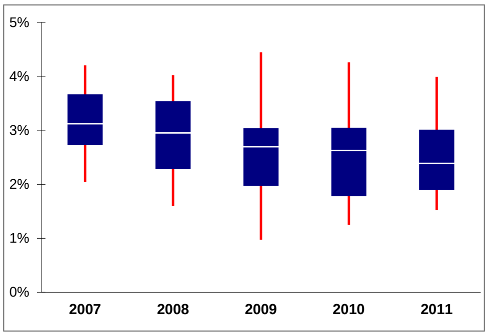
Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

Source: Bloomberg

Despite the financial crisis, the return on investments (ROI) of primary insurers shows a remarkable resilience throughout the whole period.

On average (white line), the sample of selected primary insurers achieved an ROI oscillating between a minimum of 2.47% (2010) and a maximum of 2.80% (2011). And 75% of all primary insurers under consideration managed to report positive returns on investments throughout the whole period. The only outlier with a negative return of 2.09% was recorded in the crisis year 2008.

3.6: Return on investments of reinsurers



Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

Source: Bloomberg

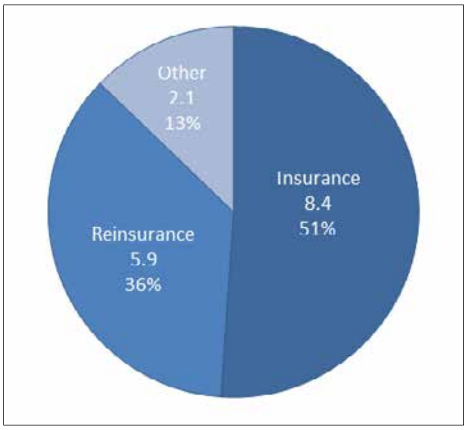
While the returns on investments reported by the reinsurers selected for our sample show considerable more variation, they nevertheless remained positive through all the financial crisis years.

Over the period, the average ROI of reinsurers declined from a maximum of 3.15% in 2007 to a minimum of 2.49% in 2011. The deterioration appears to indicate that investment portfolios of reinsurers were more affected by the financial crisis than the portfolios of primary insurers.

At the same time, reinsurers as a group did not experience the performance compression observed by primary insurers in the year 2009. The spread between worst and best performers and the interquartile distribution (75% range) remained fairly constant through the whole reporting period.

3.3 Market activities in insurance-linked securities (ILS)

3.7: Cumulative ILS provided by type of sponsor (2009 – July 2012**;** *US$ bn)*



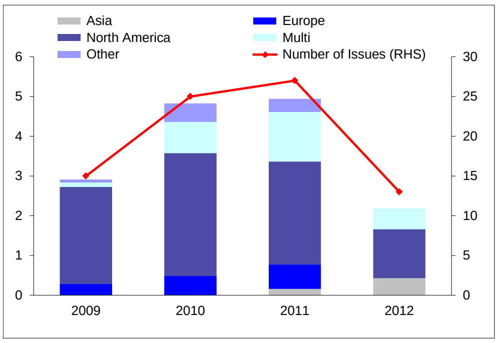
Source: Bloomberg, Artemis

Insurers sponsored more than half (51%) or US$ 8.4 bn of insurance-linked securities (ILS) issued since 2009. Based on a sponsored volume of US$ 5.9 bn, reinsurers represented the second largest group (36%) during that period. Private groups and associations who pool funds or individual non-financial companies (Other) sponsored the remaining ILS activities during that period (13%) or US$ 2.1 bn.

The larger share of the insurance sector is mainly due to the sometimes larger size of ILS structures issued by insurance companies, since reinsurers and insurers issued almost the same number of ILS vehicles since 2009.

ILS activities sponsored by primary insurers are more pronounced in North America than in Europe, whereas European reinsurance companies are more involved in ILS activities than North American reinsurers.

