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Global Reinsurance Highlights

2008 Edition

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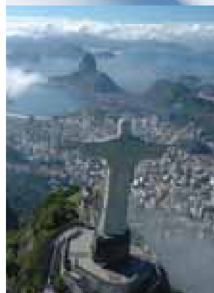

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2009: Year of Reckoning

The reinsurance industry is delicately poised on the brink of either completing a transformation of its behavior in recent years, or returning to old and painful habits. The latter path would involve market softening continuing for the next two or three years. It would lead to a return to earnings underperformance; and to downgrades in our ratings. The other path would involve acting on the output from the industry's newly acquired price adequacy tools, which are telling it to halt the softening, thereby resulting in a cyclical plateau, strong earnings and stable ratings.

While we believe that most reinsurers have priced business to cover their cost of capital in 2008, the excess margin which peaked in 2003 in casualty lines and in 2006 in property lines has been progressively eroded at successive renewals. If softening continues into 2009 at the same level as in 2008, some reinsurers will struggle to meet their cost of capital and the specter of a widespread soft market will loom large. Our lead article "Global Reinsurance: 2009 The Year of Reckoning" analyses reinsurers' choices.

The industry's new price adequacy tools are derived from its improving Enterprise Risk Management credentials. An increasing number of reinsurers aspire to optimize their risk-adjusted returns. "Reinsurers Continue to Lead in Enterprise Risk Management" provides our report card on the industry's progress. Our analysis of ERM is nearing the end of its third year. The final plank in our ERM criteria relates to internal capital models. "Economic Capital Models: The Next Frontier Of Standard & Poor's Capital Adequacy Analysis" introduces our plans to begin to use (re)insurers' internal models in our own quantitative capital analysis.

The use of internal models in our capital analysis is strongly aligned with European supervisors' plans for Solvency II. The diversification benefits likely to be available to large groups under Solvency II will play a key role in reshaping the competitive landscape in Europe. "25 Per Cent Of Europe's Insurers Could Face Major Strategic Decisions Under Solvency II" focuses on the profound changes being contemplated and the market consolidation that is likely to ensue.

The life reinsurance sector provides a welcome source of diversification to some reinsurers. It continues to enjoy the stability of earnings that the non-life sector can only aspire to. "Life Reinsurers Look Beyond Mortality" comments on the challenges the industry faces as volumes continue to fall in developed markets.

The reinsurance industry has produced record-breaking profitability in the past two years. This performance has been flattered by the contribution made by the benign claims environment and profits on prior years' loss reserves. In "Dissecting the Earnings of Reinsurers" we describe our approach to analyzing earnings and the way we plan to develop it in the future.

In "Insurance-Linked Securities: Here To Stay" we demonstrate how ILS have become routine in the reinsurance marketplace, albeit that the softening traditional reinsurance market is causing a lull in activity.

In softening markets, where opportunities for profitable growth are limited in the developed world, reinsurers are looking further afield. Many are increasing their presence in emerging markets. Our emerging markets commentary this year firstly poses the broad question: "Should Cedants Favor Local Or Global Reinsurers?". More specifically, we focus on a market that has promised much for so long, and now "Brazil Finally Comes Of Age". Also "Takaful Spreads Its Wings" describes that way that the rapidly expanding Takaful business model is bringing insurance to Islamic adherents across the world.

Finally, as reinsurers diversify their operating platforms (in emerging or developed markets), we explain our criteria for "Extending Ratings To Subsidiary Companies".

We think that Global Reinsurance Highlights captures the key issues facing reinsurer management. We hope that you enjoy the 2008 edition and would welcome your feedback on possible enhancements for future years.

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2009: The Year of Reckoning

Reinsurer balance sheets have never been stronger, and it's just as well. Standard & Poor's Ratings Services believes risk factors specific to the industry--most notably, a continuation of the cyclical deterioration in pricing--are set to be magnified and accelerated by the prospect of the most challenging macroeconomic environment seen in a generation.

By Peter Grant and Laline Carvalho

What a difference a year can make. Twelve months ago, liquidity was abundant, investment returns stable, and economic growth robust. Now, the reverse is true. These macro-level risks compound the cyclical threats already confronting the reinsurance sector. In combination, over the next 12 to 24 months, we expect the macro- and industry-level risk factors to provide the sternest possible test of the extent to which reinsurers truly are practicing effective "enterprise-wide" risk management.

Standard & Poor's single largest concern for the sector over the medium-term is that reinsurers will fail to adjust their pricing upward quickly enough to account for what we believe could be a step change in both the frequency and severity of claims. This would cause even a modest further decline in pricing levels at the next renewal to result in a material reduction in rate adequacy.

It is not all doom and gloom, however. To an extent, these challenges come at a good time for the sector. Balance sheets have been reinforced by two consecutive years of record profitability, and reinsurers appear to have avoided the worst of the fallout from the global credit crisis. Consequently, Standard & Poor's is maintaining its stable outlook on the global reinsurance sector, albeit with considerable caution. Given the macroeconomic headwind now confronting reinsurers, continuation of the downward trend in pricing seen thus far during 2008 would likely cause us to change the sector outlook to negative. Nevertheless, most rated reinsurers currently enjoy a stable outlook, so we would not expect to see a significant number of rating changes over the next 12 months. However, outlook changes are likely as we scrutinize the appropriateness of each reinsurer's response to the more challenging environment.

Our decision to maintain the stable outlook on the sector reflects the following positive factors:

- Continued strong, though declining, underlying earnings;
- Improving enterprise risk management (ERM) credentials;
- Very strong capitalization; and
- Strong, albeit diminished, financial flexibility.

These strengths are partially offset by the following weaknesses:

- Declining price adequacy, magnified by the potential for there to be a step change in loss costs;
- Effectiveness of ERM, which has yet to be fully stress tested;
- Continued low barriers to entry; and
- Potential increase in the frequency and severity of natural catastrophes.

The choice is clear. Rate adequacy is shrinking across most lines. Either the industry successfully stabilizes rates in 2009 or it faces lower ratings.

The Year In Review

Earnings reach their cyclical peak

The reinsurance sector posted record earnings in

2007, building further on the strong earnings performance seen in the prior year. The top 40 groups, who together are estimated to account for more than 90% of global reinsurance premiums, produced a (weighted) average return on revenue (ROR) of 17.5% in 2007 (2006: 16.3%). Robust investment returns, on an increased asset base, were more than sufficient to offset the marginal decline seen in the pure underwriting performance as the average combined ratio deteriorated by two percentage points to 90.4% from 88.2% in the prior year. Continued strong, albeit declining, underlying profitability (measured on an accident-year basis) was reinforced by the accelerated release of loss reserves held in respect of prior accident years. This effect is borne out by an analysis of the composition of the published combined ratios reported for a sample of seven Bermudian (re)insurers listed in the U.S., where it is mandatory to disclose the impact of prior-year loss reserve movements (see chart 1). The calendar year combined ratio for these entities was flat year on year, averaging 78.2% in 2007 (2006: 78.6%), but the contribution made by the release of reserves on prior accident years increased by more than half to 7.8% (2006: 4.9%). This trend is set to continue, with the half-year 2008 results for many reinsurers showing a marked increase in reliance on prior-year reserve releases.

Assuming a normalized impact from catastrophe losses, we expect reinsurer earnings to remain strong in 2008, but below the levels seen in 2007. Quality of earnings will deteriorate as the release of prior-year reserves continues to mask significant deterioration on an accident/underwriting year basis. Investment returns will suffer as a result of the ongoing repricing of a variety of asset classes in the wake of the global credit crisis, and the reduced yield now available on US treasury securities in particular. We expect the average investment yield for reinsurers to be approximately 3.0%-3.5% in 2008, down from around 5% in the prior year.

Capital Repatriation Stalls As The Liquidity Premium Spikes

Last year was characterized by a flurry of buyback announcements as reinsurers sought to enforce discipline by shrinking their balance sheets in anticipation of a more challenging prospective underwriting environment. Many held off on executing a material portion of their buyback programs until the end of the year when the uncertainty posed by the North Atlantic hurricane season had passed. However, by the end of the year concerns surrounding the hurricane season had been superseded by a broader set of concerns related to the collateral effects of the credit market disruption. Buyback activity has stalled as a result, despite the obvious attractions for many of the listed reinsurers of buying back shares that are currently trading at a significant discount to book value.

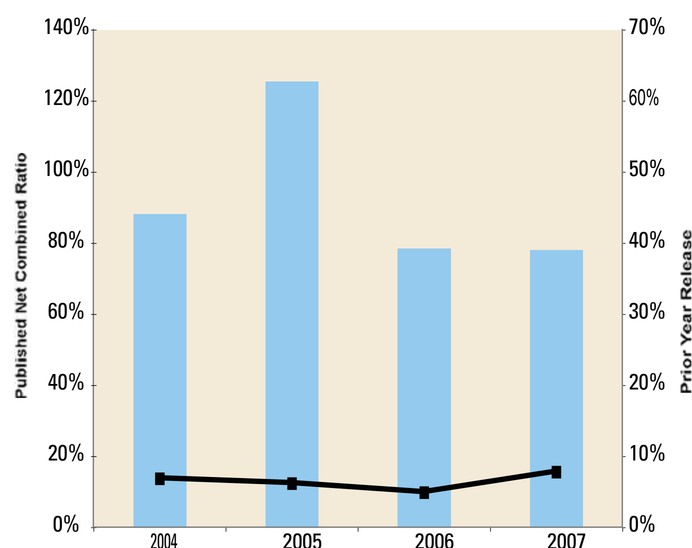
The credit market disruption has had the following impact on the capital management strategies of reinsurers:

- Capital needs have increased. Economic capital requirements in respect of both underwriting and investment risk have increased over the past 12 months. Capital needs for insurance risk are inversely related to the inherent profitability of the business being written. Hence, as prices continue to decline, the amount of capital required to support the same level of underwriting has increased. The increase seen in the volatility of global capital markets has also caused a marked increase in the amount of capital required for investment risk. In addition, mark-to-market losses on equities, corporate debt, and asset-backed securities continue to erode available capital.
- Increased focus on liquidity. Currently, cash is king, making reinsurers increasingly reluctant to part with theirs. This effect has been compounded by increased uncertainty surrounding the level of access the sector would have to capital markets were a major loss event to occur.

Although Standard & Poor's can fully appreciate the rationale for reinsurers' increased reticence when it comes to returning capital, we are also concerned that this could represent a convenient excuse to those that were never too keen to return capital in the first place. Stickier surplus capital could serve to exacerbate preexisting downward pressure on prices, as some reinsurers look to underwrite marginal business in order to employ surplus capital.

Chart 1

Increased release from prior year reserves offsets a marginal decline in underlying profitability



Source: Company reports

The Credit Crisis Bites...But Not Too Hard

Reinsurers have not avoided the fallout from the credit situation but, for the time being at least, they appear to have missed the worst of it. Some have posted write-downs on their asset portfolios related to instruments affected by subprime or to wrapped bonds where the value of the financial guarantee has been called into question. More recently, a number of reinsurers have revised their 2008 earnings forecasts following impairment charges related to the persistent decline seen in global equity markets so far this year. Further downward revisions are likely if the current malaise persists. Nevertheless, the sector's strong overall liquidity position has meant that few, if any, reinsurers have yet been put into a position where they have been forced to crystallize these unrealized losses. Generally speaking, however, the conservative investment approach adopted by most reinsurers has stood them in good stead. Consequently, and in light of the extent of the surplus capital currently available to reinsurers, we do not anticipate that further adverse fair-value adjustments will erode capital to an extent that could pose a widespread threat to our current ratings on the sector.

Undoubtedly there will be substantial underwriting losses arising from subprime and some of this will fall on reinsurers. Current estimates of potential insured losses range between $3 billion and $9 billion. The size of this range demonstrates that it is too early to derive a reliable estimate of the likely magnitude. Nevertheless, to put this in some context, even if the losses related to subprime were to come in at the upper end of this range, they would still represent less than 15%, in nominal terms, of the insured losses attributable to Hurricane Katrina. If we allow for the time value of money, the relative value of subprime exposures falls still further.

Very few reinsurers have seen the need to establish a material bespoke loss reserve in respect of subprime thus far, with most believing the losses will be contained within their initial loss ratio picks for the 2007 underwriting year. Those that have set reserves aside appear to be just as concerned by the potential magnitude of legal defense costs as by the prospect of material future indemnity payments.

Reinsured losses related to subprime could be relatively modest for several reasons. First, many reinsurers ceased providing casualty cover to major U.S. financial institutions following the losses attributable to Enron and WorldCom at the beginning of the decade. Although the subprime issue isn't confined to U.S.-based financial institutions, they are likely to be disproportionately affected. Most entities that continued to provide cover to U.S. financial institutions reduced the limits of their exposure substantially.

In addition, many reinsurers provided directors & officers (D&O) coverage on a limited, "Side-A" basis. These policies are only likely to be triggered in the event of the insolvency of the company concerned. As recent experience with both Northern Rock PLC in the U.K. and The Bear Stearns Cos. Inc. in the U.S. has demonstrated, policymakers seem loathe to let financial institutions fail. Further, most error & omissions (E&O) and D&O policies are now underwritten on a claims-made basis, which reduces the tail risk faced by the (re)insurer.

2009 And Beyond

From "softening" to "soft"?

Most reinsurers currently profess that, on average, pricing remains risk-adequate. However, Standard & Poor's believes that this assertion presumes that the relatively benign trends recently seen, particularly in loss frequency, will continue. Consequently, we believe there to be little, if any, room for further rate reductions across most lines as we enter 2009. As a result, further widespread price reductions would likely cause us to change our outlook on the sector to negative.

Although we believe that reinsurers as a group have better risk management capabilities than other insurers, a continuation of the downward trend could lead some to act rashly. We have particular concerns surrounding the increasingly defeatist rhetoric of many reinsurers, who often refer to "the cycle" as if it were a naturally occurring phenomena that is beyond their control. Others hope for a "market-changing event." It's Standard & Poor's expectation that highly rated reinsurers will exercise restraint, but we are less optimistic that this discipline will hold across the market.

An emerging theme appears to be that the overarching pricing cycle of the past appears to have been replaced by a series of mini-cycles. So, for example, while extreme downward pressure persists on the pricing available in certain lines such as U.S.-catastrophe-exposed risks, others such as U.K. motor are showing signs of recovery. If pricing cycles have decoupled, this should provide astute and nimble underwriters with a greater opportunity to earn a consistent return on the capital they deploy over time. While this change is conceptually appealing, it has yet to be borne out in practice.

Inflation Set To Squeeze Rate Adequacy Further

In Standard & Poor's view, the specter of higher inflation, particularly when coupled with a broad-based decline in economic activity, presents the single largest threat to reinsurer financial strength over the medium term. This threat is multi-faceted.

- Inflation increases loss costs. This will magnify the effect a continuation of the cyclical decline in pricing will have on rate adequacy. Those reinsurers that derive their technical price from recent loss cost experience are likely to be mispricing the risk, some materially so. In addition, the increased volatility lately seen in commodity prices will drive loss costs upward across a broad range of coverages and would exacerbate the effects of "normal" demand surge should a major loss event occur in the near future.

  To make matters worse, a more challenging economic environment is also likely to lead to an

increase in the frequency of losses, although this effect has tended to be most pronounced in the U.K. and U.S. The effect can manifest itself two ways: a policyholder is more likely to claim, at the margin, when times are tough, and a challenging economic environment increases the propensity for policyholders to make fraudulent claims.

The effect of increased claims frequency has the potential to be particularly acute in respect of long-tail classes of business. For example, the prospect of diminished future job security could accelerate workers' compensation claims, and the magnitude of the losses and volatility seen in capital markets over the past 12 months can be expected to give rise to an ever-growing number of both D&O and E&O claims. As a partial mitigating factor, we expect reinsurers to be somewhat protected from any uplift in loss frequency by the persistent increased levels of risk retention amongst primary writers.

- Inflation will increase the cost of settling legacy claims. All other things being equal, most (re)insurers attempt to match the duration of their legacy reserves with assets that have a similar maturity profile. However, with liquidity increasingly scarce, and the yield curve in some mature economies being either flat or at times inverted, in recent years many reinsurers have instead opted to adopt a net short duration position--some materially so. If interest rate rises fail to keep pace with the underlying rate of inflation, as appears likely in the U.S., then it will become increasingly difficult for reinsurers to reinvest at a yield high enough to offset the adverse effects of inflationary pressure on the cost of settling claims. This threat is exacerbated by the limited use of index clauses in a U.S. context (refer to sidebar). Reinsurers would be left in the unenviable position of either standing by while the economic profitability of their legacy business is eroded by inflation, or chasing enhanced yield in a highly volatile and uncertain environment.
- Social inflation could make an unwelcome return. Social inflation was rampant in the U.S. until the early part of the decade. It affected frequency (the propensity to claim) and severity (judge and jury awards). Widespread tort reform has seen this problem abate in recent years, but this is surely only a pause before the ingenuity and adaptability of the plaintiffs bar leads to a resumption of social inflationary trends. The outcome of the forthcoming U.S. presidential election might also play a part. We expect the leading exponents of emerging risk management (one of the defining categories of strong or excellent ERM under our criteria) to spot the effects early and reflect it in their pricing. Others may be blindsided again, just as the whole market was from 1997 to 2001

Skittish Capital Markets Prompt Introspection

Many reinsurers, mindful of the uncertainty surrounding the level of access they would have to fresh capital were a major loss event to occur while global capital markets remain somewhat dislocated, have revisited their tolerance for exposure to natural catastrophes (as well as their appetite for returning capital to shareholders). Most are concerned to ensure that they are not outliers in terms of (increasingly transparent) risk tolerance relative to peers. If anything, this will further reinforce what we believe has been a significant improvement in the industry's catastrophe risk management capabilities since 2005.

