Global Non-life insurance in a time of capacity shortage

Swiss Re

The deterioration of underwriting profitability

Non-life insurance markets are suffering from the effects of a long and severe soft market. Profitability is still low, but the underwriting conditions are improving. During the soft market, rising insurance capacity and fierce price and market-share competition led to widely available coverage and low premium rates. Underwriting results declined in all major markets. Net investment results, including realized capital gains, increased through 1 998 in most major markets, bridging the gap between deteriorating underwriting profitability and providing a small improvement to net income. Investment returns worsened after 1 999 as interest rates bottomed out and stock markets stalled, setting the stage for the hardening of the market.
As equity markets began to decline sharply in 2000, non-life insurers came to a simple realization — underwriting results needed to improve in order to maintain profits. The rising dependence on investment income could no longer be sustained, and the industry's capital base contracted, reducing the total capacity that could be provided to insurance clients. Commercial-lines and reinsurance premium rates began to improve in late 2000, with rates rising and terms and conditions tightening.1 After September 11, the hardening of the market accelerated. The price increases have been substantial and profitability is expected to be restored in 2002, provided losses for the year are average.
The key to insurers' profitability in the late 1999s was extraordinary investment performance. At the beginning of the decade, interest rates were high by historical standards, but declined during the decade, producing capital gains. The equity markets, with the exception of Japan, boomed. Investment income increased in importance to insurers, with net investment results rising from about 13-15% of net premiums in 1 995 to about 18-20% in 1 999/2000. Strong investment performance fueled both excess capacity and aggressive pricing, a classic case of "cash-flow underwriting."

By the end of 2000, non-life insurers in most major markets needed to improve their underwriting performance by 9 to 14 percentage points, depending on the market, to achieve an average return on equity without realizing capital gains. insurers were smoothing underwriting results via reserves policy and reinsurers.
Commercial-lines and reinsurance rates were deficient by some 30-50%, depending on the market. Prices had declined even more in some small market segments like aviation.

The year 2001 was for many markets one of the worst years (or even the worst year) in insurance history. Profitability suffered due to a combination of weak investment results, inadequate rates, the need to strengthen reserves, and unprecedented catastrophe losses. In 2001, the US insurance industry experienced its first net loss since market data have been collected - a period of over 100 years. European insurers' decline in investment results mostly outweighed improvements in the technical results. The only exception is the UK market, where the strongly improving underwriting result enhanced the overall profitability. The 2001 results of the European non-life markets would look much worse if they included reinsurers, due to the reinsurers' share of the September 11 claims.

Changes in the environment

Non-life insurers have emerged from the recent soft market facing a different environment. (1) The industry's capital funds have diminished dramatically, probably by USD 180 billion, which implies a capital shortage in commercial-lines insurance and reinsurance. (2) The investment climate has changed for the foreseeable future from high yields during the 1 990s to low yields that are not sufficient to support underwriting losses of the magnitude of the late 1 990s. (3) The post-Enron world of accounting and regulation demands transparency and does not favor overly complex transactions. (4) International terrorism has become an additional exposure, challenging the limits of insurability.

Depletion of capital
The soft market, the accumulation of major losses (including September 11), and the decline in equity markets have reduced the industry's capital base in all major markets. Solvency ratios had already started to decline in 1999 in the UK and in most other markets by 2000. The US non-life industry's capital funds declined in 2001 by USD 27 billion or 8.5%. In 2001, non-US insurers are estimated to have lost about USD 60 billion in capital funds due to losses in their equity portfolios. As a result, worldwide non-life capital decreased by about USD 90 billion in 2001. With the current stock market performance, 2002 looks set to be the third consecutive year of capital decline. By August, US insurers' capital funds were down some USD 36 billion due to losses in equity investments. We estimate a loss of EUR 40-50 billion in European insurers' capital funds in 2002 so far. European insurers suffer more from a bear market - on average - due to their higher shares of equity investments. All these losses add up to an estimated decline of currently USD 180 billion or 25% from the peak of global non-life capital funds of USD 700 billion reached at the end of the year 2000.

The insured loss from the WTC attack on September 1 1 could be as much as USD 40-50 billion, About 40% of this loss will be borne by North American primary insurers and reinsurers. European insurers will bear about 50% of the loss - with reinsurers shouldering most of this burden - and Bermuda insurers the rest.*The global reinsurance market could be liable for about 60% of the total loss, with the remaining 40% falling to the primary insurance sector. In 2001. the combined ratio of the largest global reinsurers rose to 1 34%, while the combined ratio of US reinsurers rose even higher to over 140%. Like primary insurers, reinsurers also suffered from the stock market crash and declining interest rates. Only a few of the major reinsurers were not forced to show negative overall profits from their reinsurance activities in 2001. Despite various capital-raising and capital-saving initiatives, the shareholder's equity of top insurers decreased on an overall basis.