3.8: Cumulative ILS volume by region *(2009 – July 2012; US$ bn)*

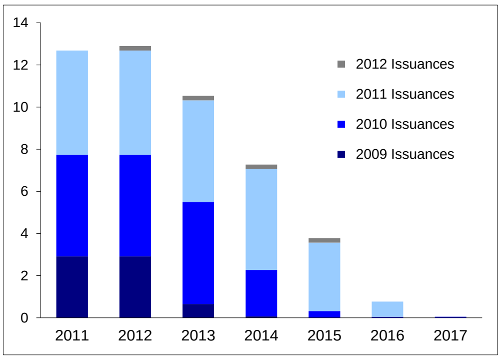


Source: Bloomberg, Artemis

The regional breakdown highlights the importance of North America. It attracts the largest share of cover from ILS arrangements. And it accounted for more than 60% of the protection by way of ILS arrangements since 2009. A significant portion of those arrangements for North America covered hurricanes, earthquakes and thunderstorms.

North America's importance decreased at the same time due to the growing importance of ILS coverage in other regions. However, the contraction seen in North America was offset by an increase in multiregional ILS cover. The importance of such specific ILS solutions, which provide cover for events in two or more geographical areas, grew throughout the entire observation period. Multi-regional arrangements accounted for 18% of the ILS cover since 2009.

3.9: Total ILS coverage extended
(2009 – July 2012; US$ bn)



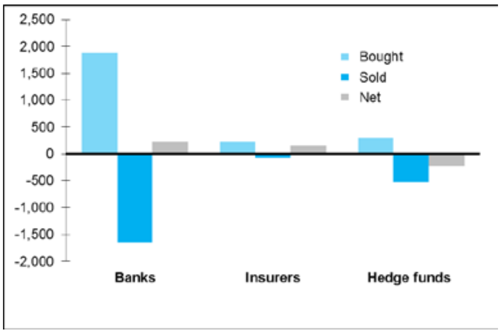
Source: Bloomberg, Artemis

Access to ILS cover is based on the issuance of bonds with a typical duration of three years, although in some cases duration can be longer. The access to ILS cover is fairly constant in 2011 and 2012. Based on issuances to date (July 2012) one expects to see the same levels again in 2013, once the annual ILS issuances have kicked in.

ILS arrangements add to the on-going carrying capacity of the reinsurance market. The obvious contribution is the additional protection for any given year. ILS arrangements, in addition, represent one way to replace cover, if insurers and reinsurers would withdraw capacity from the market.

3.4 Other capital market activities of insurers and reinsurers

3.10: CDS sold and bought by sectors



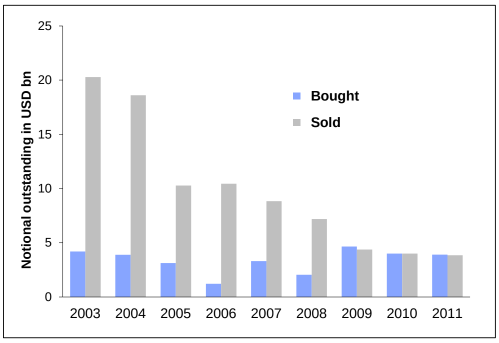
Source: BIS OTC derivatives statistics, May 2012

At 31 December 2011, the notional amount of CDS protection *bought* by insurers and reinsurers in 2011 amounted to US$ 227 bn. In the same period, the CDS protection sold by insurers and reinsurers was significantly lower (US$ 70 bn). The finding that insurers and reinsurers are CDS net protection buyers is in line with observations from the prior year.

Both the protection sold and bought by insurers and reinsurers pales compared to the volumes offered by banks. As at 31 December 2011, banks *bought* protection in the amount of US$ 1'872 bn and they *sold* US$ 1'652 bn.

The data reveals that hedge funds were a lot more active in the CDS market than insurers and reinsurers. They bought less protection (US$ 305 bn) than they sold (US$ 530 bn).

3.11: CDS bought and sold by reinsurers



Source: IAIS

Reinsurers have continuously reduced the notional amount of CDS protection sold within the last nine years. In 2003, when the IAIS started its data collection through the Reinsurance Transparency Group (RTG), CDS protection sold by reinsurers was at a high of US$ 20.3 bn. It fell to a low of US$ 3.8 bn in 2011.