However, we are concerned that the combined effect of bloated balance sheets, and a renewed focus on managing catastrophe risk aggregates, could squeeze an ever-increasing amount of underwriting capacity toward lines not affected by catastrophes.

Reinsurers Prepare To Dust Off The Index Clause

The recent hard market saw a continuation of the recent migration of reinsurance capacity toward non-proportional treaties. For all their purported advantages, in the absence of appropriate structural mitigants, non-proportional treaties leave the reinsurer disproportionately exposed to a rise in inflation, as a greater number and increasing proportion of claims will exceed the cedant's retention. Index (or stability) clauses enable the reinsurer to partially mitigate this risk. In its simplest form, this clause will increase both the cedant's retention and the limit of a reinsurer's exposure in lockstep with the movement in a nominated index--typically a published wage or price index. From the reinsurer's standpoint, basis risk remains because movements in the reference index might understate the underlying rate of price increases. For example, few indexes would have adequately reflected the rate of the increase seen in commodity prices this year. In addition, a broad-based measure of inflation will not appropriately capture the effects of social inflation. It is ironic that social inflation presents a particular risk in the U.S., given that this jurisdiction has yet to see the widespread adoption of index clauses.

Conclusion

Our analysis suggests that reinsurers are being more disciplined now than in the past, and they will need to be. A rapidly deteriorating macroeconomic outlook is set to compound the considerable risks already faced by the sector as the cyclical downturn in pricing gains momentum.

Reinsurers are relatively well-placed to cope with the myriad of challenges that lie ahead. Balance sheets are robust and many have taken advantage of the past couple of years to materially enhance their risk management capabilities. We expect the efficacy of those enhancements to be fully tested over the next few years. A year ago, we characterized our outlook for the sector as being one of cautious optimism. Twelve months on, that optimism remains, although the caution is heightened. If our optimism is called into question, we would not wait until balance sheets are impaired before taking the necessary rating actions. ■

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Reinsurers Continue To Lead In Enterprise Risk Management

The industry's new price adequacy tools are derived from its improving ERM credentials. An increasing number of reinsurers aspire to optimize their risk-adjusted returns.

By Keith Bevan, Rob Jones and Thomas Upton

Facing complex risks, increasingly strict regulations, and the opportunity to seize a competitive advantage, global reinsurance companies have a few motives for improving their enterprise risk management (ERM). Overall, the insurance industry is making progress in this area, but reinsurers are leading the pack for a few reasons. Reinsurers generally face more complex risks than insurance companies do, and reinsurance companies are now recognizing they can get a leg up on their competition by improving their ERM. In addition, greater regulatory scrutiny is giving reinsurers an incentive to include more comprehensive risk management in their business models.

Standard & Poor's Ratings Services has published assessments of the ERM functions of nearly all rated reinsurers. We introduced our criteria in 2005. Our assessment designates a (re)insurer's ERM as excellent, strong, adequate, or weak. We consider approximately 80% of global insurers and reinsurers to have adequate ERM, with about 15% in the strong or excellent categories, and the remaining 5% in the weak category. This scoring distribution is consistent across most regions and sectors. However, reinsurers are an exception. Of the 33 reinsurers we assess globally, about 39% have strong or excellent ERM, nearly 58% have adequate ERM, and only 3% are in the weak category (see table 1).

Table 1: ERM Score Count For Reinsurers

	July 2008	July 2007
Excellent	4	3
Strong	9	10
Adequate with positive trend	8	N.A.
Adequate with strong risk controls	0	N.A.
Adequate	11	14
Weak	1	2
Total	33	29

N.A.—Not applicable.

Reinsurers ERM Assessment Distribution

Two New Categories Allow For More Specific ERM Assessments

Our adequate assessment category encompasses a broad group of reinsurers with many different risk profiles. Our most recent reviews better differentiate among companies in this category because we've added the categories "adequate with positive trend" and "adequate with strong risk controls."

Reinsurers that are "adequate with positive trend" have ERM capabilities with the potential to be "strong" in two to three years. These companies tend to have strong or excellent risk controls. However, they have not yet fully developed their risk/reward decision making to the point that we believe supports strong strategic risk management processes. Of the nearly 58% of reinsurers in the adequate category, we've identified eight reinsurers that are "adequate with a positive trend" and are positioned to move to strong in the near future.

A reinsurer in the "adequate with strong risk controls" category either has not demonstrated that it has fully developed its risk/reward decision making, or is in the very early stages of developing one. The former may, for example, have limited capital and be focused on maximizing profits along specific product silos rather than optimizing risk-adjusted returns across all products. These companies exercise robust, traditional risk management, which may be more suited to their culture or risk profiles. So far, we have no reinsurers in this category.

Reinsurers with ERM functions that we view simply as adequate are those with adequate controls for their major risks, which they generally manage on a silo basis rather than in an integrated manner.

Lloyd's is worthy of special mention because it's a market and not an "enterprise." Lloyd's mandated structure constrains its ability to optimize its performance (and therefore attain strong ERM). However, Lloyd's centrally operated key underwriting risk controls are robust, par-

ticularly its suite of Realistic Disaster Scenarios (RDS), which a number of reinsurance groups use.

Reinsurers Continue To Enhance Their ERM

Reinsurers have clearly been making strides when it comes to improving their ERM, and we expect this to continue (see table 2). We've made only two notable changes since our 2007 Global Reinsurer ERM scorecard.

We now consider Endurance Specialty Holdings Ltd.'s ERM to be excellent versus strong in 2007; and Odyssey Re is now in the adequate category (in 2007, it was in the weak category).

Generally, we expect further progression in ERM across all insurance sectors, including reinsurance.

A few reasons account for the larger proportion of reinsurers with strong or excellent ERM processes in comparison with insurers.

Several reinsurers have more sophisticated, more volatile, or more concentrated risk profiles than insurance companies do, which demands advanced risk management. This makes it important for reinsurers to maintain solid ERM processes to achieve higher ratings. The more complex the reinsurer's risk profile, the more demanding it is to attain the highest ERM assessments. Some of the most diversified global reinsurers have been at the forefront of ERM development--because they have to be. However, the extent of their challenge is keeping many reinsurers out of the excellent category.

More and more, reinsurers are recognizing the potential to gain a competitive advantage through better ERM. They're using strategic risk management to channel their scarce capital into optimal risk types, lines of business, and even individual contracts.

Reinsurers are responding to the increasing regulatory incentives to add risk management practices to their business models. This is evident under Solvency II and International Association of Insurance Supervisors' principles, where supervisors may be willing to assess insurers' capital adequacy based on an internal model if a "use test" is met. This use test, which shows, among other things, that an internal capital model is embedded in strategic decision making, is consistent with our requirements for insurers to achieve high levels of strategic risk management.

ERM is increasingly becoming a major factor in determining the ratings and outlooks on reinsurers. Standard & Poor's expects this to continue, particularly as cyclical pricing pressures increase and as the risks that reinsurers face remain volatile. ■

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Table 2: Reinsurers ERM Assessments

As of July 30, 2008

Company or group	Assessment
Endurance Specialty Holdings Ltd.	Excellent
Manulife Financial Corp.	Excellent
PartnerRe Ltd.	Excellent
RenaissanceRe Holdings Ltd.	Excellent
ACE Tempest Reinsurance Ltd.	Strong
Arch Capital Group Ltd.	Strong
Aspen Insurance Holdings Ltd.	Strong
General Re Corp.	Strong
Hannover Re Group	Strong
Munich Re Group	Strong
National Indemnity Co.	Strong
Platinum Underwriters Holdings Ltd.	Strong
Swiss Reinsurance Co.	Strong
Amlin Bermuda Ltd.	Adequate with positive trend
AXIS Capital Holdings Ltd.	Adequate with positive trend
Catlin Insurance Co. Ltd.	Adequate with positive trend
Max Capital Group Ltd.	Adequate with positive trend
Montpelier Re Holdings Ltd.	Adequate with positive trend
Toa Reinsurance Co.	Adequate with positive trend
White Mountains Re Group Ltd.	Adequate with positive trend
XL Re Ltd.	Adequate with positive trend
Allied World Assurance Co. Ltd.	Adequate
Everest Re Group Ltd.	Adequate
Harbor Point Re Ltd.	Adequate
IPCRe Ltd.	Adequate
Korean Reinsurance Co.	Adequate
Lloyd's	Adequate
Odyssey Re Holdings Corp.	Adequate
SCOR SE	Adequate
Sirius International Insurance Corp.	Adequate
Transatlantic Holdings Inc.	Adequate
Validus Re	Adequate
Caisse Centrale de Reassurance	Weak

Economic Capital Models: The Next Frontier Of Standard & Poor's Capital Adequacy Analysis

Our analysis of ERM is nearing the end of its third year. The final plank in our ERM criteria relates to internal capital models. We introduce our plans to begin to use these models in our own capital analysis here.

By Keith Bevan and Rob Jones

Standard & Poor's Ratings Services is embarking on a significant development in its capital adequacy analysis. For qualifying insurers, it will enable our analysis to blend the results of our own capital adequacy model with the results of insurers' internal models.

What Is Capital For?

Capital is held by insurers to protect themselves against losses resulting from financial stress or following a significant event so that they can continue to meet their financial obligations. Globally, although not yet consistently, regulators set minimum standards for the amount of capital that an organization needs to hold to protect policyholders' interests. Most insurers want to hold a higher amount of capital than the regulatory minimum to show their financial strength to the market. However, holding high levels of capital diminishes shareholder returns. The insurer's management has to achieve a balance, and determining the optimal level of capital is complex. For reinsurers offering protection to cover extreme stress and events affecting diverse risks across the globe, the complexity is heightened.

Recognizing that these internal ECMs are having a significant role in both in strategic management and determining capital levels for insurers, Standard & Poor's now offers an evaluation that will incorporate information from these models into our ratings process

As part of our ratings process, we apply our own risk-based capital model to assess the degree to which capital held is consistent with the financial strength rating. This model is based on our wide industry experience and knowledge and provides us with a broadly consistent benchmark to compare insurers globally.

Economic Capital Models Emerge

Over the past several years, insurance companies have been developing internal economic capital models (ECMs) as a supplemental means of assessing their risk-based capital (RBC). Although RBC models have been in use for the past two decades, it has become increasingly clear that in addition to a factor-based RBC, companies often benefit from deeper exploration of their risks and the necessary capital to support them. An RBC approach might inefficiently capture the characteristics, expertise, and track record that could be unique to a firm. Ideally, an internal ECM model would enable a detailed and tailored understanding of a firm's risk portfolio and capital needs, beyond what an RBC model alone could replicate.

Recognizing that these internal ECMs are having a significant role in both in strategic management and determining capital levels for insurers, Standard & Poor's now offers an evaluation that will incorporate information from these models into our ratings process.

The initial phase of the economic capital review process will primarily qualitatively assess a company's ECM, without reference to any extensive quantitative testing. In subsequent years, we expect that these reviews will become increasingly quantitative as our confidence in and knowledge of the company's ECM improves.

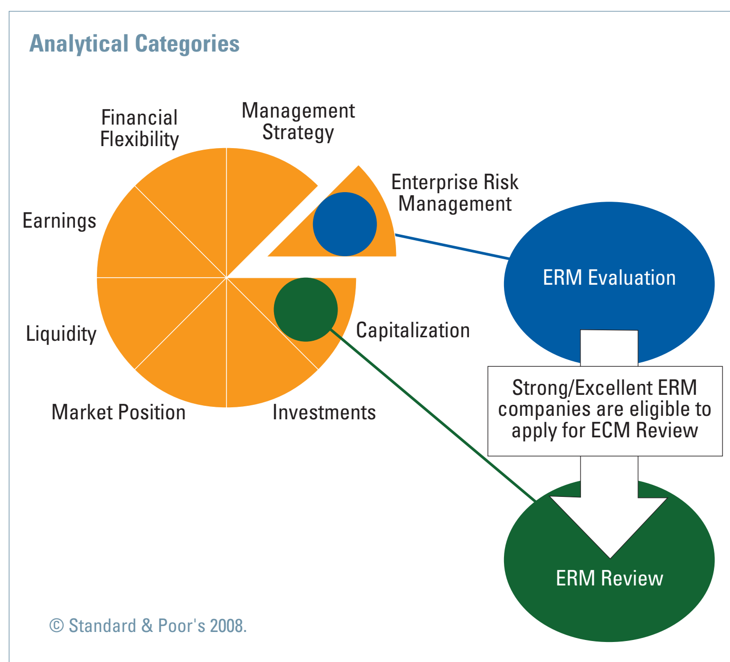
The ECM review will be available to companies that request it and satisfy a use test as described in the pre-conditions outlined below. These pre-conditions relate to the robustness of the enterprise risk management (ERM) processes and the reliance of management on its capital model for major corporate decisions other than just capital adequacy.

ECM Review In The Ratings Process

The ECM review is intended for companies that already have a sophisticated ECM that is integrated into their strategic decision-making process. To be eligible for the review, a company must possess strong or excellent ERM and have available quality documentation for its model. As part of our preliminary review of information submitted, we will determine eligibility based on our assessment of whether the insurer is currently using its internal ECMs to determine capital adequacy and whether these models are also integral components of that insurer's business planning, strategy and risk management, pricing, disclosures, and decision-making processes. These requirements are described in more detail below.

The qualitative review focuses on the existing documentation and processes of an insurer's ECM. This would especially include documentation of the validation exercises that have been performed to assure management that the model inputs (for example, data and assumptions) and output were fit for use. These validations might be performed by internal staff or they might be a part of a third-party review. Our review process will consider external third-party reviews of the model. However, Standard & Poor's will need to be certain that these reviews are robust and independent before we rely on them to any great extent.

Chart 1



The ECM review is intended for companies that already have a sophisticated ECM that is integrated into their strategic decision-making process

These reviews will also enable us to compile data on best practices for various ECM measures, approaches, and assumptions. From these data points, we will assemble benchmarks for peer comparisons. Our processes and procedures, and the criteria we will use to compare results, will not change in any substantive fashion, but we will refine them as our portfolio of reviews grows and the market continues to evolve.

Our aim, in formulating a methodology of ECM assessment, is to (1) determine whether the insurer's ECM is doing the job it's supposed to do and (2) to understand where the differences are with our models. As illustrated below, our reviews will allow us to become confident enough to incorporate some of the company's own ECM information into our capital adequacy assessment and therefore into our ratings process.

This process, for insurers that undertake these reviews, will form a piece of our capital adequacy assessment process. Capital adequacy is part of the capitalization review, which is one of the eight analytic segments in our rating process for insurers (see chart 1). The ECM review could result in a change in our opinion of the adequacy of the capital held by an

Standard & Poor's will blend the results produced by the company's ECM with our assessment of risk capital via the existing Standard & Poor's RBC model

insurer relative to its current rating and result in future ratings actions, either favorable or unfavorable.

Qualification Criteria For Companies Eligible For An ECM Review

To qualify for an ECM review, the company must satisfy a number of conditions. These include a use test to ensure the management team actively uses the ECM model.

The insurers must have a strong or excellent ERM process that they use in a consistent and diligent manner to hold the risk exposures to within a predetermined tolerance. This condition is necessary for the ECM to have significant predictive capacity. Without the discipline of a true ERM program, the risk position that the ECM calculates could well have been true at the time of measurement, but the future risk position could be drastically different. This uncertainty could be caused by a less-effective risk-control process or simply because management might not be thinking about the impact of its major decisions on economic capital. Standard & Poor's expects that insurers with strong or excellent ERM will have robust risk-control processes that will adapt to changing market conditions and that they will have incorporated their ECM into their financial-management processes so that changes in economic capital will be well planned and monitored.

The model and the modeling process must have sufficient rigor to develop reliable estimates of the risks of the insurer. This rigor is demonstrated in a number of ways, including extensive back testing, validation, and stress scenario testing. In addition, these models need to offer demonstrable improvements in the degree to which they capture the full texture of the gross risks taken by the insurer as well as the impact of the actual risk-management actions and programs of the insurer when compared with broad factor based RBC-type calculations.