Capacity is particularly tight among commercial-lines insurers and reinsurers. A few (eg, Swiss Re) raised fresh capital from the capital markets, others followed capital-savings strategies like selling minority stakes (eg, SCOR sold Coface) or suspending dividend payments (eg, Hannover Re). Similar to the early 1 990s, there is also another trend towards spin-offs or demergers. Some capital-restricted companies have decided to divest themselves of units that are active in capital-intensive lines of business like commercial lines or reinsurance, in order to focus their capital funds on a smaller operation. Zurich has successfully spun off its reinsurance carrier Converium and others are planning to follow suit (eg, AXA, Gerling, and St. Paul).

The tight capital situation is reflected in the increasing number of downgrades of major insurers by rating agencies. In the US, the share of AAA-rated capital funds has declined to 1 9%, from 38% two years earlier. Two examples are the loss of AAA ratings by State Farm and Firemans Fund. The reinsurance market has also experienced a series of market exits and downgrades of some prominent players (Gerling, Employers) by rating agencies. Downgrades of existing players will continue to reduce top-quality capacity.
The prospects for a rapid improvement in investment results are uncertain. In the major insurance markets, interest rates are low and are unlikely to rise or fall much over the near term.

In 2001, investment income contracted sharply in the major markets, reflecting low interest rates and the poor performance of the stock markets. For 2002, further declines are expected. To restore profitability, insurers will need to increase investment results, improve underwriting results, or lower expenses. Improving investment results will be difficult as long as equity markets are weak and interest rates remain low. Increasing operational efficiency is a permanent challenge to the industry, however, the short-term scope for reducing expenses is limited. Hence, the main task for insurers remains to improve underwriting results.
Although the non-life industry's overall exposure to credit risk appears to be manageable, the recent surge in highly visible corporate defaults (Enron, K-Mart, WorldCom, etc) has caused a reevaluation of the industry's credit exposure. This affects both insurers' bond portfolios as well as the credit risk embedded in their products, eg, credit and surety insurance, derivatives, and the credit risk in finite (re)insurance deals. Credit risk was frequently not adequately compensated during the last soft market. With insurance prices improving and defaults at a high level, some insurers will reduce their exposure to credit risk even though the reward, compared to the risk, is probably rising now. Others, who have the expertise in evaluating credit risk and the capital to back it, will continue to take on credit risk.

Tougher regulatory environment post-Enron
The US non-life industry reported only USD 600 million in Enron securities, however, there is additional substantial exposure arising from surety bonds (USD 2 billion), and liability covers to Enron (about USD 450 million). The

majority of the insurance liabilities are being contested by the insurers in court based on allegations of financial misrepresentation. The exposure might expand beyond that to Enron's auditor Arthur Andersen, advising law firms, investment banks, etc. Meanwhile, larger bankruptcies have occurred. Fox-Pitt, Kelton estimates that the exposure of the US non-life industry to problem/watch-list securities remains below 1 % of capital funds.

The larger impact on the non-life industry may stem from a changing regulatory environment and investors' higher expectations regarding corporate governance. Recent events in the global financial markets may alter the general attitude towards complex financial transactions with earnings-smoothing propositions. This particularly affects finite (re)insurance. Some insurers have failed due to their involvement with finite (re)insurance. For example, finite covers played a role in the collapse of Fortress Re, and were also the core business of the two Bermuda reinsurers. Overseas Partners and Scandinavian Re, which shut down operations early in 2002. What is more, in the wake of accounting scandals, the attitude of clients, reinsurers and regulators towards finite solutions has changed. There will be lower demand from corporations and a greater focus on risk transfer and disclosure. Particularly in the UK, the FSA has expressed concern about the use of financial reinsurance for the purposes of regulatory arbitrage. Transactions that are more geared toward arbitrage will face increased scrutiny.

Despite these problems, demand is increasing rapidly for transactions with unambiguous economic advantages due to the current hardening of the commercial market. Clients are being forced to increase their deductibles substantially because of capacity constraints in some lines of business. At the same time, clients also want to increase their deductibles in order to keep their total insurance premiums within their budgets during times of rising premium rates. Finite solutions are in demand to provide some cover for these increased deductibles. Corporate clients and banks are finding off-balance-sheet earnings smoothing less acceptable, given the current climate for accounting transparency. Solutions will shift towards pure risk transfer or committed-capital-type transactions.