During that period reinsurers increased the amount of protection bought. With US$ 3.9 bn in 2011 the amount of protection was close to the level in the two previous years (US$ 4 bn in 2010). According to IAIS data, reinsurers have, over the years, reduced to zero their role as CDS net protection suppliers. Since the moderation may turn out to be temporary continued monitoring of CDS activities is warranted.

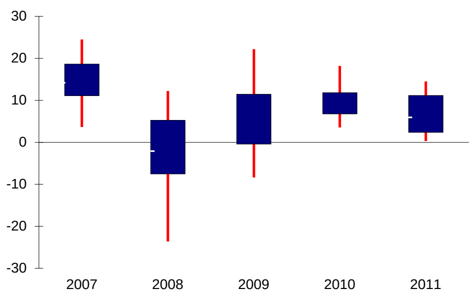
4 Underwriting Performance and Profitability

This section reviews selected indicators focusing on overall sector profitability, developments of industry-wide shareholders' equity, and underwriting performance in general insurance.

In light of the small sample of our industry cohorts, the findings have to be interpreted cautiously. The data nevertheless corroborate other studies[2] and in particular the view that the insurance sector – with a few glaring exceptions – weathered the financial crisis comparatively unscathed. While the demand for insurance products can be susceptible to the economic business cycle, the underwriting performance appears to be affected more strongly by insurance-specific developments, such as severe catastrophes in the case of general insurance. As far as life insurance is concerned, our data is unfortunately not granular enough to shed light on the question to what extent – if any – the financial crisis impacted policyholder behaviour in general and surrender rates as well as lapse rates in particular.

4.1 Key performance indicators

4.1: Return on equity; general insurance



Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

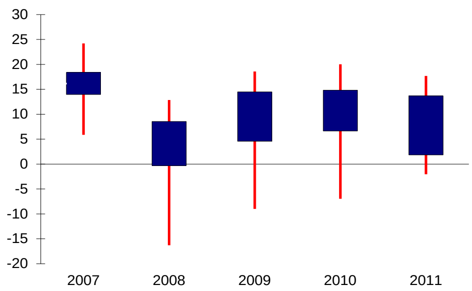
Source: Bloomberg

The crisis impact on general insurers was particularly severe in 2008, with the average return on equity (ROE) of our sample declining sharply from 14.8% to -3.1%. However, ROEs returned to positive territory already in 2009, and the bulk of general insurers (the 50% interquartile range denoted in solid blue) reported positive ROEs since 2009.

We note, however, that the economic slowdown experienced in most advanced market economies (AME) and the onset of the sovereign debt cum banking crisis in the euro area took a toll in 2011, with the average ROE declining from 9.8% in 2010 to 6.9% in 2011.

Note: In order to eliminate severe statistical distortions we excluded from the sample one large general insurer that reported a negative ROE of 68.8% in 2008.

4.2: Return on equity; life insurance



Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

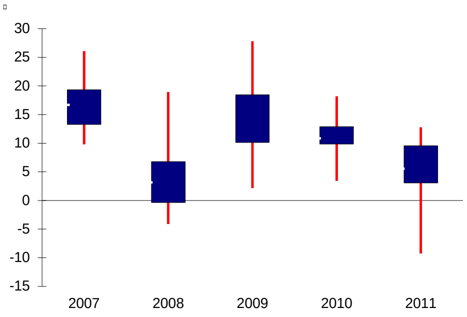
Source: Bloomberg

Overall profitability of the life insurers in our sample mirrored the general insurance sector during the whole reporting period. While the bulk of life insurers (the 50% interquartile range denoted in blue) reported positive ROEs throughout the period, the decline in average ROE was much more pronounced, dropping from 16.3% in 2007 to 2.2% in 2008. After the crisis shock, ROEs oscillated in a fairly stable range between 8% and 10%.