The insurer must rely on the ECM results, together with other measures, to significantly influence the major decisions of the enterprise. This would generally be seen through a strategic risk management (SRM) process (see "Strategic Risk Management: The Upside Of ERM," published July 27, 2006, on RatingsDirect). This is not to say that SRM must have ECM or that ECM is the only measure used to assess risk versus rewards. However, if the company has ECM and is not using it for SRM, then it should be demonstrating to us that it is using ECM for something more than just assessing overall capital adequacy. The risk/reward optimization that is the hallmark of SRM is usually based on a view of the benefits of diversification, and in fact, the optimization process has as one of its primary goals, the utilization of that benefit in a manner that best takes advantage of the insurers' strengths in their chosen markets.

Quantifying Credibility: The M Factor

During the initial reviews, Standard & Poor's will blend the results produced by the company's ECM with our assessment of risk capital via the existing Standard & Poor's RBC model. When calculating economic capital, an insurer estimates the capital needed to cover losses deriving from the business it writes, with a certain level of confidence. When assessing a company's capital adequacy, we estimate the amount of capital the company requires at each rating level using our internal RBC model (see "New Risk-Based Insurance Capital Model," published on May 31, 2007, on RatingsDirect), which we then combine with the other rating factors to generate our overall rating on a company.

The Standard & Poor's RBC model will remain an important part of the ratings process for most of the companies we rate. However, over time, for companies for which we do ECM reviews, we expect to place greater reliance on the company's own ECM results when gauging capital adequacy. To allow this blending, the review of an insurer's ECM will result in a credibility factor, which we will refer to as the M Factor. This factor, which we will assign to the insurer's model, will be an indication of our level of confidence in the model's information-gathering and calculation processes, its ability to produce a credible capital adequacy metric, and the completeness and depth of our review.

The M Factor will reflect the level of confidence or reliance we have on the company's internal capital model results versus our own capital modeling. The considerations in generating this factor are discussed below.

Initially, we expect to see relatively low credibility factors. However, as our portfolio of assessments grows and we review each company's models a number of times and carry out enhanced quantitative analysis, we could increase this factor.

ECM Review Framework

For these initial reviews, we anticipate focusing on six categories across each function or model. The application guide provides additional detail to the types of documents applicable for each of these categories.

Assumptions

This area of the review will cover both the process and governance to set assumptions as well as the actual assumptions themselves.

Methodology

The category focuses on whether an insurer can identify and quantify its risk exposures and whether

it can incorporate the effects of various considerations, including diversification across risk categories and spot concentrations of correlated risks. We will consider the main approaches taken to generating the model. For example, it will cover the approaches taken to estimate the diversification benefit and allow for any capital fungibility issues between entities or countries.

Data quality

The source and integrity of historical and market data used by the insurer in its ECM is important. This review will cover the quality of the data used for asset valuation and liability valuation, as well as to set the model assumptions and parameters.

Process and execution

This category will review how the model is constructed and the ability of the model to produce the desired results. This will also consider the quality of the integration between data warehouses and risk engines, model results, and reporting tools.

Results

The quality of the results and of the reporting tools used will be considered here. The review will compare the results from the internal capital model with both our internal benchmarking database (described below) and our capital model results.

Testing and validation

This part of the review considers the quality of the company's approach to ensure that all the information going into the model is correct, that the individual algorithms within the model are appropriate, and that the resulting answers make sense. This review will also consider stress and scenario testing.

Development Of Benchmarking Database

Whenever possible, as part of our ECM assessments and general ERM reviews, we may request and record pertinent metrics--such as correlation factors and loss ratios--produced by the major asset and liability risks faced by most insurers and reinsurers. We will input this information into a database, which we will use to benchmark comparisons across the industry and industry sectors. In this manner, Standard & Poor's intends to compile a database of comparable ECM outputs and underlying assumptions for benchmarking purposes.

As this database grows, it will give our benchmarking a comprehensive perspective on the approaches and key assumptions underlying the assessment of economic capital levels. Over time, we will be able to publicly provide typical ranges of economic capital required for particular risk classes, risk sizes, and the insurance industry's underlying parameters and assumptions. The database will also enable us to pinpoint outliers more quickly and expand our understanding of ranges for metrics such as correlations, frequencies, and drift terms.

We want to emphasize, though, that we will not require every company's economic capital to fall within a particular range for particular risk sizes to be valid for that company. Also, we are unlikely to be prescriptive with parameter assumptions. We will always consider the nuances of each insurer's approach to ECM, risk-control processes, risk-taking experience, size, jurisdiction, etc.

When viewing an individual firm's metrics, we will also consider how they compare to an appropriate peer set within the database for a more effective assessment. However, when a company's results fall outside of the typical range of comparables, we will investigate to determine the reason for the deviation. If our research identifies any systemic weaknesses (for example, if a typical range for a particular risk or parameter seems unusual throughout the industry compared with our assessment), we will explore that item more deeply with all firms exposed.

Once we are confident of market best practices and have built up a credible data set, we will use these data to inform our research articles and development of criteria for reviewing company's models and approaches.

In addition, we will accumulate information about methods, assumptions, and processes used. This will guide our discussions with all insurers, rather than be a straitjacket for acceptable practices.

These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by the issuer-specific or issue-specific facts, as well as Standard & Poor's assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions change from time to time as a result of market and economic conditions, issue-specific or issuer-specific factors, or new empirical evidence that would affect our credit judgment. ■

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25 Per Cent. . .

. . .Of Europe's Insurers Could Face Major Strategic Decisions Under Solvency II

Solvency II will have a profound impact on Europe's insurance market. This report explores its impact and the likely changes to the competitive landscape.

By Rob Jones, Yann Le Pallec and Wolfgang Rief

The European Union's Solvency II Directive on insurance supervision is steaming ahead toward an implementation date of Oct. 1, 2012. The political process is well underway, and what might be the final quantitative impact study (QIS 4) is nearing completion. Standard & Poor's Ratings Services considers that Solvency II will have a profound impact on Europe's insurance industry. Solvency II will accelerate consolidation in Europe. Based on the results from QIS 3, we believe that Solvency II would result in more than 25% of Europe's 5,000 insurers being faced with major strategic decisions. Solvency II could yet be derailed by EU member states evaluating the potential impact on their industry and the effect of a number of specific issues which have become highly political.

What Is Solvency II?

Solvency II will completely overhaul supervision of insurance within the EU. The directive offers a realistic prospect of moving Europe's insurance supervision onto a modern, risk-sensitive platform far superior to that of the existing regime and most other approaches currently in use around the globe. However, many insurers will find the transition painful because the current Solvency I regime has changed little since it was instigated 30 years ago.

Solvency II consists of three pillars:

- Pillar 1: Quantitative requirements;
- Pillar 2: Supervisory review; and
- Pillar 3: Disclosure requirements.

The Commission's consultation process has includ-

Of the 1,027 insurers participating in QIS 3, 16% did not cover the SCR and 2% did not even cover the MCR

ed a series of quantitative impact studies, the fourth of which is nearing completion (QIS 4).

We consider that large insurance groups will benefit substantially from the changes made under the proposed Solvency II directive, while niche providers will suffer from the emphasis on diversification. Other controversial features of Solvency II include group supervision, the minimum capital requirement, and proportionality. We also comment on the global implications, include harmonizing supervision in insurance with that in countries outside the EU.

When rating insurance companies, Standard & Poor's has a more complex decision to make than supervisors assessing the insurers under their supervision. Our processes will overlap, but remain differentiated. Nevertheless, Solvency II will affect certain aspects of our ratings.

Draft Directive Makes Impressive Progress

The draft directive which provides Solvency II's legal foundation is making impressive progress through the Council of Ministers, first under the Portuguese and now under the French presidency, and through the European Parliament. The race is on to adopt the Directive by early 2009, before elections for the parliament trigger the establishment of a new European Commission.

Most of the details of Solvency II are not in the directive itself; they are in the measures used to implement it. These "implementing measures" are designed to be flexible so that the Commission can change them relatively quickly as conditions change or events dictate, without resorting to new primary legislation. However, this does mean that Parliament will expect the initial measures to be well advanced before it adopts the directive. All the detail must be in place by 2010 to allow the industry sufficient lead time to meet the Oct. 1, 2012 implementation date. This would mean that Solvency II would be effective for the submissions to supervisors made for reporting periods ending on Dec. 31, 2012.

QIS 3 Results Understate Directive's Potential Impact

The Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) is charged with providing advice on implementing Solvency II to the Commission. After 2012, it will be responsible for the directive's consistent implementation.

CEIOPS published the QIS 3 results in November 2007. The results are anonymized to make it impossible to discern the impact on individual companies, or even on individual countries. However, some supervisors have published national reports and these provide some clues.

The CEIOPS report included the comment that "the regime [based on the QIS 3 calibration] does not require extra capital in the European insurance market as a whole". Superficially, insurers might feel reassured by this comment. However, CEIOPS goes on to state that "there will be a [capital] redistribution process". Based on QIS 3 results, we believe this could be substantial.

Our results come with a caveat

EU member states will be basing some political judgments on the QIS 3 results, just as Standard & Poor's is basing the opinions expressed in this commentary on these results. However, our opinions come with a caveat. QIS 3 was not a straightforward exercise and the guidance for completion provided by CEIOPS lacked clarity in some respects. Some errors were detected by national supervisors, who suppressed these companies' results from the reported overall results. Other errors will have remained, but their impact is unknown. More QIS would serve, in part, to reduce the error rate to an acceptable level and so provide a sound basis for political decision making.

Implications of the published results

Of the 1,027 insurers participating in QIS 3, 16% did not cover the SCR and 2% did not even cover the MCR. The solvency capital requirement (SCR) is the level of capital at which insurers would be required to submit a restoration plan to their supervisor. The minimum capital requirement (MCR) is the level at which insurers may have their authorization withdrawn. If QIS 3 was representative of the whole market and its calibration implemented, this would equate to 800 of Europe's 5,000 insurance entities. Substantial as this figure is, we think that the results may understate the potential impact because:

- Only about 20% of Europe's insurers participated in QIS 3. We suspect that the remaining 80% are likely to be less well prepared for Solvency II generally, and would have lower SCR coverage on average than those that did participate.
- The 16% figure appears to be based on a comparison of the current level of available capital with the QIS 3 SCR. It does not consider the buffer that insurers will inevitably want to maintain above the SCR. Under Solvency II, failure to meet the SCR would have to be disclosed. The effect of such a disclosure on an insurer's reputation gives a strong incentive for it to maintain a substantial buffer, although it remains to be seen what the size of that buffer might be. Standard & Poor's expects that most insurers will manage minimum SCR coverage within a range of 1.1x to 1.5x, with the higher buffer carried by insurers in the more volatile lines of business.
- The level of available capital at the end of 2006 (upon which QIS 3 was based) was very healthy, with profitability at a cyclical peak. Future trends or stress events could easily diminish capital before 2012 and substantially increase the numbers of companies failing to meet the SCR.

However, the impact would be partly offset by the diversification benefits that may be passed down to subsidiaries of large groups. CEIOPS' analysis focuses on legal entities rather than groups. The impact may be further offset by behavioural issues. Insurers may not want to look too healthy at this stage, for fear that they might contribute toward a tougher ultimate calibration.

Based on our appraisal of the QIS 3 results, Standard & Poor's would not be surprised to find that Solvency II could result in more than 25% of Europe's insurers needing to reduce scale, reduce risk, raise capital, employ more risk mitigation (such as purchasing more reinsurance), merge with other insurers, or be acquired. Some groups will also set up more branches and rationalize their subsidiaries to reduce the number of regulated entities to the absolute minimum.

Relatively few changes were made to the calibration for QIS 4 purposes. We expect the results of QIS 4 to be published in November 2008. Because the deadline for finalizing the implementation measures is very tight (2010), there will be very little time to conduct another full quantitative impact study if it is deemed necessary. However, a QIS 5 seems inevitable because some of the issues, especially those regarding group supervision, are so sensitive.

Long-Term Impact On Competitive Position

The analysis above focuses purely on the balance sheet. Solvency II will also have a significant impact on the competitive landscape by causing a shift in favor of large diversified groups. Groups will enjoy large supervisory diversification credits and this will boost their ability to compete on price. Additionally, companies that lack the resources to respond to sophisticated supervision will be hard hit by the implementation of Solvency II.

These issues will add to the numbers of entities that may miss Solvency II capital targets and will contribute to a progressive reduction in the number of European insurance entities. Solvency II is rightly radically different from the current regime and should result in more efficient markets, but there will be casualties in the transition. Solvency II is not the "villain"; it merely provides the transparency and incentives required to unleash market forces that are already present. It will rapidly escalate the pressure to consolidate that already exists.

The U. K., Denmark, and Spain are worst-affected under QIS 3

National supervisors or industry associations in the U.K., France, Germany, Austria, the Netherlands, Denmark, and Spain have publicly disclosed their national QIS 3 results. However, the nature and depth of the disclosure varies greatly.

Of the countries that disclosed their results, the U.K., Denmark, and Spain would seem to be hardest hit. According to the CEA, the European insurance and reinsurance federation, the U.K. had 1,170 insurers at the end of 2005, Denmark had 206, and Spain had 362. Of these, 82 British, 69 Danish, and 108 Spanish insurers participated in QIS 3. The U.K. and Denmark both reported that around 20% of their companies would not meet the QIS 3 SCR, while Spain reported 19% would not. The Netherlands reported that 20% of life insurers would be similarly affected, but only 10% in non-life. Given the relatively low impact reported elsewhere, the impact on the countries not making public disclosure is likely to have averaged more than 20%.

The U.K. reports that the assumption required by QIS 3 to reflect the lapse risk inherent in unit-linked life insurance policies was one of the most significant factors affecting its life insurance companies. Revisions to this assumption in QIS 4 should reduce this impact.

The reported impact on Germany (663 insurers; 179 participated in QIS 3) is surprisingly low. The GDV reports that only 9% of German life insurers and 8% of non-life insurers would fail to cover the SCR. The average SCR coverage was 250% for non-life insurers and 370% for life insurers, which is extremely high compared with our own views of German insurers' capital adequacy, particularly in life insurance.

Niche insurers suffer most from Solvency II's faith in diversification

The assumptions on which QIS 3 were based hurt insurers involved in single lines of business most, mainly because it offers high levels of diversification benefits. For legal (solo) entities, these give an average 20% capital saving for Europe's life and non-life insurers and 30% for composites. Although the capital savings were not limited to those arising from diversification, insurers submitting internal models reported a 25% SCR reduction for non-life and 15% for life.

For groups, comparing the sum of solo SCRs with the group SCR suggests that there is a further diversification credit of 19% on average. When you compound these effects for globally diversified groups, diversification credit could easily be 40%-50%. This would give these groups a huge pricing advantage in the market and would pile the pressure on all less-well-diversified businesses.

QIS 4 may only increase this pressure because it introduces a geographical diversification credit for non-life business that was not present in QIS 3. By contrast, under Standard & Poor's capital adequacy model, the maximum potential diversification credit that can be achieved is 18%, a limit that is partly influenced by our concerns over tail correlation.

The QIS 3 and QIS 4 calibrations place great faith in diversification, which we think is unproven. The impact of extreme events is diverse. For example, the events of Sept. 11, 2001 affected not only most classes of

The QIS 3 and QIS 4 calibrations place great faith in diversification, which we think is unproven

Reinsurers may also fare well, particularly in Solvency II's early years of application, as they "sell" their diversification to smaller less diversified primary insurers threatened by the new capital requirements

non-life insurance (aviation, property, liability, workers' compensation, accident, health, motor) but also life insurance (especially group life). It also shocked capital markets. The Solvency I regime gives no diversification credit.

CEIOPS and national supervisors cited the insurers most affected as including motor insurers, protection and indemnity (P&I) clubs, burial insurers, and workers' compensation insurers. Insurers with a genuine niche product offering or with a defensible niche distribution platform may still aspire to strong ratings, although Solvency II capital requirements may become a significant ratings driver for them going forward. Those with a sophisticated understanding of their risks will likely apply for supervision based on internal models, partly in response to this issue.

Controversy Attends The Draft Directive

In addition to the SCR calibration and its consequences, specific features of the draft directive are also controversial.

Smaller states object to the group supervision proposals

Group solvency is currently the most contentious political issue. Standard & Poor's was represented on the panel considering this issue at the Commission's public hearing on QIS 4. We face issues similar to some of those now being considered by the Commission when we rate subsidiaries of groups. We explained our approach to the panel and our criteria can also be found in "*Insurance Criteria Update: What Makes An Insurance Or Reinsurance Subsidiary 'Core' Under Group Rating Methodology?*" published on March 31, 2005 on RatingsDirect.