The new exposure to terrorism risk

In most countries,^ terrorism was usually part of the standard fire and business interruption policy, with no additional premium actually being calculated for it. This reflected the risk management assessment that this type of loss was only of very minor importance as far as frequency and severity were concerned. Following September 11, however, these estimates had to be fundamentally revised. Traditional measures of loss severity — eg. Probable Maximum Loss (PML), and Estimated Maximum Loss (EML) — are currently under discussion. These measures quantify maximum loss under "normal" conditions, ie the basis used when calculating premiums is normally not the total loss of a building or plant, as the loss can usually be offset to some extent by preventive measures (eg, fire protection walls). Risk analysis and premium calculation are therefore usually based on a lower loss severity than a total loss. This helps the primary insurer and reinsurer to estimate their maximum exposure, while it also means that the insured pays lower premiums as the probability of a total loss occurring can be all but excluded. The malice involved in the September 11 attack that destroyed the WTC and the complete disregard for human life it revealed were something new to insurers and called into question established insurance practice.

Before asking whether new risk-management concepts are required to cover the threat of terrorism, it must be ascertained whether terrorism risks are insur-able at all. The insurability of risks is assessed according to their ease of quantification, lack of correlation with other risks, mutually shared interest of insureds in the risks, and the economic feasibility of placing them with private insurers.

As opposed to natural catastrophes, historical data and statistics give little or no indication of the frequency and severity of future losses from terrorism; however, terrorism is indeed uncorrelated with other risks. The mutual interest of insurers is also difficult to establish since symbolic or famous buildings and institutions are under much greater threat than ordinary ones. Economic viability is also questionable, since it is difficult to balance the risk due to the severity of the recent loss and the coordinated attack at several locations. Therefore, at least in the short term, primary insurers and reinsurers can offer terrorism cover only on a limited basis.

It will be crucial, and a matter of urgency, for the insurance industry to develop models that are at least able to estimate the severity of loss resulting from terrorism risks. This would be a decisive step towards quantifying the risk and the most important condition for making terrorism risks insurable in the private market. Innovative solutions involving pools, new forms of insurance (eg, finite treaties) and the financial markets are required to achieve a broad risk spread. The government will also be called upon to act as reinsurer of last resort, at least in the short to medium term. If insurers were required to provide terrorism cover at a regulated price, terrorism would trigger a wave of

bankruptcies. The resulting economic cost would be enormous and considerably higher than the cost of the state acting as insurer of last resort on a temporary basis.

The Industry response

How did the non-life industry adapt to the changed environment? (1) The hardening of the market accelerated and has now reached all lines of business and regions. (2) About USD 30 billion in new capital was raised for a handful of Bermuda startups and some established players. Independent of the success of the individual investments, the new capital was not sufficient to replace lost capacity. (3) The capital strength of commercial-lines insurers and reinsurers increased in importance to clients and investors. Insurers with lower ratings face difficulties in writing attractive business and cannot fully benefit from the cyclical upturn. (4) Insurers' investment strategies have changed in order to reduce investment risks and match the overall risk exposure to the diminished risk capital. (5) The product mix has changed - particularly for large commercial risks - in reaction to the rate increases and reduced availability of coverage. Products are thriving that make better use of the more limited capacity.

Hardening of the market accelerated after September 11

The insurance cycle had begun to turn in 2000/2001, prior to September 11. Commercial-lines and reinsurance rate increases led the market, while personal lines lagged behind by one or two years. The catastrophic results of 2001, coupled with the fall in capacity, accelerated the price increases in the commercial-insurance and reinsurance market. The 2002 renewals brought rate increases in the order of 5-20% for commercial lines and proportional reinsurance, and 10-25% for non-proportional reinsurance business, with Japan and Europe at the lower end and the US at the upper end of the range. In smaller, highly exposed sectors — for example aviation — the price increases were significantly higher. In addition, terms and conditions were tightened.

The results for the first quarter of 2002 indicate good news regarding underwriting profitability of the US non-life industry. Net premiums written were up by 10.3%, which is a result of the widespread rate increases. Earned premiums outpaced incurred claims, improving underwriting profitability.

In major European markets, premium growth in personal lines gained momentum in 2000/01, especially in motor and accident insurance. Combined ratios improved, primarily due to price increases and a decline in loss frequency in the motor lines.