As on the general insurance side, the impact of the sovereign debt crisis in the euro area led to a decline in average profitability. After an intermediate peak of 9.8% in 2010 the average ROE fell to 8.4% in 2011.

[2] See for example the chapter on the insurance sector in the half-yearly Financial Stability Reports published by the European Central Bank.

4.3: Return on equity; reinsurance



Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

Source: Bloomberg

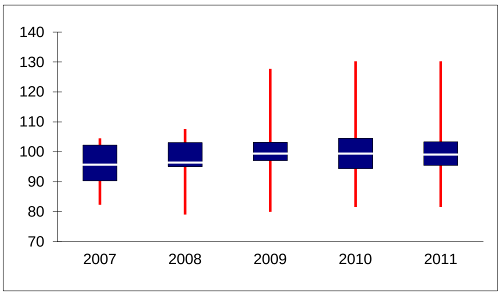
Between 2007 and 2011 the performance of reinsurers followed even more closely the pattern observed in the general insurance sector, although the bulk of our sample kept reporting positive ROEs throughout the period.

After peaking at 16.5% in 2007, the average ROE of reinsurers declined sharply to 4.2% in 2008. It recovered to 14.1% in 2009, followed by steady erosion to 5.1% in 2011.

In a probably sector-specific development, it appears that the overall profitability of reinsurers, even more so than the ROE of primary insurers, was impacted both by the financial crisis and the underwriting losses incurred in the wake of the exceptionally large natural catastrophes observed in 2011.

Note: In order to eliminate severe statistical distortions we excluded from the sample one reinsurer that displayed particularly wide swings in ROEs for the 2008 and 2009 reporting periods.

4.4: Combined ratio; general insurance



Yearly percentage change; maximum, minimum, interquartile distribution, and average (white line)

Source: Bloomberg

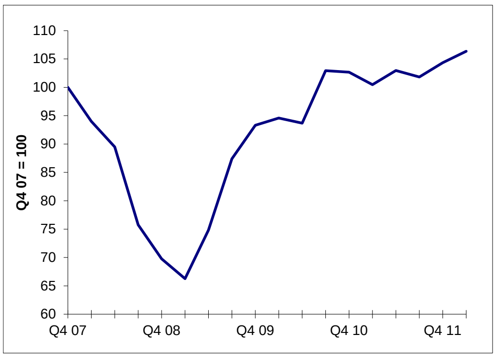
The combined ratio (expenses plus incurred insurance losses relative to earned premium) is the general insurance benchmark for underwriting performance.

The graph illustrates that the underwriting performance tends to be broadly unaffected by financial crises and economic business cycles. Over the period, the average combined ratio worsened steadily from 95.9% to 99.3%, with the most recent number reflecting also the deterioration in the wake of exceptionally large natural catastrophe losses incurred in 2011.

On average, the sample combined ratios remained below 100%, indicating that companies reported profitable underwriting throughout the period. However, with ratios of 130%, certain outliers reported also large underwriting losses.

4.2 Shareholders' equity

4.5: Development of shareholders' equity; primary insurers

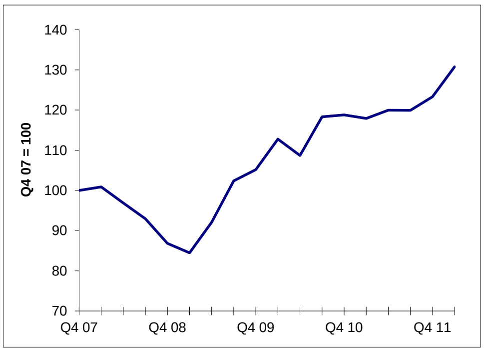


Source: Bloomberg

The next two graphs report the development over the period of unweighted sums of shareholders' equity indexed to the fourth quarter of 2007. We take these sums as admittedly rather poor proxies for the development of solvency.

Quarterly developments show a dramatic, however comparably short-lived, impact of the financial crisis on insurers' equity capital. Between the end of 2007 and the first quarter 2009 shareholders' equity of primary insurers declined to 66.3% of the value reported in the fourth quarter 2007. By the end of the fourth quarter 2009, aggregate equity capital had recovered to 93.3% and it exceeded the 100% mark in the third quarter of 2010.