Under the draft directive, the supervisory body responsible for group supervision would be awarded enhanced powers including oversight over the group SCR and MCR. Local supervisors of subsidiaries would be left with lesser tasks such as policing subsidiary MCR, local technical provisions, and local systems and controls. They would not be responsible for a subsidiary SCR since the difference between SCR and MCR would be covered by group support arrangements, such as a limited guarantee. Most EC member states, especially the smaller states, object to this proposal because it implies a loss of control and insight over the local insurance industry.

The EC has requested advice from CEIOPS, which released a consultation paper in February, titled "Consultation Paper No. 25 - Draft Advice on Aspects on the Framework Directive Proposal related to Insurance Groups." We would expect a compromise solution to emerge in line with Solvency II's market-efficiency objectives so that the group diversification benefits can be realized to some extent.

We therefore expect large diversified groups to be clear winners under Solvency II supervision. Reinsurers may also fare well, particularly in Solvency II's early years of application, as they "sell" their diversification to smaller less diversified primary insurers threatened by the new capital requirements.

Design of MCR is politically sensitive

Surprisingly, the MCR calibration appears to be more politically sensitive than the SCR. According to the draft directive, the MCR is to be calibrated at a 80%-90% confidence interval. By comparison, the SCR is calibrated at 99.5%. This should allow supervisors the appropriate differentiation between withdrawal of an insurer's authorization when the MCR is breached and the requirement to submit a restoration plan when SCR is breached (the "ladder of intervention").

The Commission expects this calibration to equate to an MCR that is approximately 35% of the SCR, which sounds simple, superficially. The simplest ("compact") approach would be to calculate MCR directly as 35% of the SCR. However, many member states object because of concerns over legal certainty and the related issues of complexity and the ability to calculate it frequently (especially where an internal model is involved). CEIOPS is therefore examining an alternative, "modular" approach. Because the SCR is so complicated, it will be very difficult to design a proxy which is sufficiently risk-sensitive and keeps the ladder of intervention within an acceptable range for each company. All attempts so far seem to have failed and the liability-based "linear"

approach included in QIS 4 (albeit with a corridor)is also unlikely to meet the Commission's objectives. The compact approach appears to us to be the only credible suggestion so far.

Smaller insurers have lobbied hard on proportionality to reduce the complexity of Solvency II

The other main political talking point is proportionality. Smaller insurers continue to lobby hard on this issue, and their comments will feed into CEIOPS' response to the Commission's request for formal advice.

The Commission does not intend to place unnecessary burdens on smaller insurers or those with simpler risk profiles, but QIS 4 will not be easy, despite including a number of simplifications and proxies. These are designed to relieve some of the burden on certain insurers, including those that are start-ups, entering a new line of business, or lack data or actuarial expertise.

Global implications abound

Solvency II is not being developed in a vacuum. It is heavily influencing the development of global supervisory standards under the aegis of the International Association of Insurance Supervisors. These standards are voluntary, however. While Solvency II will harmonize practices within the EU, it will also need to consider the supervisory practices of non-EU countries. For example, these practices will affect the calculation of the SCR for EU insurers' counterparty risk for their recoverables from non-EU reinsurers and whether EU groups can recognize the diversification benefits arising from their non-EU subsidiaries.

The IWCFC and CEBS have published their joint response to the European Commission in a report titled, "Equivalence of Supervisory Arrangements in Switzerland and the United States with regard to Banking/Investment Groups and Financial Conglomerates." This report concludes that while the Swiss insurance supervisor and all U.S./Swiss banking supervisors provide supervision equivalent with that of the EU, the U.S. National Association of Insurance Commissioners (NAIC) does not, partly because the NAIC is merely a committee of individual state supervisors. Equivalence assessments would need to be made state by state. This adds to the growing pressure in the U.S. to enact an optional federal charter for its insurers. Elsewhere, Bermuda has been enhancing its supervisory practices over the past two years, partly in response to Solvency II.

In the absence of supervisory equivalence, non-EU insurers may find themselves operating at a competitive disadvantage in Europe. They may need to limit the damage by setting up intermediate EU holding companies for their EU operations.

Implications For Ratings

Insurer supervision in Europe is becoming more qualitative and prospective. To that extent, supervisory practices will partly converge with our own. However, our objectives differ. Supervisors have a binary decision to make: whether or not the insurer should continue to be authorized to conduct business. Our objective is to communicate relative financial strength globally via our ratings, which provides policyholders, intermediaries, bondholders, and creditors with more granular information to facilitate their decision-making process.

To some extent, the rating process should help insurers prepare for Solvency II. Some of our processes will eventually overlap, when Solvency II is implemented in 2012. Our capital adequacy model was launched in Europe in 1997 and resembles the emerging SCR in many respects. (For the latest version, see *Criteria: New Risk-Based Insurance Capital Model*, published on May 31, 2007.) More significantly, the enterprise risk management criteria we launched in 2005 will be aligned with the risk management reviews under Solvency II's supervisory review requirements under Pillar 2. Furthermore, this year, we are introducing economic capital analysis, which will overlap with supervisors' internal model validations. Finally, our rating process

offers high levels of transparency, which the disclosure requirements under Pillar 3 emulate.

Our overall approach to rating is unlikely to change. However, we will face the following issues:

- We will need to make our assessments on the impact of the changing competitive landscape on individual insurers well in advance of the implementation of Solvency II.
- Many insurers will find supervisory capital adequacy to be a more relevant constraint under Solvency II than they currently do, particularly the less diversified insurers. If so, our own capital adequacy model results may have less impact on the rating.
- We will have to consider the impact of group support arrangements in assessing the group status of rated subsidiaries.

Insurers Will Regret Failing To Evaluate The Effect Of Solvency II Well In Advance

A revolution is underway in the European insurance industry. The Solvency II project will introduce a new solvency regime with an integrated risk approach that reflects the risks being taken by insurers much better than the current Solvency I regime. Although the implementation date is not until 2012, insurers and supervisors are far from ready. Solvency II will have a profound impact, although many insurers have yet to evaluate its effect on them, feeling that it is not sufficiently imminent to warrant a full analysis. This is a stance they may come to regret. ■

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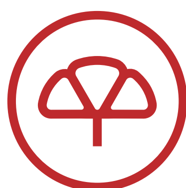

Life Reinsurers Look Beyond Mortality

The life reinsurance sector provides welcome diversification to some reinsurers but the sector faces challenges as volumes continue to fall in developed markets.

By Robert Hafner and Stephen Hadfield

The global life reinsurance sector is enjoying improved new business profits, but Standard & Poor's Ratings Services expects that the lower reinsurance cession rates and slow growth of the dominant mortality markets (primarily the U.S. and U.K.) will increasingly force life reinsurers to seek out non-traditional risks and enter less-saturated markets to sustain growth. These areas of emerging interest for life reinsurers are less well understood and less predictable than are their traditional mortality risks. If the increased uncertainty is not balanced by the application of strong risk management, the change in risk profile will erode the otherwise stable financial strength of the life reinsurance sector.

The life reinsurance sector remains highly concentrated, with Swiss Reinsurance Co. (Swiss Re) and Munich Reinsurance Co. (Munich Re) writing more than half of the global life reinsurance premiums. RGA Reinsurance Co. stands out as the most significant of the few remaining pure-play life reinsurers and has the leading new business market share in the U.S. and Canada.

The U.S. Is The Largest Life Reinsurance Market

The decline in life reinsurance cession rates in the largest life reinsurance market globally--the U.S.--slowed in 2007. According to the most recent Society of Actuaries study, recurring ordinary reinsurance assumed declined 5.7% during 2007 compared with a 30% decline over the previous two years. Recurring assumed business of $683 billion (insurance in force) in 2007 is now 37% below the peak of $1.08 trillion in 2002.

Assumption volumes have declined for two main reasons:

- Reinsurers have raised their prices from the very low levels in the early part of the decade; and
- Primary insurers' improved capitalization has enabled them to comfortably increase mortality retention levels.

Reinsurance price increases were necessary to improve profitability, despite the fall in mortality costs caused by the continued improvement in mortality for the population as a whole. Price increases were facilitated by the far greater pricing power accruing to the survivors after the wave of consolidation in the 1990s and early 2000s ended. This improved pricing power means far better profit margins on newer business, but that business is harder to come by. The emerging stabilization in cession volumes also reflects a blunting of reinsurers' pricing gains by incremental competition from recent entrants and the desire for growth. The health of the sector depends on maintaining the pricing discipline recently exhibited.

The extremely competitive primary markets prevent cedants from passing through the higher reinsurance prices, so they must seek other ways to maintain

Recurring assumed business of $683 billion (insurance in force) in 2007 is now 37% below the peak of $1.08 trillion in 2002

their own margins. For example, they can simply retain more. Although first-dollar original-terms coinsurance had been the norm for several years (for example, reinsuring 90% of every risk on every term life insurance policy sold), the market norm is now excess of retention (reinsuring 100% of all risk above a fixed retention of $1 million or $2 million per life).

The reserve strain on cedants' higher retained risk can be substantial, especially on term insurance in the U.S. with redundant "XXX" reserves and universal life insurance secondary guarantees with redundant "AXXX" reserves. Nevertheless, increased availability of collateral sources has made this strain much easier to absorb. For the largest companies, this often means securitization of the excess reserve requirements, although internal solutions have become more prevalent since 2006. Letters of credit (LOCs) also remain an option.

Most of the top 30 U.S. life insurers now have a captive reinsurer to accept their excess reserve needs, collateralized by LOCs. European banks have been particularly willing to provide that collateral. The long-dated LOC facilities now available provide a far better match for the long-dated reserve funding need than did the one-year LOCs commonly preferred in the past. The credit market stress during the past year has dramatically reduced liquidity, greatly slowed securitization activity, and increased collateral funding costs for new arrangements.

As a result of life reinsurance consolidation, only five companies had in-force market shares of 5% or more in the U.S. in 2007. These five companies have remained the market leaders since 2006 and still control 75% of reinsurance assumed. This suggests consolidation in the sector has gone just about as far as the market will tolerate.

Scottish Re Woes

However, for one of the largest reinsurers, the third-ranked Scottish Re Group Ltd., the situation has gone from bad to worse. Following operational and financial missteps, Scottish Re suffered substantial losses in 2006. Two investors (MassMutual Capital Partners LLC and affiliates of Cerberus Capital Management L.P.) rescued it in May 2007 by injecting more than $550 million of capital. However, the company was further damaged by market value losses on its concentrated investments in troubled subprime and Alt-A residential mortgage-backed securities. These securities comprised nearly 30% of the company's general account investments, with a substantial portion collateralizing certain of its XXX securitizations.

In announcements between late February and early April 2008, Scottish Re acknowledged its financial strength was so impaired it had no meaningful prospects for conducting new business and further announced its willingness to sell the majority of its operations. When Scottish Re filed its 2007 10-K annual report to the U.S. Securities and Exchange Commission on July 11, 2008, it disclosed its mounting problems in considerable detail, including its urgent efforts to arrange the sale of its North American segment, which comprises most of its operations. Whoever acquires these operations will gain a significant foothold in the U.S. life reinsurance market if they can manage the acquisition effectively. On July 16, Scottish Re completed the sale of its much smaller international operations to Pacific LifeCorp for about $71 million.

The remainder of the life reinsurance sector has been little affected by subprime and Alt-A securities. Because life reinsurers are primarily focused on assuming mortality risks, they generally maintain well-diversified portfolios that are characterized by higher credit quality securities than the life insurance industry as a whole. In addition, because a greater proportion of earnings is derived from mortality underwriting, the lower investment yields available in recent years have been less detrimental to operating results than they have been for primary insurers.

Cedants continue to favor seasoned reinsurers over aspiring competitors, even when consolidation has reduced the pool of reinsurers. This has not deterred others from entering or seeking an expanded role in life reinsurance in North America. Several existing players, primarily European based reinsurers, have begun to develop business plans for the U.S. more aggressively. There are others in the U.S. and Europe involved in principally non-life reinsurance that are actively investigating life reinsurance options. There have also been several start-ups in the past few years, such as Wilton Re, that seek to exploit niches or perceived lack of capacity.

Increasing Pressure To Assume Less-Predictable Non-Mortality Risks

Reinsurance for variable annuity (VA) guaranteed minimum death benefits (GMDB) was readily available in the 1990s, before the bear equity market emerged in 2001 and revealed that insurers and reinsurers had underestimated the costs. As a result, they incurred billions of dollars-worth of deferred acquisition cost (DAC) asset write-downs and reserve increases. In response to demand for equity-linked retirement savings performance backed by guarantees, variable annuity guaranteed living benefits (GMxB) burst on the U.S. scene in 2003 and quickly supplanted GMDBs as the force driving VA sales growth. However, life reinsurers generally shunned these liabilities until recently, partly because they recognized the greater market and benefit option utilization risks in GMxBs compared to the previously dominant GMDBs, which could only be collected on death.

The increased complexity of GMxBs, which guarantee various levels of market performance during the

To compensate for the reduced growth opportunities in traditional mortality reinsurance in the U.S. and the U.K., we expect that reinsurers in both countries will turn their attention to other risks, in particular longevity risk in the U.K. and GMxB risks in the U.S.

contractholder's lifetime, presented a daunting pricing and risk management challenge. Direct insurers with generally more diversified business profiles and more extensive resources than many reinsurers accepted the challenge by pricing more appropriately and implementing sophisticated hedging programs to manage the risks.

Partially motivated by the contracting mortality reinsurance market, life reinsurers have only recently begun reinsuring limited amounts of GMxB risk. Measured by annual VA sales approaching $200 billion and industry assets under management of $1.5 trillion, the opportunity appears large but the dominant VA writers developed the risk management expertise and retain most of their GMxB risk. Because reinsurers generally did not work with the industry to develop risk management solutions for GMxB, the life reinsurance sector's risk management is generally less advanced. This helped open the door to direct competition from investment banks that can provide customized derivative instruments for insurers to use to hedge GMxB risk.

The race is on to see whether life reinsurers can carve out a material role in helping to manage the industry's GMxB risk. If they are successful, it could help diversify sources of earnings, but it could also increase earnings volatility and challenge financial strength. The market and behavior risks involved are exacerbated by large numbers--the exact opposite of the law of large numbers that works so well for mortality risks.

Life reinsurers are also taking increased interest in other non-traditional market segments and international expansion to support their long-term growth objectives. In addition to the mortality and retirement savings segments, the sector is becoming more active supporting long-term care, critical illness, longevity, and health care risks. As the age wave sweeps developed markets, we expect these segments to expand rapidly and provide a significant opportunity for the sector to grow.

European Regulation And Longevity Exposures Affect Life Reinsurers

With the current life reinsurance climate making growth difficult in the U.S. as well as in the U.K.--another major life reinsurance market--companies are looking to new markets. Continental Europe is now seen as an attractive opportunity, with Solvency II-like supervision viewed as a key stimulus. Although the ultimate impact of Solvency II is not yet known, the expectation is that capital requirements will increase for many life insurance products, which will spur EU life insurers to use more reinsurance than they do today. More importantly, the industry expects capital requirements under Solvency II to encourage diversification of reinsurance counterparties, which has been far less common on the continent than in the U.S. or the U.K. This could help life reinsurers trying to challenge the dominant players. At the same time, many life reinsurers are actively looking at emerging opportunities in other European markets and the under-reinsured Asian market.

The major development in the U.K. has been the reduction in regulatory capital requirements for writing protection business. As the management of new business strain has been one of the main motivations for the high use of reinsurance protection lines in the U.K., Standard & Poor's expects that direct writers may increase their retention, in particular with regard to the mortality risk. As a result, there could be a material decrease in the premium income available to reinsurers. To compensate for the reduced growth opportunities in traditional mortality reinsurance in the U.S. and the U.K., we expect that reinsurers in both countries will turn their attention to other risks, in particular longevity risk in the U.K. and GMxB risks in the U.S.

Longevity market offers uncertainty but high margins

The U.K. longevity market is more developed than in the U.S and is estimated to have more than £2 trillion of notional exposure in insurers' annuity reserves and defined benefit pension schemes. The difference arises because U.K. law has long made immediate annuity purchase mandatory, while it is discretionary in the U.S. As a result, U.K. longevity data is much more extensive and less subject to annuitant anti-selection than is U.S. data. The availability of broader population longevity data and prevalence of defined benefit pension schemes also results in a more-active pensions buyout market.

However, with a market of this size in the U.K. alone, the life reinsurance sector lacks the capital capacity to absorb all of the risk and will increasingly have to work with the capital markets to develop insurance-linked securitization (ILS) solutions. Life reinsurers are well positioned to mediate these developments because their special expertise is critical to adequately assessing the risks and explaining them to investors.

Although longevity reinsurance deals principally focus on the transfer of longevity risk, there continue to be variations on the type of structure and credit risk is often dealt with on a tailored basis. Several transactions so far have included the transfer of all the liabilities (that is, investment risk and administration of the contracts is included in addition to longevity risk), but other deals have only involved longevity risk transfer. Several U.K.-based primary insurers have acted to reduce longevity exposure through traditional reinsurance arrangements with reinsurers and other insurers. Swiss Re, through its subsidiary Windsor Life Assur-

ance Company Ltd., reinsured £1.7 billion of liabilities from Friends Provident Pensions Ltd. in May 2007 and assumed £3.9 billion of liabilities from Zurich Assurance Ltd. in June 2007. In February 2008, Canada Life International Re. reinsured £6.7 billion of annuity liabilities from Standard Life Assurance Ltd.