The decline in reinsurance capacity and primary market solvency, coupled with poor profitability, forced commercial-lines insurers in all major European markets to increase their premium rates considerably in 2002. In August, the widespread flood damage in Central Europe put additional stress on European property lines.

On a calendar-year base, major reinsurers showed an average combined ratio of 109 in the first quarter of 2002, which is only slightly below the combined ratio of 2000. This reflects the adjustments in WTC September 11 losses and liability (particularly Asbestos and Environmental (A&E)) loss reserves. The full-year combined ratio for 2002 is expected to be below the first-quarter result. The hardening of the market is expected to last longer than in previous cycles, given the global shortage of quality capital, increased risk exposures, and lower investment returns. Some years of above-average profitability are necessary to rebuild the reserves of the global reinsurance industry.

Over the next few years, we expect further price increases and tightening of terms and conditions. The momentum in rate increases seems to have shifted towards long-tail lines. Many insurers will continue to be in financial distress, as their balance sheets have been hit hard over the last couple of years. It is also likely that the industry will need to put up additional reserves for September 11, directors and officers (D&O), medical malpractice, workers' compensation, and asbestos losses. In addition, rating agencies will ask for more equity since their risk models will interpret the growing premium revenues as increased exposure, despite the rate increases.

The role of new capital

The twin shocks — stock market declines and large losses — reduced global non-life insurance capacity by about USD 90 billion in 2001 and by approximately the same amount in 2002. Reinsurers and the London market were particularly impaired, given their propensity for excess of loss covers. Some companies exited the market others were downgraded by the rating agencies, still others divested themselves of their reinsurance units. As prices hardened, particularly after September 11, new capital entered the market to take advantage of the improved potential for profitability.

New players raised capital funds of about USD 7 billion. They are exclusively located in the Bermudas and all are rated A- to A+. Most of the new players were not in a position to fully capitalize on the January renewals due to lack of staff, infrastructure, and rating. Also — unlike in 1 993 — attractively priced programs faced a sufficient supply of capacity from traditional players. Most of the new players' business was proportional, to a large degree written out of

the London market. Among the new players, the broker-sponsored Axis and Endurance appear to be the most successful in attracting business. The startups' longer-term success will depend on their ability not only to win business from established onshore reinsurers, but also to establish themselves against offshore players with similar business models. In this respect, the startup generation of 2001 will have a harder time than the 1 992/93 generation. But despite their currently limited market share, the presence of the new players has generally kept the rate increases within reasonable ranges. Extreme price hikes, such as those post-Andrew, did not occur.
The new capital has not filled the gap left by lost capital. New capital completed and announced so far amounts to USD 30 billion, which is far from sufficient to close the gap. As stated above, the estimated decline in capital funds of established players since year-end 2000 is now about USD 180 billion. Also, the new capital is mostly rated below top-secure. Only Swiss Re and AIG raised AAA-quality new capital. The reinsurance market saw a series of market exits and downgrades of some prominent players (Gerling, Employers) by rating agencies. Downgrades of existing players will continue to reduce top-quality capacity. In the longer run, a rebound of the industry's overall capital funds will be the key to limiting the magnitude and length of the hardening of the market. The longer-term development of the global capital base will depend more on the valuation of established players' invested assets than on the stream of new money from investors.