4.6: Development of shareholders' equity; reinsurers



Source: Bloomberg

The reinsurers of our sample appear to have been even more resilient in the face of the financial crisis. The temporary loss in equity capital was smaller – only to 84.5% in the first quarter 2009 – and the subsequent recovery was more pronounced. Already in the third quarter of 2009 the 100% mark was surpassed, and by the end of the period, the reinsurers in our sample reported an aggregate equity capital of 130.8% relative to the 100% reported in the fourth quarter of 2007.

5 Reinsurance

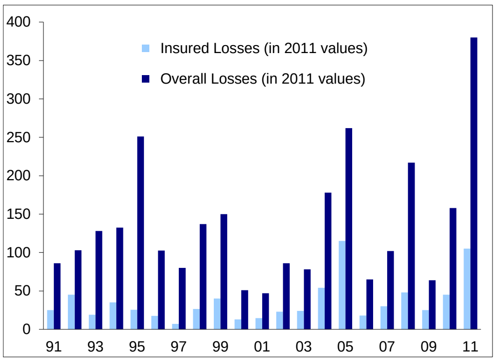
This section reviews catastrophic events and considers the impact on the reinsurance market. It also provides selected insights into the overall development and resilience of the reinsurance market based on a survey of about 50 reinsurance companies reporting through the IAIS Reinsurance Transparency Group (RTG). The collection of the unique data set started in 2003 with 38 companies from seven countries and has since been expanded to cover a larger universe. This report draws from 48 reinsurance companies from nine countries.

Major insured catastrophes are relevant for the reinsurance sector because providing coverage of peak risks is a core business of reinsurers. This section specifically covers the losses of the catastrophe year 2011, a year with unprecedented economic losses that triggered significant, but not incomparable, (re)insured losses. The years 1992, 2001 and 2005 saw also unprecedented and extreme loss events. Each of these events represented at that time the largest insured and reinsured catastrophe.

Understanding the potential impact of large-scale catastrophes is essential, particularly with respect to the development of shareholders' equity. Overall reinsurers lost more shareholders' equity due to the financial crisis in 2008 than they lost due to the unprecedented catastrophes in 2011. As shown in Figure 4.6, reinsurers' shareholders' equity is currently at a higher level than it was in 2007 - before the financial crisis and unparalleled catastrophes occurred.

5.1 Catastrophic events in review

5.1: Natural catastrophe losses
(US$ bn)



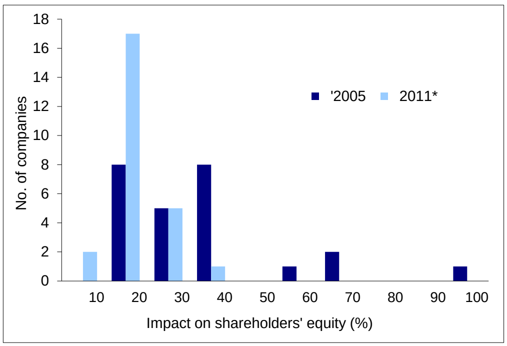
Source: Munich Re, UNIDSR

In 2011, reported economic losses due to natural catastrophes were in excess of US$ 350 bn. They were the largest economic losses in history, resulting in the second largest amount of insured losses of approximately US$ 105 bn.

The 2011 disasters occurred primarily in high and middle-income countries. The biggest disaster in terms of economic losses was the US$ 210 bn earthquake/tsunami in Japan. Other large losses were US$ 31 bn due to storms in the USA and US$ 40 bn flood losses in Thailand. In total, there were 820 natural disasters in 2011 and nearly 30,000 fatalities (approx. 300,000 in 2010) with over half of the fatalities in Japan.