The longevity market continues to develop, although it still awaits the successful launch of a longevity bond and the development of a deeper and more liquid market.

In addition to the foregoing traditional deals, 2008 has also seen the announcement by Lucida PLC of the completion of both an annuity reinsurance transaction with the life insurance arm (New Ireland Assurance Company PLC) of the Bank of Ireland and a swap with JP Morgan using the JP Morgan LifeMetrics Index. These transactions challenge the traditional forms of annuity reinsurance and we expect to see further innovative solutions come to market in the next few years.

The major challenge and concern of market participants is the enormous uncertainty around the shape of improvements in life expectancy, but this uncertainty has resulted in high margins. However, market participants are hesitant to take on open-ended longevity exposures. Reinsurers, insurers, and investment banks are actively exploring various incremental approaches that would unbundle longevity risk into time-bounded tranches that are more comprehensible to capital markets investors and effectively provide repricing opportunities.

Severe mortality bonds becoming commonplace

Standard & Poor's remains concerned about the possibility of severe mortality events (such as pandemics, terrorism, and natural catastrophes) and the potential impact on the insurance industry. Despite their low likelihood, the significant severity of such events means that preparation is advisable, and the capital markets are responding to severe mortality ILS because these risks offer another opportunity to obtain uncorrelated diversification. Swiss Re bought protection against extreme mortality events in its two Vita Capital transactions in 2003 and 2005. Scottish Re entered into a similar facility through Tartan Capital Ltd. in 2006. Two new mortality catastrophe securitizations have been launched in 2008, as reinsurers continue to seek protection against significant mortality events. SCOR SE, through its subsidiary Scor Global Life SE, and Munich Re, through the Nathan Ltd. special-purpose company, launched their first extreme mortality securitizations.

Both transactions offer the reinsurers an element of protection from severe mortality events as measured by an increase in the mortality of specified population mixes. Basis risk exists because the deals are structured on publicly available general population data, while insured lives are subsets that could have different mortality experience than the reference population. In addition, while the principal under existing deals continues to increase, it still represents a small percentage of the mortality sums at risk, both in individual issuers and in the industry as a whole. This highlights the scope, and the possible need, for further issuance of these securities if they are to become a significant source of risk mitigation for the industry.

Standard & Poor's believes the life reinsurance sector is strongly positioned to maintain financial strength, provided it continues the pricing discipline that has enhanced the profitability of new mortality business

Life Reinsurers Maintain Financial Strength But Uncertainty Grows

Standard & Poor's believes the life reinsurance sector is strongly positioned to maintain financial strength, provided it continues the pricing discipline that has enhanced the profitability of new mortality business. However, contracting cession rates are limiting the growth prospects of the life reinsurance sector and challenging perceptions of undercapacity. This is increasingly motivating reinsurers to engage in less-well-understood and more-volatile products to sustain long-term growth and profitability. Standard & Poor's focuses on whether the sector can expand its risk management skills and practices sufficiently to adequately price and manage these less-familiar risks and maintain financial strength.

The role of life reinsurers is evolving because of competition with the capital markets to provide capital management solutions for cedants and because the capital markets are an increasingly necessary partner for the efficient funding of very large and specialized capital needs. Life reinsurers will increasingly exploit their specialized and broad knowledge of the insurance market to mediate growth in ILS during the remainder of 2008 and beyond as (re)insurers continue to seek innovative methods for reserve funding, capital management, and risk transfer. Although recent deals have focused on the risk transfer element of ILS, life ILS transactions continue to have a wide potential scope and we expect ILS to present both an opportunity and a threat to the role of the traditional life reinsurance sector. ■

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Top 40 Global Reinsurance Groups

Top 40 Global Reinsurance Groups Ranked By Net Reinsurance Premiums Written

			Net Reinsurance Premiums Written (Mil. $)	
Ranking	**Company**	**Country**	**2007**	**2006**
1	Munich Reinsurance Co.	Germany	30,292.9	27,425.2
2	Swiss Reinsurance Co.	Switzerland	27,706.6	23,841.1
3	Berkshire Hathaway Re[1]	U.S.	17,398.0	11,576.0
4	Hannover Rueckversicherung AG	Germany	10,630.0	9,353.5
5	Lloyd's[2,3]	U.K.	8,362.9	8,445.3
6	SCOR SE	France	7,871.7	4,885.2
7	Reinsurance Group of America, Inc.	U.S.	4,906.5	4,343.0
8	Transatlantic Holdings Inc.	U.S.	3,952.9	3,633.4
9	Everest Reinsurance Co.	Bermuda	3,919.4	3,875.7
10	PartnerRe Ltd.	Bermuda	3,757.1	3,689.5
11	Tokio Marine Group[2]	Japan	2,936.4	2,783.4
12	Korean Reinsurance Co.	Korea	2,796.8	2,349.5
13	XL Re Ltd	Bermuda	2,781.3	2,959.7
14	Transamerica Re (AEGON)	U.S.	2,173.0	1,957.7
15	Odyssey Re	U.S.	2,089.4	2,160.9
16	General Ins. Corp. of India	India	2,085.1	1,489.8
17	Sompo Japan Insurance Inc.[1]	Japan	1,837.3	1,788.1
18	Mitsui Sumitomo Insurance Co. Ltd.[1]	Japan	1,805.8	1,724.3
19	White Mountains Re Group Ltd.	Bermuda	1,752.4	1,737.2
20	Caisse Centrale de Reassurance	France	1,642.6	1,508.7
21	Mapfre Re	Spain	1,569.7	1,298.5
22	AXIS Capital Holdings Ltd.[1]	Bermuda	1,537.1	1,528.8
23	QBE Insurance Group Ltd.	Australia	1,509.2	1,212.5
24	ACE Tempest Reinsurance Ltd.	Bermuda	1,484.6	1,796.7
25	Toa Re Co. Ltd.	Japan	1,385.2	1,286.3
26	Aioi Insurance Co. Ltd.[1]	Japan	1,208.7	1,131.5
27	Arch Capital Group Ltd.	U.S.	1,184.4	1,365.4
28	Platinum Underwriters Holdings, Ltd.	Bermuda	1,119.8	1,176.6
29	PARIS RE	Switzerland	1,113.5	1,254.0
30	R+V Versicherung AG[1]	Germany	1,053.5	861.7
31	Endurance Specialty Holdings Ltd.[1]	Bermuda	1,051.6	1,327.9
32	Deutsche Rueckversicherung AG	Germany	1,021.0	878.5
33	RenaissanceRe Holdings Ltd.	Bermuda	1,018.7	1,078.3
34	Aspen Insurance Holdings Ltd.[1]	Bermuda	1,008.3	1,028.5
35	IRB-Brasil Resseguros S.A.	Brazil	900.3	910.3
36	NIPPONKOA Insurance Co. Ltd.[1]	Japan	837.2	790.9
37	Max Capital Group Ltd	Bermuda	796.6	634.7
38	Amlin Group[1]	U.K.	782.4	742.5
39	Catlin Group Ltd.[2]	Bermuda	740.2	N.A.
40	W.R. Berkley Corp.[1]	U.S.	682.2	892.8
	Total		**162,702.3**	**142,723.6**

Group Notes

1 Adjusted shareholders' funds are for the group as a whole, including both its direct and reinsurance operations.
2 Net premiums written and the combined ratio relate to reinsurance business only; all other items include direct business.
3 The data presented is based on the published pro-forma accounts for the Market, which represent an aggregation of all syndicates participating at Lloyd's. As such, some premium included for Lloyd's may also be included by other groups in this list that consolidate their Lloyd's operations.

Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)		Return on Revenue (%)	
2007	2006	2007	2006	2007	2006	2007	2006
4,854.3	3,990.8	96.5	92.9	36,655.9	35,943.3	11.8	10.7
6,992.1	4,192.0	92.3	92.3	29,397.4	26,273.7	18.5	13.5
N.A.	N.A.	87.7	76.6	61,981.0	59,273.0	N.A.	N.A.
1,040.4	667.0	100.3	101.2	7,788.2	6,309.6	8.6	6.4
7,678.2	7,254.7	81.7	80.9	26,849.7	25,134.1	25.5	25.7
659.4	440.6	99.3	96.5	5,341.5	2,982.8	7.6	8.1
544.0	451.4	N.M.	N.M.	3,189.8	2,815.4	9.2	8.7
586.4	529.0	95.2	95.9	3,349.0	2,958.3	13.4	13.1
941.7	956.7	91.6	89.7	5,684.8	5,107.7	20.0	21.3
904.1	751.7	80.4	84.4	4,321.6	3,785.8	21.1	18.2
1,639.0	1,312.5	N.A.	N.A.	20,727.2	25,832.3	N.A.	30.7
55.6	85.1	100.4	97.3	948.7	874.0	2.0	3.6
N.A.	N.A.	84.0	83.4	N.A.	N.A.	N.A.	N.A.
165.6	210.3	N.M.	N.M.	2,624.9	2,397.3	6.6	9.7
374.1	550.1	95.5	94.4	2,654.7	2,083.6	15.3	20.3
267.8	415.2	112.8	101.4	1,643.3	1,361.1	12.8	28.4
530.9	745.3	N.A.	N.A.	16,210.8	20,431.1	16.1	25.1
N.A.	N.A.	N.A.	N.A.	18,870.4	21,906.8	N.A.	N.A.
291.2	286.7	97.4	100.3	2,473.0	2,378.6	14.0	15.1
1,131.9	923.9	49.9	51.9	4,067.6	2,870.7	51.7	46.9
198.5	153.2	91.6	92.3	1,067.4	853.7	12.4	12.5
N.A.	N.A.	76.3	77.6	5,158.6	4,412.6	N.A.	N.A.
417.3	240.7	84.1	89.1	1,452.2	1,122.3	25.0	10.8
773.4	728.8	75.1	76.0	N.A.	N.A.	40.7	36.1
196.6	204.6	91.8	88.8	2,590.6	2,577.3	13.2	14.8
-422.1	168.4	N.A.	N.A.	5,990.3	7,256.4	N.A.	N.A.
708.0	598.0	74.6	80.7	3,509.1	3,166.8	42.7	33.2
383.4	358.7	83.5	85.4	1,998.4	1,858.1	27.6	23.6
322.5	509.7	91.5	76.0	2,202.4	2,175.1	23.7	35.8
348.3	257.1	98.2	97.8	5,379.1	4,453.0	24.8	23.0
560.4	548.3	93.5	83.0	2,512.3	2,297.9	38.9	32.7
6.2	47.0	100.8	96.0	727.3	641.7	0.6	5.1
568.3	796.1	87.0	77.6	2,827.5	2,480.5	41.4	57.6
391.7	468.9	82.1	78.2	2,817.6	2,389.3	27.6	24.9
303.7	193.5	64.2	73.8	1,029.2	763.9	32.7	25.0
26.2	-164.4	N.A.	N.A.	6,966.8	8,479.7	5.2	-2.0
80.5	88.1	75.6	80.1	1,583.9	1,390.1	6.7	9.8
454.4	378.9	50.7	55.2	2,100.8	1,833.6	50.1	48.3
622.3	N.A.	60.4	N.A.	3,017.8	N.A.	22.2	N.A.
178.3	135.4	96.7	99.8	3,566.3	3,335.2	19.9	N.A.
34,774.6	**29,474.0**	**90.4**	**88.2**	**311,277.1**	**302,206.4**	**17.5**	**16.3**

Glossary of terms

Net reinsurance premiums written = gross reinsurance premiums written less reinsurance premiums ceded; relate to a group's reinsurance business only, unless where separately indicated.

Pretax operating income = underwriting profit (or loss) + net investment income + other income. Net realized gains/losses are excluded from this item.

Combined ratio = (net losses incurred + net underwriting expenses)/net premiums earned.

Total adjusted shareholders' funds = capital + shareholders' reserves (including claims-equalization reserve and any excess or deficiency of market value of investments over the balance sheet value).

ROR = pretax operating income/total revenue. (Total revenue = net premiums earned + net investment income + other income.) N.A. - Not available. N.M. - Not meaningful.

Global Reinsurer List By Country

To bring you the 2008 edition of Global Reinsurance Highlights, Standard & Poor's Ratings Services sought data on around 200 reinsurance organizations from over 40 countries. In a change from the previous year, Standard & Poor's requested survey responses from reinsurance organizations worldwide. In order to ensure consistency, we requested that respondents complied with clear guidance on the definition of the financial items required. In addition, Standard & Poor's attempted to verify the veracity of the data submitted with reference to publicly available data sources, insofar as this was possible. In the small minority of cases where companies did not respond to our survey request, Standard & Poor's has populated the tables using publicly available data, where we believe that the data available in the public domain accurately meets the requirements of the survey.

Standard & Poor's has endeavored to collect the data underlying each group or entity's combined ratio in order to calculate this metric in a comparable manner. The combined ratios presented in Global Reinsurance Highlights have been calculated as: (net losses incurred + net underwriting expenses)/net premiums earned. The combined ratio of any entity that writes purely life reinsurance has been marked as "N.M." (not meaningful), as Standard & Poor's does not consider this to be an accurate measure of

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
AUSTRALIA				
NR	Hannover Life Re of Australasia Ltd.	346.7	249.8	38.8
AA-	Swiss Re Life & Health Australia Ltd.	338.7	249.5	35.8
AA-	Munich Reinsurance Co. of Australasia Ltd.	151.3	112.0	35.0
AAA	General Reinsurance Life Australia Ltd.	104.5	89.7	16.5
AAA	General Reinsurance Australia Ltd.	35.6	36.2	-1.6
	Total:	**976.8**	**737.2**	**32.5**
AUSTRIA				
A-	UNIQA Versicherungen AG [1,3]	731.3	638.9	14.5
	Total:	**731.3**	**638.9**	**14.5**
BAHRAIN				
BBB	Arab Insurance Group (B.S.C.)	235.9	150.3	56.9
BBB	Trust International Insurance Co. B.S.C.	88.0	62.2	41.5
A	Hannover Re Takaful	13.8	N.A.	N.A.
	Total:	**337.7**	**212.5**	**58.9**
BARBADOS				
NR	SCOR Global Life Reinsurance International (Barbados)	247.9	155.6	59.3
	Total:	**247.9**	**155.6**	**59.3**

a life reinsurer's profitability. For those groups or entities writing both non-life and life reinsurance business, the combined ratio reflects non-life business only.

Our ongoing aim in producing this data is to provide market participants with an indication of the ongoing reinsurance capacity available in each market. Hence, we try to exclude intra-group reinsurances as far as possible. Companies which have not been able to exclude intra-group reinsurance are highlighted in the footnotes on page 42-43.

One of the challenges has been to convince some companies to separate reinsurance from their primary insurance business, especially when the reinsurance operation is a division within a company and not a distinct operation. While, generally speaking, all the premium data relates to a company's reinsurance premiums written, in some cases the other metrics will also include primary business; these cases can be identified through the footnotes to the tables.

The main group and country listing for each entity surveyed is representative of that group or company's total reinsurance business written, whether it be life, non-life, or a combination of both.