A shift in the product mix

The swing from excess to scarce capacity also affects the limits of insurability. Apart from the reemergence of many exclusions in traditional commercial insurance policies, this occurs through a substantial shift of gear in the ART market. The alternative risk transfer (ART) market has been profoundly affected by the hardening of the traditional market. ART products can be divided into those that provide extra capacity for risks that are hard to transfer, and those that include new risk classes and drive the convergence of insurance and financial/commodity markets.
During times of tight capital funds, there is a need for extra capacity and hence the ART products developed during this phase tend to make better use of insurance capacity. Examples of products that were developed to increase capacity include captives, finite insurance and catastrophe-related capital market solutions, or catastrophe bonds. During soft, excess-capacity insurance markets, insurers look for opportunities outside their traditional business lines and venture into credit, weather and other structured product markets. In this section, we briefly explain some ART products that developed in response to the different phases of the insurance cycle.
During hard markets, many corporations experience difficulties in obtaining insurance. As a result, some decide to buy less coverage. Others opt to insure themselves. A popular way of doing this is to form captives, which are insurance or reinsurance companies owned by a company or group of companies with no active role in the insurance business itself. A captive's primary business purpose is insuring the risks of its parent. The number of new captives and the capacity provided through captives is accelerating worldwide, fueled by hardening commercial insurance premium rates and the limited availability of capacity in some lines. Growth in the captive market is coming from a more intensive use of existing vehicles and by a wave of new captives. The middle-market companies will most likely opt for group captives and segregated cell companies. This pattern resembles the first waves of captive formations during the hard markets of the 1 970s and 1 980s.
Another ART product that has been developed to mitigate capacity restrictions is finite (re)insurance. With tax laws and accounting rules encroaching on pure reserves-discount transactions, prospective finite products are now primarily multi-year covers with recognition of loss experience and/or investment performance. These types of solutions gained attention during the last hard market of the early 1990s, when the price of insurance was high and cover for certain lines of business was not available. As the terms of finite reinsurance are fixed for several years, coverage — as well as pricing — is less a function of industry price cycles due to exogenous shocks in the industry, but rather depends on the client's risk experience.
Despite the problems of increased regulatory scrutiny and tighter accounting rules for corporate clients, the hardening market is accelerating demand for finite products. For example, finite solutions are in demand to provide some cover for these increasing deductibles on (re)insurance programs, which can reach up to hundreds of millions of dollars in some cases. Finite covers are well suited for lower layers, if there is a high probability that there will be some loss occurrence over the course of a multi-year program.
The last hard market of the early 1 990s stimulated the demand for capital market insurance solutions as a substitute for cat reinsurance.fr Just as these solutions began to develop in the mid-1 990s, however, there was a shift towards excess capacity in the (re)insurance markets. As a result, reinsurance premium rates declined to levels so low that capital market insurance solutions were less competitively priced. With the hardening of the market in 2001 and 2002, demand for these instruments has again improved and the issuance of insurance-linked catastrophe bonds is on track to double this year, compared to last year.
During the 1990s, some (re)insurers started offering and investing in credit derivatives. Since then, the share of insurers in the credit derivative market has been increasing. While there were several insurers with experience in

underwriting credit risks, many others invested in this new risk class driven by excess capacity. The non-life market had excess capital to invest in the mid-1 990s when the credit derivative market was booming.
Investors in the credit markets have suffered losses due to the recent increase in defaults, CDO downgrades and large bankruptcies. At the same time, insurance rates are increasing, providing better opportunities for most insurers. In the short run, these developments may dampen the growth of insurers' participation in the credit derivative market. However, in the long run, it is likely that insurers with the expertise to manage credit risk will resume greater participation in the credit derivative market.
Another financial risk class where insurers' interest has cooled down to some degree during the current capacity shortage is weather derivatives. The insurance industry's involvement with weather derivatives is quite recent, just starting during the last soft market. Deregulation of the US power markets in 1 996 created severe competition among electricity providers. This increased earnings volatility in the industry and created demand for solutions to hedge the weather. In response, several financial instruments such as weather derivatives emerged. Over the last few years, there has been a significant increase in weather derivatives. Since their inception in 1 997, more than USD 11.8 billion in capacity has been created. In 2001, about USD 4.3 billion of capacity was created. Insurance companies have been offering crop and natural catastrophe insurance products that protect against weather-related phenomena. Hence, entering the weather derivative market can be seen as a logical extension of this business. Since 1 997, some insurers have been offering products using weather derivatives to protect corporate earnings. Currently, the weather market is illiquid and not well diversified. Most of the business is concentrated in the US energy industry — though the share of the rest of the world is increasing steadily and non-energy sectors are showing interest in these products. As a result of the current lack of capacity, even a local shock can severely affect the market participants. This is what happened in 1 997-99 when there were several consecutive mild winters. Many insurers that had sold warm-weather protection to energy companies suffered losses and exited the market. The US weather market is presently troubled by the defaults of many of its major players. Nevertheless, demand will continue to increase in the long run.
Structural change occurs in waves. Insurance cycles can be seen to have a direct impact on the emergence and evolution of ART products. During periods of a hard insurance market there is a demand for products that increase insurance capacity. During soft insurance markets, product developments focus more on new risk classes in pursuit of higher returns and, consequently, the insurance industry expands the limits of insurability. Sometimes, by the time a new product develops in response to a phase in the cycle, the market reverses and the conditions that led to the emergence of the product no longer support it. This has slowed down the evolution of some products, such as catastrophe bonds. It may take at least a couple of cycles for some ART products to be successful and for others to be written off. Relative prices, investment opportunities and capital positions determine the attraction of certain products in the short term. In the long term, however, evolving client needs and industry knowledge will drive the development of new products and the insurance industry's move into financial market solutions.