The year with the second largest volume of economic losses was observed in 2005. It saw the largest insured losses to date. In particular hurricanes Katrina, Rita and Wilma, which impacted the US Gulf Coast, caused unprecedented economic and insured losses. Overall economic losses in 2005 amounted to US$ 176 bn; insured losses peaked at US$ 120 bn (both at 2011 values).

5.2: Impact of 2005 and 2011 natural catastrophes on reinsurers

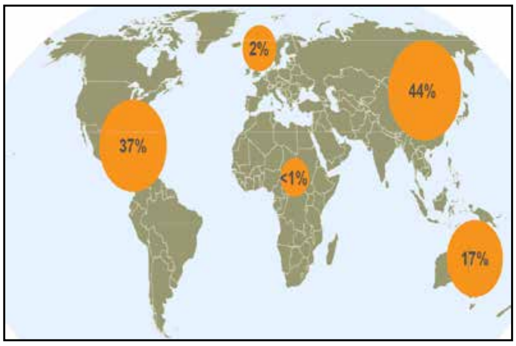


Source: Guy Carpenter

As natural catastrophes in 2005 and 2011 caused the so far largest (re)insured losses, the overall losses were within a similar range of magnitude in both years. However, the impact on shareholders' equity of reinsurance companies was different. The data highlights that the events of 2011 had a relatively smaller impact on shareholders' equity. In 2011 the majority of companies suffered an adverse impact of 20% and below. A reinsurance company that suffered a reduction of 40% in shareholders' equity marked the maximum impact in 2011.

In 2005 the majority of reinsurance companies lost 30% and more of their shareholders' equity. Within that group were four companies for which the shareholders' equity deterioration exceeded 60%. One reinsurer lost almost 100% of equity capital. The necessity to improve catastrophe modeling techniques was among the lessons learned from the extreme events in 2005. It is likely that these improvements contributed to the better performance (i.e. reduced losses of equity capital) of reinsurance companies in 2011.

5.3: Distribution of insured natural catastrophes (2011 in %)



Source: Munich Re Nat.-Cat. Service

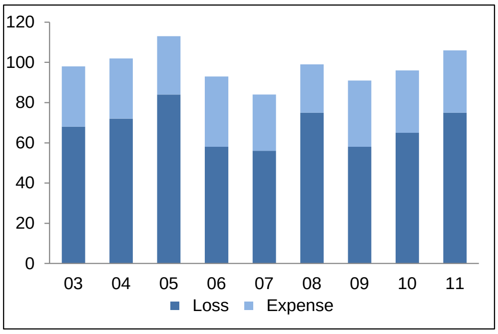
Asia, Australia and New Zealand accounted for almost two-thirds (61%) of the insured losses caused by natural catastrophes in 2011. The number is significantly higher than the average (18%) for the period 1980 to 2011.

This long term average, approximately 18% of the insured losses worldwide occurred in the regions Asia and Australia, is broadly in line with the share of global insurance premiums that has been paid within Asia, Australia and New Zealand.

However, insured losses in Asia, Australia and New Zealand increased already prior to 2011. This development triggered ongoing adjustments with respect to the offered (re)insurance capacity and led also to higher risk premiums in specific lines of business.

5.2 Profitability

5.4: Combined ratio



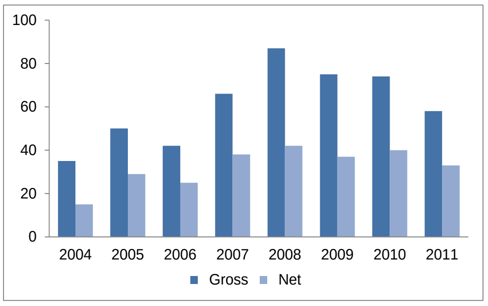
Source: IAIS

As reviewed in the previous section, 2011 saw significant catastrophic events, leading to major reinsured losses. Survey results show a loss ratio of 75 for the year 2011. It denotes a remarkable result in the history of the IAIS survey underscoring the challenging year faced by reinsurers. Only the year 2005 resulted in a higher combined ratio (84), while 2008 had the same ratio of 75.