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	Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
	2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
	47.1	32.8	N.M.	N.M.	147.6	130.1	13.4	12.9	12.3
	55.3	66.0	N.M.	N.M.	257.6	232.1	11.0	14.2	22.7
	23.5	16.8	N.A.	N.A.	119.3	108.9	9.6	13.3	6.2
	23.4	11.4	N.M.	N.M.	55.6	37.2	49.4	20.1	11.5
	9.1	4.1	N.A.	N.A.	222.2	207.3	7.2	13.1	6.3
	158.4	**131.1**	**N.M.**	**N.M.**	**802.3**	**715.6**	**12.1**	**14.1**	**13.2**
	85.9	97.9	105.1	104.9	5,613.4	4,283.7	31.0	9.7	12.3
	85.9	**97.9**	**105.1**	**104.9**	**5,613.4**	**4,283.7**	**31.0**	**9.7**	**12.3**
	7.7	20.4	111.7	104.1	298.4	293.4	1.7	3.2	11.9
	14.9	16.9	84.3	76.3	188.3	173.6	8.5	16.2	27.2
	0.3	N.A.	135.4	N.A.	53.0	N.A.	N.A.	2.8	N.A.
	22.9	**37.3**	**103.3**	**95.9**	**539.7**	**467.0**	**15.6**	**6.6**	**15.9**
	5.6	-10.0	N.M.	N.M.	22.8	11.9	91.6	2.2	-6.2
	5.6	**-10.0**	**N.M.**	**N.M.**	**22.8**	**11.9**	**91.6**	**2.2**	**-6.2**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
BELGIUM				
AA-	Secura N.V.	291.7	320.2	-8.9
	Total:	**291.7**	**320.2**	**-8.9**
BERMUDA				
AA-	Partner Reinsurance Company Ltd	2,305.2	2,223.4	3.7
AA-	Everest Reinsurance (Bermuda) Ltd.	1,579.7	1,360.2	16.1
A+	ACE Tempest Reinsurance Ltd.	1,197.5	1,550.4	-22.8
A	Arch Reinsurance Ltd.	1,090.3	1,271.5	-14.3
A+	XL Re Ltd	999.2	1,032.8	-3.3
NR	Max Capital Group Ltd	796.6	634.7	25.5
NR	Validus Reinsurance Ltd. (Bermuda)	633.3	477.1	32.7
A	AXIS Specialty Limited [1]	560.3	670.1	-16.4
A-	Montpelier Re Holdings Ltd.	549.0	483.8	13.5
A-	Harbor Point Re Ltd.	537.2	590.4	-9.0
A-	Allied World Assurance Co. Ltd.[2]	536.0	572.0	-6.3
NR	Flagstone Reinsurance Ltd.	490.0	282.5	73.5
A	Amlin Bermuda Ltd.	466.2	411.3	13.3
A	Endurance Specialty Insurance Ltd.[2]	422.1	400.2	5.5
NR	Hiscox Insurance Co. (Bermuda) Ltd.	397.8	290.0	37.2
A-	IPCRe Ltd.	387.6	412.2	-6.0
NR	Ariel Reinsurance Company Ltd.	346.3	286.3	20.9
A	Aspen Insurance Ltd.[1]	319.1	321.7	-0.8
AA-	Hannover Re Bermuda Ltd.	292.6	203.0	44.2
A+	ACE Tempest Life Reinsurance, Ltd.	287.2	246.3	16.6
AA	Tokio Millennium Re Ltd.	246.0	250.2	-1.7
A-	Catlin Insurance Co. Ltd.[1]	238.7	169.5	40.8
NR	Lancashire Insurance Co. Ltd.[2]	130.5	80.4	62.3
BBB+	International General Insurance Co. Ltd.	100.4	75.2	33.4
AA	MS Frontier Reinsurance Ltd.	66.2	45.0	47.1
A-	White Mountains Re	56.9	N.A.	N.A.
	Total:	**15,031.9**	**14,340.2**	**4.8**
BOSNIA AND HERZEGOVINA				
NR	Bosna Re	13.2	6.1	117.4
	Total:	**13.2**	**6.1**	**117.4**
BRAZIL				
NR	IRB-Brasil Resseguros S.A.	900.3	910.3	-1.1
	Total:	**900.3**	**910.3**	**-1.1**

Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
38.0	42.2	100.8	97.3	298.5	245.5	21.6	10.8	11.6
38.0	**42.2**	**100.8**	**97.3**	**298.5**	**245.5**	**21.6**	**10.8**	**11.6**
830.7	657.0	70.2	73.0	2,973.9	2,649.4	12.2	32.1	26.8
444.6	464.3	88.7	82.4	2,342.5	1,889.9	23.9	24.8	28.9
592.4	575.3	75.1	76.0	N.A.	N.A.	N.A.	37.8	33.2
698.9	565.6	72.0	84.4	2,620.0	2,362.0	10.9	45.1	33.0
N.A.	N.A.	56.9	59.8	N.A.	N.A.	N.A.	N.A.	N.A.
80.5	88.1	75.6	80.1	1,583.9	1,390.1	13.9	6.7	9.8
359.6	193.1	54.0	56.0	1,810.0	1,348.8	34.2	55.8	53.0
N.A.	N.A.	45.7	49.1	4,273.5	3,726.9	14.7	N.A.	N.A.
280.1	286.0	61.3	69.6	1,653.1	1,492.9	10.7	40.0	44.6
195.3	97.8	76.0	86.7	1,457.8	1,359.2	7.3	31.9	26.8
504.0	473.0	87.7	75.5	2,503.0	2,442.0	2.5	N.A.	N.A.
181.7	153.0	64.3	38.6	1,387.8	1,123.3	23.5	34.8	66.0
210.8	122.7	51.2	49.7	1,478.6	1,183.4	24.9	41.7	41.8
550.7	496.9	57.0	59.8	2,817.2	2,601.4	8.3	N.A.	N.A.
147.2	104.9	59.8	46.8	762.3	607.7	25.4	38.9	52.7
319.9	379.9	42.1	24.2	2,127.6	1,991.0	6.9	62.3	74.4
265.6	163.8	38.8	43.2	1,168.5	1,159.8	0.7	70.3	63.8
165.8	140.5	69.4	81.7	1,190.6	1,082.6	10.0	35.6	33.7
213.6	172.3	45.6	44.7	1,424.8	1,265.2	12.6	57.3	65.5
180.9	153.5	N.M.	N.M.	N.A.	N.A.	N.A.	54.4	53.5
167.7	123.9	28.4	49.9	906.3	771.7	17.4	62.4	40.3
62.0	62.0	62.1	54.1	3,099.0	1,280.0	142.1	20.4	32.6
395.9	176.9	21.2	13.7	1,445.6	1,129.4	28.0	60.0	59.7
16.5	14.5	88.8	81.1	183.0	154.0	18.8	19.8	28.4
68.9	41.6	21.6	33.3	394.2	320.4	23.0	83.8	77.3
2.7	N.A.	55.5	N.A.	776.5	N.A.	N.A.	7.2	N.A.
6,936.0	**5,706.6**	**66.4**	**69.0**	**40,379.7**	**33,331.1**	**21.1**	**37.8**	**36.1**
3.5	2.0	88.0	164.7	12.2	9.5	28.9	22.9	14.5
3.5	**2.0**	**88.0**	**164.7**	**12.2**	**9.5**	**28.9**	**22.9**	**14.5**
303.7	193.5	64.2	73.8	1,029.2	763.9	34.7	32.7	25.0
303.7	**193.5**	**64.2**	**73.8**	**1,029.2**	**763.9**	**34.7**	**32.7**	**25.0**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
CANADA				
AA-	Swiss Re Life & Health Canada	706.1	553.0	27.7
AA-	Munich Reinsurance Co. of Canada	188.6	181.8	3.7
A-	SCOR Canada Reinsurance Co.	100.2	83.2	20.4
	Total:	**994.9**	**818.0**	**21.6**
CYPRUS				
BBB	Alliance International Reinsurance Public Co. Ltd.	46.1	35.3	30.5
	Total:	**46.1**	**35.3**	**30.5**
DENMARK				
AA-	Swiss Re Denmark Reinsurance A/S	41.8	294.7	-85.8
	Total:	**41.8**	**294.7**	**-85.8**
FRANCE				
A-	SCOR Global Life SE	1,861.8	490.3	279.8
AAA	Caisse Centrale de Reassurance	1,642.6	1,508.7	8.9
A-	SCOR SE	1,575.5	1,666.9	-5.5
A-	PARIS RE	1,095.9	1,169.4	-6.3
A-	SCOR Global P&C SE	983.8	841.3	16.9
NR	PartnerRe S.A.	800.1	779.4	2.7
	Total:	**7,959.7**	**6,456.0**	**23.3**
GERMANY				
AA-	Munich Reinsurance Co.	24,646.7	22,015.1	12.0
AA-	Hannover Rueckversicherung AG[4]	7,233.0	7,486.9	-3.4
AA	Allianz SE[2,3]	3,524.7	3,792.7	-7.1
AA-	E+S Rueckversicherung AG	2,627.7	2,413.9	8.9
AAA	Koelnische Rueckversicherungs-Gesellschaft AG	2,604.9	2,438.3	6.8
AA-	Swiss Re Germany AG	2,443.5	2,259.0	8.2
A+	R+V Versicherung AG[1]	1,053.5	861.7	22.3
A+	Deutsche Rueckversicherung AG	483.4	425.8	13.5
AA-	Swiss Re Frankona Rueckversicherungs AG	344.2	996.2	-65.4
BBB-	Wuestenrot & Wuerttembergische AG[1]	328.2	358.8	-8.5
	Total:	**45,289.8**	**43,048.4**	**5.2**
HONG KONG				
A-	China International Reinsurance Co. Ltd.	188.4	177.0	6.4
	Total:	**188.4**	**177.0**	**6.4**

STANDARD & POOR'S

	Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
	2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
	71.0	54.7	N.M.	N.M.	352.1	234.6	50.1	17.9	19.9
	61.8	68.9	85.3	76.4	305.6	305.2	0.1	24.4	30.6
	16.9	12.6	99.0	101.4	182.4	148.4	22.9	14.7	13.7
	149.7	**136.2**	**89.8**	**83.8**	**840.1**	**688.2**	**22.1**	**19.6**	**23.0**
	-4.2	1.1	116.7	101.2	68.5	61.2	12.0	-9.6	2.9
	-4.2	**1.1**	**116.7**	**101.2**	**68.5**	**61.2**	**12.0**	**-9.6**	**2.9**
	40.3	46.4	37.9	59.5	247.6	197.7	25.2	49.3	13.2
	40.3	**46.4**	**37.9**	**59.5**	**247.6**	**197.7**	**25.2**	**49.3**	**13.2**
	100.5	101.0	N.M.	N.M.	779.8	660.6	18.0	4.8	16.7
	1,131.9	923.9	49.9	51.9	4,067.6	2,870.7	41.7	51.7	46.9
	13.6	-62.7	99.1	97.7	3,501.2	1,654.4	111.6	0.9	-4.6
	87.4	448.7	89.8	104.8	965.0	734.0	31.5	7.0	35.7
	271.7	230.1	95.1	86.5	1,363.5	1,097.6	24.2	22.0	21.9
	117.5	71.9	99.4	105.6	918.6	723.0	27.1	12.4	7.9
	1,722.6	**1,712.9**	**81.2**	**83.3**	**11,595.7**	**7,740.3**	**49.8**	**18.6**	**23.9**
	3,686.0	2,258.9	96.3	98.2	42,283.3	39,080.1	8.2	12.5	8.4
	550.1	404.6	95.8	85.9	7,151.4	6,416.2	11.5	6.6	5.1
	6,000.0	4,290.1	86.2	88.3	125,136.5	100,243.8	24.8	64.5	54.1
	193.9	181.0	99.4	92.2	2,241.3	1,925.6	16.4	6.6	6.8
	331.4	397.7	106.3	96.5	2,897.4	2,334.8	24.1	11.4	14.9
	259.8	340.0	88.6	66.8	1,576.4	1,428.5	10.4	29.1	42.2
	348.3	257.1	98.2	97.8	5,379.1	4,453.0	20.8	24.8	23.0
	3.9	43.8	101.6	90.0	654.3	594.9	10.0	0.7	9.5
	-71.6	286.1	N.A.	84.7	1,312.9	1,486.5	-11.7	-9.6	22.6
	80.5	67.2	91.9	97.4	3,920.7	3,584.0	9.4	20.9	16.1
	11,382.3	**8,526.5**	**95.8**	**92.7**	**192,553.3**	**161,547.4**	**19.2**	**20.0**	**16.4**
	75.3	49.2	96.7	95.6	277.0	240.2	15.4	29.8	24.7
	75.3	**49.2**	**96.7**	**95.6**	**277.0**	**240.2**	**15.4**	**29.8**	**24.7**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
INDIA				
NR	General Ins. Corp. of India	2,085.1	1,489.8	40.0
	Total:	**2,085.1**	**1,489.8**	**40.0**
IRELAND				
NR	Hannover Life Reinsurance (Ireland) Ltd.	737.3	693.9	6.3
A+	XL Re Europe Limited	695.2	670.1	3.7
AA-	Hannover Reinsurance (Ireland) Ltd.	653.0	568.7	14.8
A	AXIS Re Ltd	517.6	410.4	26.1
A	Atradius Reinsurance Ltd.	469.7	491.4	-4.4
AA	Mitsui Sumitomo Reinsurance Ltd.	166.6	129.2	29.0
A-	SCOR Global Life Reinsurance Ireland Ltd.	111.9	173.2	-35.4
NR	Swiss Reinsurance Ireland Ltd.	94.6	115.1	-17.8
AA	Tokio Marine Global Re Ltd.	75.1	78.0	-3.7
A+	QBE Reinsurance (Europe) Ltd.	54.8	70.8	-22.6
	Total:	**3,575.8**	**3,400.8**	**5.1**
ITALY				
AA-	Muenchener Rueck Italia SpA	471.4	445.4	5.8
	Total:	**471.4**	**445.4**	**5.8**
JAPAN				
AA	Tokio Marine & Nichido Fire Insurance Co. Ltd.[2]	2,936.4	2,783.4	5.5
AA-	Sompo Japan Insurance Inc.	1,887.6	1,836.4	2.8
AA	Mitsui Sumitomo Insurance Co. Ltd.[1]	1,805.8	1,724.3	4.7
A+	Aioi Insurance Co. Ltd.	1,244.0	1,155.5	7.7
A+	Toa Reinsurance Co.	1,106.0	1,000.3	10.6
A+	NIPPONKOA Insurance Co. Ltd.[1]	837.2	790.9	5.9
A+	Nissay Dowa General Insurance Co. Ltd.	366.5	360.7	1.6
A-	Kyoei Fire & Marine Insurance Co.[1]	188.5	181.7	3.8
A+	Nisshin Fire & Marine Insurance Co. Ltd.[2]	176.2	166.8	5.7
A-	ACE Insurance	21.0	20.4	3.0
	Total:	**10,569.2**	**10,020.4**	**5.5**
KAZAKHSTAN				
B+	Eurasia Insurance Co.	24.6	8.6	187.1
	Total:	**24.6**	**8.6**	**187.1**
KENYA				
NR	East Africa Re Co. Ltd.	10.3	10.5	-2.3
	Total:	**10.3**	**10.5**	**-2.3**

	Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
	2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
	267.8	415.2	112.8	101.4	1,643.3	1,361.1	20.7	12.8	28.4
	267.8	**415.2**	**112.8**	**101.4**	**1,643.3**	**1,361.1**	**20.7**	**12.8**	**28.4**
	83.3	95.3	N.M.	N.M.	409.8	324.4	26.3	10.0	12.4
	N.A.	N.A.	83.0	84.9	N.A.	N.A.	N.A.	N.A.	N.A.
	16.3	88.2	107.8	101.6	653.1	687.7	-5.0	2.2	16.6
	N.A.	N.A.	91.9	98.7	555.9	525.9	5.7	N.A.	N.A.
	61.5	83.1	92.7	86.5	524.6	450.5	16.4	11.6	18.9
	-14.3	4.9	111.1	97.4	102.3	102.8	-0.5	-9.1	4.1
	16.0	9.0	N.M.	N.M.	105.5	96.1	9.8	13.1	4.8
	58.6	58.5	70.6	72.7	482.5	583.5	-17.3	41.4	43.4
	15.2	16.7	93.8	89.7	81.9	67.8	20.8	17.6	21.8
	55.7	43.5	63.7	70.8	295.4	296.9	-0.5	58.6	46.1
	292.3	**399.2**	**93.2**	**90.6**	**3,211.0**	**3,135.6**	**2.4**	**10.7**	**17.0**
	64.3	33.9	104.8	105.4	344.1	307.2	12.0	12.7	7.4
	64.3	**33.9**	**104.8**	**105.4**	**344.1**	**307.2**	**12.0**	**12.7**	**7.4**
	1,639.0	1,312.5	N.A.	N.A.	20,727.2	25,832.3	-19.8	N.M.	30.7
	341.4	591.3	N.A.	N.A.	16,227.8	20,595.0	-21.2	10.8	20.9
	N.A.	N.A.	N.A.	N.A.	18,870.4	21,906.8	-13.9	N.A.	N.A.
	-308.7	188.6	N.A.	N.A.	6,153.6	7,320.5	-15.9	N.A.	N.A.
	138.7	162.9	90.4	85.7	2,310.1	2,366.0	-2.4	12.3	15.5
	26.2	-164.4	N.A.	N.A.	6,966.8	8,479.7	-17.8	5.2	-2.0
	N.A.	-20.8	N.A.	N.A.	N.A.	4,235.4	N.M.	N.A.	N.A.
	N.A.	N.A.	N.A.	N.A.	984.1	1,141.6	-13.8	N.A.	N.A.
	265.5	214.4	N.A.	N.A.	1,276.2	1,488.2	-14.2	N.A.	N.A.
	2.6	2.7	76.7	N.A.	154.3	145.4	6.2	12.1	12.2
	2,104.7	**2,287.2**	**90.2**	**85.7**	**73,670.5**	**93,510.9**	**-21.2**	**10.6**	**11.7**
	66.1	31.6	47.1	25.8	162.0	109.5	47.9	227.8	35.8
	66.1	**31.6**	**47.1**	**25.8**	**162.0**	**109.5**	**47.9**	**227.8**	**35.8**
	1.8	1.0	107.8	91.0	13.6	11.3	20.8	13.5	7.3
	1.8	**1.0**	**107.8**	**91.0**	**13.6**	**11.3**	**20.8**	**13.5**	**7.3**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
KOREA				
A-	Korean Reinsurance Co.	2,796.8	2,349.5	19.0
	Total:	**2,796.8**	**2,349.5**	**19.0**
KUWAIT				
BBB	Kuwait Reinsurance Co. K.S.C.	36.7	29.3	25.2
	Total:	**36.7**	**29.3**	**25.2**
MALAYSIA				
NR	Malaysian Reinsurance Bhd.	179.1	156.6	14.3
NR	Labuan Reinsurance (L) Ltd.	163.2	135.0	20.9
	Total:	**342.3**	**291.6**	**17.4**
MOROCCO				
BBB	Societe Centrale de Reassurance	276.5	157.8	75.2
	Total:	**276.5**	**157.8**	**75.2**
NIGERIA				
BBB+	African Reinsurance Corp.	183.8	154.8	18.7
	Total:	**183.8**	**154.8**	**18.7**
POLAND				
BBB-	Polskie Towarzystwo Reasekuracji S.A.	111.7	68.6	62.8
	Total:	**111.7**	**68.6**	**62.8**
RUSSIA				
BB-	Moscow Reinsurance Co.	47.5	36.5	30.3
NR	Transsib Re	25.2	21.4	17.6
NR	Russian Re Co. Ltd.	13.4	10.7	25.6
NR	Munich Re Life E.E.C.A.	11.1	N.A.	N.A.
	Total:	**97.2**	**68.6**	**41.8**
SINGAPORE				
A-	SCOR Reinsurance Asia-Pacific	206.9	149.0	38.8
NR	Singapore Reinsurance Corporation Ltd.	26.5	26.5	0.3
AA	Tokio Marine Re Takaful	10.3	5.9	73.3
	Total:	**243.7**	**181.4**	**34.3**
SLOVENIA				
BBB+	Pozavarovalnica Sava, d.d.	120.5	96.6	24.7
NR	Triglav Re[5]	74.1	52.2	41.8
	Total:	**194.6**	**148.8**	**30.7**