The expense ratio stood at 31 for 2011, unchanged from 2010. This led to a combined ratio of 106. Only the year 2005 marked a higher combined ratio (113), so far highest in the history of IAIS surveys (2003-11).

5.3 Capital adequacy

5.5: Gearing ratio



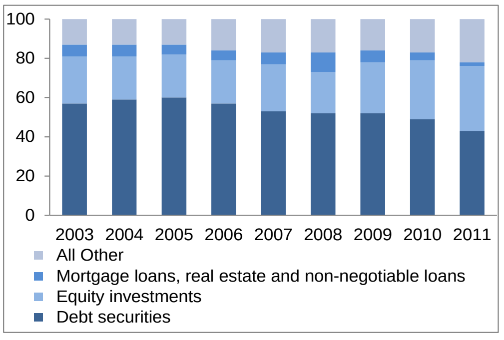
Source: IAIS

Gearing ratios for 2011 signal strong capital positions within the industry. Gearing ratios measure the dependency of reinsurers on reinsurance and retrocession relative to the total available capital.

In 2011 reinsurers returned a gearing ratio of 58 and a gearing ratio net of collateral of 33. Each of these ratios marked a drop from 2010 when gearing was at 74, and gearing net of collateral at 38.

5.4 Assets

5.6: Asset composition (%)



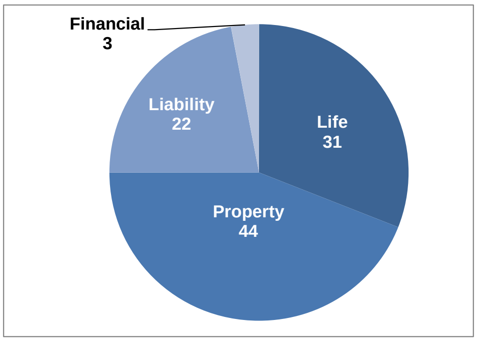
Source: IAIS

Reinsurers that participated in the IAIS RTG survey report total invested assets of US$ 772 bn in 2011. The distribution of assets shows a marked increase in risk appetites.

Investment in debt securities declined to 43% of total investment, the lowest share of assets linked to debt securities in the history of the survey (2010: 49%). This decline was offset by a rise in equity shares and “all other” (mainly cash) investments. The proportion of equity shares rose to 33% of all investments (2010: 30%), the largest proportion since the survey’s inception in 2003. The category “all other investments” rose to 22% (2010: 17%) and investment in mortgage loans, real estate and non-negotiable loans declined to 2% (2010: 4%).

5.5 The global reinsurance market

5.7: 2011 Reinsurance premiums assumed by lines of business (%)

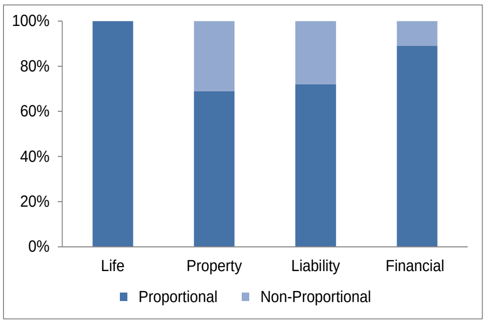


Source: IAIS

In 2011 the structure of the global reinsurance market, per gross premiums assumed, is about one-third life reinsurance and two-thirds non-life reinsurance.

Within non-life reinsurance, property reinsurance accounted for 44% of premiums assumed. Liability coverage amounted to 22%, and financial lines to 3% of all reinsurance premiums assumed in the year.

5.8: Proportional and non-proportional reinsurance



Source: IAIS

The almost 50 reinsurers reporting through the IAIS RTG provide information on the premiums assumed by contract type within each business line.

Almost all life insurance business reported by participating reinsurers in 2011 is proportional. A proportional reinsurance contract specifies that the primary insurer and the reinsurer share losses and premiums by a defined ratio.

In contrast the reported non-life business for that period contains a higher degree of non-proportional contracts. In 2011, 31% of the property coverage, 28% of the liability coverage and 11% of the financial lines were non-proportional business.

5.9: Risk transfer between regions
(2011* in US$ bn)

	1	2	3
Europe	99	-52	47
North America	72	-88	-16
Asia and Australia	2	-23	-21
Africa and Middle East	-	-4	-4
Latin Anmerica	-	-7	-7

(1) = Gross assumed by reporting entities
(2) = Gross ceded to reporting entities
(3) = (1)-(2) = Net position

Source: IAIS

*As reported for the GIMAR 2012.

Aggregated gross reinsurance premiums assumed and ceded by region highlight that European entities are net insurance risk takers, assuming US$ 47 bn more in risk than they were ceding. This is in contrast to North American entities that cede more than they assume leading to a net position of US$ -16 bn. On aggregate all other regions also cede more than they assume but to a lesser degree than the entities in North America. These findings are in line with observations in previous years.

Additional information on the risk transfer among regions would become available, if the effects of intra-group transactions could be reported on a more granular basis.

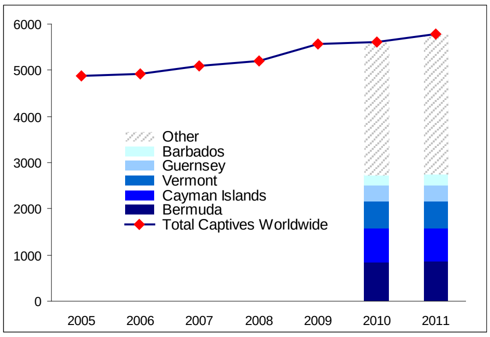
6 Special Topic: Captive Insurance

This section reviews developments in the captive insurance market focusing on overall market size and growth, typical parent companies, as well as selected loss and expense ratios.

While insurance supervisors have become increasingly interested in insurance captives, worldwide comparable data on captive insurance is rather limited. Bermuda is one of the larger captive markets where over time more granular information has become available. The second part of this section reports on data provided by the Bermuda Monetary Authority (BMA). It is hoped that other jurisdictions will provide similarly comprehensive data on captives in the future.

A driving force behind the growing size of the insurance captive sector is the fact that especially large non-financial companies increasingly rely on self-insurance. Only remaining peak risks that are not self-insured by these non-financial companies are transferred to insurance companies.

6.1: Number of captives worldwide



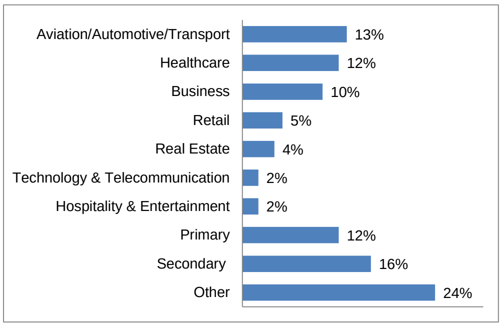
Source: Business Insurance

Between 2005 and 2011 the number of captives has grown by approximately 900 companies (fig. 6.1). At the end of the period 5,785 captives were reported.

The world's largest domicile for captives is Bermuda, which at the end of 2011 had 862 captives (845 in 2010). It was followed by Cayman Islands with 707 captives (705 in 2010) and Vermont with 590 captives (572 in 2010).

Although Bermuda accounts for approximately 15% of total captives worldwide, it cannot be concluded that 15% of total business for captives worldwide is written in Bermuda.

6.2: Captives by industry of parent



Source: BMA

A decomposition of Bermuda captives by industry of the parent company highlights the importance of the secondary sector comprising manufacturing, science, construction, as well as power and utilities. This sector represented 16% of total captives in 2010.

The primary sector is comprised of mining, metals and forestry. These companies account for 12% of total captives domiciled in Bermuda. The residual of more than 70% of captives in Bermuda is to a large part owned by companies in the tertiary sector. The largest single tertiary sector category is healthcare (12%), followed by business services and financial institutions (10%).

Further monitoring may result in a more comprehensive picture with respect to the worldwide distribution of insurance captives by industry of the parent company.

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