STANDARD & POOR'S

	Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
	2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
	55.6	85.1	100.4	97.3	948.7	874.0	8.5	2.0	3.6
	55.6	**85.1**	**100.4**	**97.3**	**948.7**	**874.0**	**8.5**	**2.0**	**3.6**
	8.9	5.2	94.3	99.6	143.2	115.8	23.6	19.3	14.7
	8.9	**5.2**	**94.3**	**99.6**	**143.2**	**115.8**	**23.6**	**19.3**	**14.7**
	33.8	36.9	90.5	85.4	301.3	235.9	27.8	17.9	21.5
	N.A.	N.A.	98.5	95.7	N.A.	N.A.	N.A.	N.A.	N.A.
	33.8	**36.9**	**94.2**	**90.0**	**301.3**	**235.9**	**27.8**	**17.9**	**21.5**
	47.6	41.5	103.5	93.4	180.7	147.0	22.9	12.8	15.2
	47.6	**41.5**	**103.5**	**93.4**	**180.7**	**147.0**	**22.9**	**12.8**	**15.2**
	28.8	20.3	N.A.	94.3	227.1	190.9	19.0	14.0	12.3
	28.8	**20.3**	**N.A.**	**94.3**	**227.1**	**190.9**	**19.0**	**14.0**	**12.3**
	2.1	5.2	97.3	99.4	66.3	53.0	25.1	1.8	7.1
	2.1	**5.2**	**97.3**	**99.4**	**66.3**	**53.0**	**25.1**	**1.8**	**7.1**
	-0.8	2.8	101.6	99.2	35.5	27.3	30.0	-1.5	6.9
	1.7	1.8	83.4	74.8	9.6	7.8	23.4	6.2	9.1
	4.1	1.7	75.9	87.5	14.2	9.3	52.5	29.4	18.5
	-0.5	N.A.	N.M.	N.M.	14.3	N.A.	N.A.	-8.5	N.A.
	4.5	**6.3**	**92.6**	**91.1**	**73.6**	**44.4**	**65.7**	**4.6**	**9.1**
	-0.5	7.7	93.2	71.8	153.6	155.3	-1.1	-0.2	5.6
	11.8	9.6	92.3	95.3	139.5	121.4	14.9	32.6	29.4
	0.7	-0.5	N.A.	N.A.	15.9	14.4	10.3	7.8	-12.4
	12.0	**16.8**	**93.1**	**75.8**	**309.0**	**291.1**	**6.2**	**4.5**	**9.7**
	9.9	12.7	101.2	100.4	214.3	155.5	37.8	8.0	12.2
	5.9	8.3	91.9	83.8	49.8	37.8	31.7	7.8	15.2
	15.8	**21.0**	**97.6**	**94.5**	**264.1**	**193.3**	**36.6**	**7.9**	**13.2**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
SOUTH AFRICA				
A-	Munich Reinsurance Co. of Africa Ltd.	198.7	166.8	19.1
NR	Swiss Re Life & Health Africa Ltd.	141.0	129.6	8.8
AAA	General Reinsurance Africa Ltd.	130.3	96.0	35.8
BBB+	Hannover Reinsurance Africa Ltd.	92.9	86.1	7.8
NR	Hannover Life Reassurance Africa Ltd.	92.5	77.0	20.3
NR	Swiss Re Africa Ltd.	67.2	40.7	65.1
NR	African Re Corp. (South Africa) Ltd.	36.9	25.4	45.2
NR	Imperial Re	14.0	9.2	52.2
	Total:	**773.5**	**630.8**	**22.6**
SPAIN				
AA	Mapfre Re, Compania de Reaseguros, S.A.	1,569.8	1,321.2	18.8
A+	Nacional de Reaseguros S.A.	431.9	349.9	23.4
	Total:	**2,001.7**	**1,671.1**	**19.8**
SWEDEN				
A-	Sirius International Insurance Corp.	855.3	982.8	-13.0
A-	Sweden Reinsurance Co. Ltd.	189.7	114.5	65.7
	Total:	**1,045.0**	**1,097.3**	**-4.8**
SWITZERLAND				
AA-	Swiss Reinsurance Co.	8,365.2	6,712.8	24.6
A-	SCOR Switzerland AG	1,560.3	1,439.9	8.4
AA-	New Reinsurance Co.	1,046.0	784.8	33.3
A+	DR Swiss, Deutsche Rueckversicherung Schweiz AG	536.7	452.2	18.7
AA-	European Reinsurance Co. of Zurich	451.5	537.1	-15.9
NR	Glacier Re[5]	350.8	195.3	79.6
A+	XL Re Latin America Ltd.	196.6	164.9	19.2
A-	SCOR Global Life Rueckversicherung Schweiz AG	90.4	77.5	16.6
	Total:	**12,597.5**	**10,364.5**	**21.5**
TAIWAN				
A-	Central Reinsurance Corp.	401.3	400.7	0.2
	Total:	**401.3**	**400.7**	**0.2**
THAILAND				
A-	Thai Reinsurance Public Co. Ltd.	98.0	72.7	34.8
	Total:	**98.0**	**72.7**	**34.8**

STANDARD & POOR'S

	Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
	2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
	40.3	35.2	92.7	89.8	168.9	171.1	-1.3	17.9	18.0
	54.2	63.6	N.M.	N.M.	105.7	125.7	-15.9	28.6	36.9
	29.0	16.0	N.A.	110.9	47.2	38.7	22.0	19.8	14.6
	17.9	15.2	100.3	95.6	81.4	78.6	3.6	16.9	15.6
	10.3	1.7	N.M.	N.M.	23.4	15.3	52.4	10.3	2.0
	31.9	31.0	69.8	56.6	48.4	59.4	-18.4	42.0	50.7
	5.3	5.7	103.8	99.6	25.3	20.6	22.9	12.6	19.3
	4.2	1.5	82.4	125.9	34.6	21.7	59.7	24.0	15.4
	193.1	**169.9**	**90.9**	**88.2**	**534.9**	**531.1**	**0.7**	**21.4**	**22.4**
	196.2	88.5	91.8	92.7	934.0	721.5	29.5	12.4	7.2
	37.4	27.8	92.5	92.3	281.1	217.6	29.2	9.4	9.1
	233.6	**116.3**	**91.9**	**92.6**	**1,215.1**	**939.1**	**29.4**	**11.8**	**7.6**
	200.7	289.1	87.0	78.7	1,166.7	949.3	22.9	19.9	31.7
	22.9	5.8	N.M.	N.M.	91.1	82.8	10.0	11.3	4.8
	223.6	**294.9**	**87.0**	**78.7**	**1,257.8**	**1,032.1**	**21.9**	**18.5**	**28.5**
	4,274.7	2,682.6	92.0	104.1	28,887.9	29,012.9	-0.4	20.4	16.0
	89.8	160.4	89.7	90.4	1,407.0	1,502.0	-6.3	4.9	10.3
	207.2	236.4	86.6	96.7	834.9	586.1	42.5	18.1	27.0
	6.4	5.6	101.8	101.4	190.2	147.1	29.3	1.2	1.2
	536.3	376.3	70.6	82.4	1,578.9	2,012.8	-21.6	6.7	9.2
	72.4	64.3	83.1	77.6	465.3	392.4	18.6	24.2	29.5
	N.A.	N.A.	111.8	108.4	N.A.	N.A.	N.A.	N.A.	N.A.
	2.0	8.4	N.M.	N.M.	43.2	34.1	26.5	2.1	10.2
	5,188.8	**3,534.0**	**89.8**	**99.7**	**33,407.4**	**33,687.4**	**-0.8**	**15.8**	**14.7**
	66.4	35.6	86.2	93.6	370.7	312.7	18.6	15.5	8.5
	66.4	**35.6**	**86.2**	**93.6**	**370.7**	**312.7**	**18.6**	**15.5**	**8.5**
	11.5	8.8	89.1	93.4	77.1	65.4	17.8	11.1	11.2
	11.5	**8.8**	**89.1**	**93.4**	**77.1**	**65.4**	**17.8**	**11.1**	**11.2**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
TUNISIA				
BBB+	B.E.S.T. Reinsurance Co.	162.0	116.0	39.7
	Total:	**162.0**	**116.0**	**39.7**
TURKEY				
trA+	Milli Reasurans T.A.S.	647.0	523.6	23.6
	Total:	**647.0**	**523.6**	**23.6**
UNITED ARAB EMIRATES				
BBB	Takaful Re	19.6	14.3	37.7
	Total:	**19.6**	**14.3**	**37.7**
U.K				
A+	Lloyd's[6]	8,362.9	8,445.3	-1.0
NR	Swiss Re Life & Health Ltd.[7]	742.5	655.2	13.3
A	Aspen Insurance U.K. Ltd.	689.2	706.8	-2.5
NR	Swiss Reinsurance Co. U.K. Ltd.[8]	678.2	845.9	-19.8
NR	SCOR Underwriting UK Ltd	223.1	267.7	-16.7
A-	SCOR Insurance UK Ltd	193.9	182.6	6.2
AA	Tokio Marine Global Ltd.	187.8	123.6	52.0
A-	SCOR Global Life Reinsurance U.K. Ltd.	145.1	130.8	11.0
NR	Hannover Life Reassurance (UK) Ltd.	127.9	109.3	17.0
AAA	Faraday Reinsurance Co. Ltd.	127.0	140.1	-9.3
AAA	General Reinsurance UK Ltd.	117.0	128.6	-9.0
A	Endurance Worldwide Insurance Ltd.	112.2	294.8	-61.9
A+	QBE Insurance (Europe) Ltd.	103.6	175.7	-41.0
A-	SCOR U.K. Co. Ltd.	100.2	118.1	-15.1
AA-	Great Lakes Reinsurance (U.K.) PLC	42.9	35.0	22.7
	Total:	**11,953.5**	**12,359.5**	**-3.3**

	Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
	2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
	11.0	9.0	93.5	89.4	125.0	121.0	3.3	7.1	8.1
	11.0	**9.0**	**93.5**	**89.4**	**125.0**	**121.0**	**3.3**	**7.1**	**8.1**
	80.6	45.0	104.6	103.5	600.2	447.2	34.2	10.6	8.1
	80.6	**45.0**	**104.6**	**103.5**	**600.2**	**447.2**	**34.2**	**10.6**	**8.1**
	2.3	1.2	85.8	78.3	138.2	126.3	9.4	8.1	10.7
	2.3	**1.2**	**85.8**	**78.3**	**138.2**	**126.3**	**9.4**	**8.1**	**10.7**
	7,678.2	7,254.7	81.7	80.9	26,849.7	25,134.1	6.8	25.5	25.7
	725.7	924.2	N.M.	N.M.	798.0	656.5	21.5	62.3	105.0
	258.0	154.0	84.5	73.8	1,601.0	1,317.2	21.5	27.8	18.2
	157.9	175.0	50.2	99.4	1,029.5	844.1	22.0	132.9	-9.9
	41.1	44.9	88.8	88.0	N.M.	N.M.	N.M.	18.0	16.4
	-27.3	-20.6	120.9	112.9	130.8	126.0	3.8	-12.4	-10.9
	38.8	17.8	76.5	85.1	311.8	277.8	12.3	23.6	19.2
	21.0	5.9	N.M.	N.M.	33.3	23.3	43.1	13.6	4.3
	32.1	33.1	N.M.	N.M.	95.9	86.7	10.6	21.3	25.4
	69.5	55.1	90.9	100.3	334.1	275.9	21.1	40.3	25.0
	137.6	78.7	40.5	81.5	550.4	556.5	-1.1	74.1	43.0
	30.5	6.4	109.2	106.8	238.6	109.5	117.9	15.8	2.4
	53.5	51.9	96.3	103.4	447.0	527.6	-15.3	31.9	14.1
	22.2	15.2	93.6	101.3	141.9	145.2	-2.3	16.5	11.3
	33.9	83.2	158.4	60.3	477.7	478.6	-0.2	33.7	76.9
	9,272.7	**8,879.5**	**83.3**	**79.0**	**33,039.7**	**30,559.0**	**8.1**	**27.1**	**29.3**

Global Reinsurer List By Country

Rating As Of Aug. 19, 2008	Company	Net Reinsurance Premiums Written (Mil. $)		
		2007	2006	Change (%)
U.S.				
AA-	Swiss Re Life & Health America Inc.	4,660.4	3,110.5	49.8
AA-	Reassure America Life Insurance Co.[9]	3,922.7	1,250.8	213.6
AA-	Swiss Reinsurance America Corp.[10]	3,513.3	3,530.6	-0.5
AA-	Transatlantic Reinsurance Co.	3,430.7	3,145.4	9.1
AAA	National Indemnity Co.	3,395.2	3,914.8	-13.3
AA-	Munich Reinsurance America, Inc.	2,715.3	2,859.4	-5.0
AA-	Everest Reinsurance Co.	1,978.9	2,187.1	-9.5
A-	Odyssey America Reinsurance Corp.	1,692.6	1,741.2	-2.8
A+	Berkley Insurance Co.	1,525.3	1,800.7	-15.3
AAA	General Re Corp.	1,269.1	1,333.7	-4.8
AA-	Munich American Reassurance Co.	1,164.5	960.2	21.3
AAA	General Re Life Corp.	1,055.8	1,053.8	0.2
A-	Folksamerica Reinsurance Co.	840.2	754.3	11.4
A+	XL Reinsurance America Inc.	799.2	1,001.8	-20.2
AA-	Partner Reinsurance Co. of U.S.	711.7	717.3	-0.8
A	Axis Reinsurance Company	459.2	448.3	2.4
AA-	Employers Reassurance Corp.[11]	423.7	461.2	-8.1
A	Endurance Reinsurance Corp. of America	366.2	589.6	-37.9
A-	SCOR GLOBAL LIFE US RE Ins Co.	350.3	318.8	9.9
NR	Hannover Life Reassurance Co. of America	295.5	279.3	5.8
A+	Toa Reinsurance Co. of America (The)	267.4	277.2	-3.5
NR	Wilton Reassurance Co.	251.5	127.1	97.9
A-	SCOR Reinsurance Co.	196.8	86.8	126.7
AA-	Putnam Reinsurance Co.	180.6	165.5	9.1
A+	QBE Reinsurance Corp.	122.1	160.9	-24.1
AAA	Berkshire Hathaway Life Insurance Co. of NE	96.2	138.2	-30.4
A	Arch Reinsurance Co.	94.1	93.8	0.3
NR	SCOR GLOBAL LIFE US RE Ins. OF TEXAS	48.7	45.9	6.1
A-	Harbor Point Re Ltd.	30.7	N.A.	N.A.
	Total:	**35,857.9**	**32,554.2**	**10.1**

Company notes:

1 Adjusted shareholders' funds are for the company as a whole, including both its direct and reinsurance operations.
2 Net premiums written and the combined ratio relate to reinsurance business only; all other items include direct business.
3 The company writes predominantly intragroup reinsurance on an arm's length basis.
4 The combined ratio relates to both non-life and life business.
5 Figures presented are for the group on a consolidated basis.
6 The data presented is based on the published pro-forma accounts for the Market, which represent an aggregation of all syndicates participating at Lloyd's.
7 On 1 January 2008 this entity transferred its existing portfolio to the UK branch of Swiss Re Europe S.A.
8 Premiums for 2006 were materially affected by additional reinsurance purchased by the company during the year from its ultimate parent in respect of claims liabilities it assumed from a Part VII transfer with Swiss Re Frankona Re. On 1 January 2008 this entity transferred its existing portfolio to the UK branch of Swiss Re Europe S.A.
9 Merged with Valley Forge Life Insurance Company effective 30 September 2007.
10 Merged with GE Reinsurance Corporation effective 1 January 2007.
11 With effect from 1 January 2008, following a merger with its affiliate, this entity is now known as Westport Insurance Corporation.

Pretax Operating Income (Mil. $)		Combined Ratio (%)		Total Adjusted Shareholders' Funds (Mil. $)			Return on Revenue (%)	
2007	2006	2007	2006	2007	2006	Change (%)	2007	2006
318.0	296.2	N.M.	N.M.	1,640.2	2,140.1	-23.4	10.1	10.0
254.8	335.0	N.M.	N.M.	496.1	799.4	-37.9	25.7	29.3
561.0	668.0	110.3	115.1	4,065.0	3,861.8	5.3	21.7	24.2
532.3	475.7	95.8	94.4	3,368.8	3,059.5	10.1	14.2	13.8
1,486.4	1,403.5	63.3	63.3	35,582.0	35,562.6	0.1	23.8	14.2
432.9	579.1	100.2	94.4	4,321.6	3,773.9	14.5	15.6	19.5
438.9	434.7	94.4	95.8	2,886.6	2,704.1	6.7	18.2	17.5
314.8	333.8	90.7	90.4	2,922.8	2,501.6	16.8	16.9	17.0
573.3	543.2	88.6	94.3	2,210.1	2,178.7	1.4	28.6	25.0
971.7	786.3	87.6	90.9	9,887.6	8,692.2	13.8	62.0	56.2
-55.1	-59.8	N.M.	N.M.	673.0	544.3	23.7	-4.0	-3.8
-23.7	45.3	N.M.	N.M.	440.2	392.4	12.2	-2.0	3.8
111.5	-24.5	108.5	123.5	1,137.5	1,294.1	-12.1	10.7	-2.6
N.A.	N.A.	95.2	90.2	N.A.	N.A.	N.A.	N.A.	N.A.
96.5	69.0	99.5	106.6	677.1	652.5	3.8	12.0	8.4
N.A.	N.A.	101.3	102.3	607.1	550.9	10.2	N.A.	N.A.
141.5	437.3	N.M.	166.5	3,062.0	3,606.3	-15.1	32.1	17.9
41.8	67.5	90.6	84.4	592.9	571.4	3.8	10.6	9.4
-67.7	4.8	N.M.	N.M.	253.4	238.6	6.2	-15.3	1.1
28.4	2.0	N.M.	N.M.	136.6	111.4	22.6	14.0	1.0
48.5	37.8	101.1	101.1	488.1	427.1	14.3	14.1	11.7
-82.4	-123.4	N.M.	N.M.	116.8	202.4	-42.3	-30.9	-65.8
5.9	3.3	133.5	126.0	491.7	464.6	5.8	3.3	2.5
29.3	26.7	95.8	96.3	151.7	138.1	9.9	14.7	14.6
34.3	55.7	101.6	89.0	569.2	545.6	4.3	20.8	29.8
-99.5	-65.4	N.M.	N.M.	858.1	862.0	-0.5	-35.8	-20.5
9.1	32.3	106.4	19.2	889.1	804.8	10.5	8.3	32.9
-7.2	-14.1	116.7	50.8	42.6	52.6	-19.0	-12.2	-23.9
8.6	N.A.	N.M.	N.A.	517.3	N.A.	N.A.	69.7	N.A.
6,103.9	**6,350.0**	**91.8**	**96.3**	**79,085.2**	**76,733.0**	**3.1**	**17.5**	**15.5**

Glossary of terms

Net reinsurance premiums written = gross reinsurance premiums written less reinsurance premiums ceded; relate to a company's reinsurance business only, unless where separately indicated.

Pretax operating income = underwriting profit (or loss) + net investment income + other income. Net realized gains/losses are excluded from this item.

Combined ratio = (net losses incurred + net underwriting expenses)/net premiums earned.

Total adjusted shareholders' funds = capital + shareholders' reserves (including claims-equalization reserve and any excess or deficiency of market value of investments over the balance sheet value).

ROR = pretax operating income/total revenue. (Total revenue = net premiums earned + net investment income + other income.)

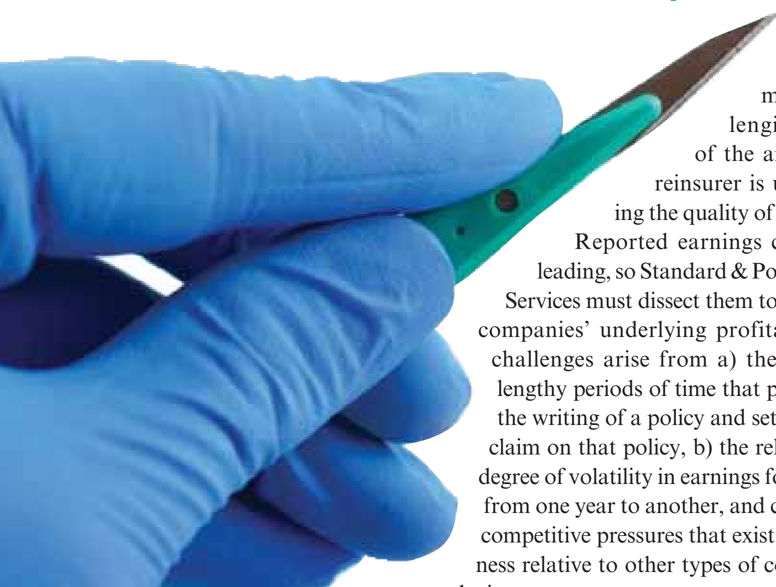
N.A. - Not available.

N.M. - Not meaningful.

Dissecting Reinsurers' Earnings

The reinsurance industry has produced record-breaking profitability in the past two years. This performance has been flattered by the contributions made by the benign claims environment and profits on past years' loss reserves. Here we describe our approach to analyzing earnings and the way we plan to develop it in the future.

By Laline Carvalho and Thomas Upton



One of the most challenging aspects of the analysis of a reinsurer is understanding the quality of its earnings. Reported earnings can be misleading, so Standard & Poor's Ratings Services must dissect them to understand companies' underlying profitability. The challenges arise from a) the sometimes lengthy periods of time that pass between the writing of a policy and settlement of a claim on that policy, b) the relatively high degree of volatility in earnings for reinsurers from one year to another, and c) the special competitive pressures that exist in this business relative to other types of companies in the insurance sector.

To account for these factors, our analysts dissect earnings in various ways. On one level, we may analyze historical earnings by stripping out the effects of periodic reassessments of loss reserves and the impact of catastrophic events. The tables at the end of this commentary show combined ratios, adjusted for these two factors, for 10 of the largest Bermuda-based (re)insurers. The most important reason for doing this is to establish a baseline from which we can project future earnings. On another level, we conduct segment analysis by subsidiary, line of business, geography, and distribution platform, among others.

Standard & Poor's also aims to analyze reinsurers' earnings on a risk-adjusted basis, taking into consideration what lines of business a particular company participates in, how risky or volatile these lines are, and how diversified the book of business is. Clearly, a more diversified business (all other things being equal) means less volatile and higher-quality earnings.

The Special Earnings Challenges Of Reinsurers

Reinsurers are in the business of taking risks and offering products whose ultimate cost is unknown at the outset. For property risks, claims are often settled in one or two years. But for casualty risks, reinsurers may not be able to determine the final cost of business underwritten for as many as five or 10 years. This leaves reinsurers exposed to potential loss-reserve development, favorable or unfavorable, as reserves mature.

Another factor that uniquely influences reinsurers' earnings is that reinsurance coverage typically acts as a backstop to large claims that individual primary insurers incur from industrywide catastrophe losses. This tends to make reinsurers' earnings considerably more volatile than those of primary insurance companies.

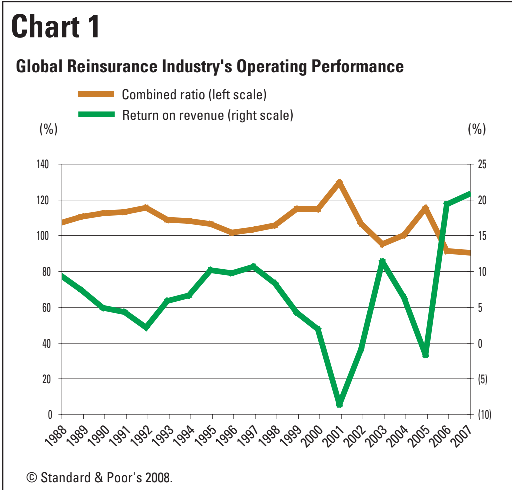
Finally, reinsurance recently has become even more commoditized as low barriers to entry have encouraged a raft of start-up competitors. These, as well as new capital markets instruments in the form of insurance-linked securities and sidecars, have added significant competition, which has continued to expose the sector to cyclical pricing volatility.

High Peaks And Low Troughs Over The Past 10 Years

All of these factors help explain why reinsurers experience disparity in their earnings from year to year. In the past decade, global reinsurers reported significant volatility in their operating returns, reflecting the combination of several events (see chart 1). The insurance industry suffered an unprecedented number of severe catastrophe losses (particularly in 2001 and 2005), as well as substantial loss-reserve development for underpriced U.S. casualty business written in the late 1990s. In addi-

Chart 1

Global Reinsurance Industry's Operating Performance



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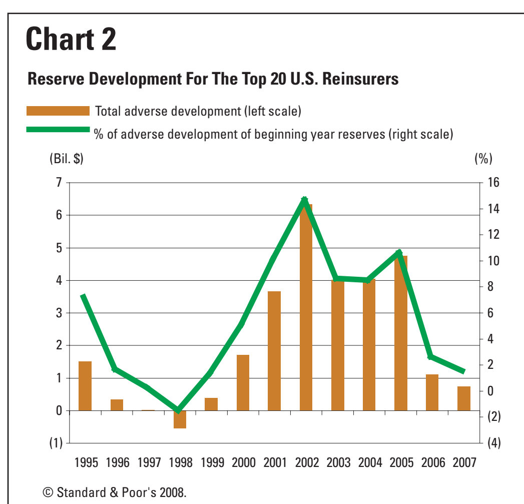
tion, premium rates and terms and conditions began to strengthen significantly in 2001, and then peaked in 2004 for most casualty lines and in 2006 for property catastrophe risk (particularly in the U.S.).

Currently, global reinsurers are enjoying one of the sector's strongest periods of profitability, with many companies posting record-breaking operating returns in 2006 and 2007. A combination of low catastrophe losses and favorable loss-reserve development for more recent accident years (2002 to 2006) has enabled global reinsurers to report very strong combined ratios of 90% and 89% in 2006 and 2007, respectively, with returns on revenue (RORs) of 19% and 20%. These were the strongest results in more than a decade and in sharp contrast to the combined ratio of 115% and ROR of 2% in 2005, when global insurers and reinsurers suffered unprecedented catastrophe losses of more than $80 billion. These losses occurred mainly as a result of Hurricanes Katrina, Rita, and Wilma, which hit the U.S. southeast coast in the second half of the year.

As bad as 2005 was for the reinsurance sector, underwriting results (as measured by combined ratios and RORs) were just as disappointing, and in some cases worse, in the trough of the last soft pricing cycle from 1999 to 2001. In 1999 and 2000, the underwriting of severely underpriced business led global reinsurers to post poor combined ratios of 113% for both years and RORs of 4% and 2%, respectively. But the sector's worst year in the past decade was 2001, when severe catastrophe losses related to the Sept. 11, 2001, terrorist attacks, combined with rock-bottom premium rates and terms and conditions, caused global reinsurers to post a combined ratio of 128% and an ROR of negative 9%.

The soft cycle hit U.S. reinsurers particularly hard. Substantial reserve development related to the casualty books of business that U.S. companies wrote in the late 1990s led to large underwriting losses and the exit of a number of U.S. players from the market. From 1999 to 2007, the top 20 U.S. reinsurers alone posted a staggering $27 billion in adverse loss-reserve development for prior years (see chart 2).



In a significant turnaround starting in 2006 and 2007, most global reinsurers began reporting favorable development in their loss reserves, reflecting more conservative reserving practices and better-priced business since 2002. Furthermore, Standard & Poor's expects favorable loss-reserve development to boost reinsurers' operating results for at least another two years. This likely will contribute to strong calendar-year operating results for the sector in 2008 and potentially 2009, assuming a normal level of catastrophe activity. However, such loss-reserve releases distort a less optimistic picture of reinsurers' prospective earnings on an underwriting-year or accident-year basis over the next few years. Unless the sector manages to stop the persistent premium rate declines that are occurring in property and casualty lines across most geographic regions and resist the temptation to weaken terms and conditions, Standard & Poor's expects a number of reinsurance lines to produce an underwriting loss in 2008 and more so in 2009, when excluding loss-reserve movements for prior years.

Looking Through The Volatility

Recognizing all these challenges, Standard & Poor's risk-adjusted analysis of reinsurers' earnings considers a company's lines of business, how risky those lines are, and how much a company depends on those lines for its profitability. Generally, the more earnings sources a company has, the lower its earnings' volatility. The losses that companies experienced during 2005 are a good example. Most multiline reinsurers incurred losses related to Hurricanes Katrina, Rita, and Wilma up to 20% of their capital bases, but for a number of undiversified catastrophe reinsurers, losses accounted for 50% to 100% of their capital.

In the past, we made such risk adjustments mostly on a qualitative basis. In the future, we expect to make these assessments using capital allocations based on reinsurers' internal models or on our own capital adequacy model.

In addition to analyzing earnings on a risk-adjusted basis, we also consider the impact of factors such as catastrophe losses, loss-reserve additions, the adequacy of premium rates and terms and conditions, changes in risk exposure, and other external factors such as loss cost inflation. Although we've always considered these in our analyses, going forward Standard & Poor's will incorporate a new earnings forecasting tool into our analyses of reinsurers that will incorporate these and other variables with the objective of stress testing and projecting potential earnings scenarios for individual reinsurers and the industry over two- to three-year periods. We expect this new tool to further enhance our view of earnings quality and prospects for individual reinsurers, as well as help us better identify which companies may be at greatest risk, depending on market conditions.

In addition to these quantitative metrics, there are other qualitative factors that Standard & Poor's considers

to be equally important when analyzing the earnings profile of a particular reinsurer. These include management's track record, the quality of each reinsurer's enterprise risk management (ERM) program and information systems, and the historical adequacy of loss reserves. We also look at how a company's compensation system rewards underwriters and management and its potential impact on the quality of the underwritten business, top management's commitment to strong bottom-line operating results, and the amount of oversight that the board has over the company's operations. In addition to a reinsurer's operating history, these qualitative factors can provide crucial insight into prospects for future earnings at the organization, which is the basis of our evaluation, since our ratings are prospective.

Consequences Of Severe Earnings Volatility

In some extreme cases, extremely volatile performance can force reinsurers to look to the capital markets to replace capital they have lost. Many companies did exactly this, with surprising ease, during 2005 and 2006 to cover capital losses resulting from Hurricanes Katrina, Rita, and Wilma. However, such dependence on the capital markets following a large catastrophe can pose significant risks. In the case of PXRE Group Ltd., which incurred severe catastrophe losses related to the hurricanes, its only option was to cease underwriting new business.

Furthermore, the reinsurance industry's ability to recapitalize itself today as it did in 2005 is uncertain, given the volatile financial markets. Most reinsurers have, since 2005, removed risks from their balance sheets to reduce the impact that a potentially large catastrophe loss or a series of smaller catastrophe losses would have on their earnings and capital base. This would also reduce their need to resort to the capital markets under such circumstances. The fact remains, however, that the earnings volatility to which reinsurers are exposed should demand high rates of return on a sustainable basis. Reinsurers haven't delivered

TABLE 1: Combined ratio (%)

Company	2007	2006	2005	2004	Average
Arch Capital Group Ltd.	85.3	86.5	96.8	93.5	90.5
Aspen Insurance Holdings Ltd.	83.0	82.4	117.2	83.4	91.5
Allied World Assurance Co. Holdings Ltd.	81.3	78.8	124.4	95.9	95.1
AXIS Capital Holdings Ltd.	75.3	77.3	101.8	84.4	84.7
Endurance Specialty Holdings Ltd.	79.9	81.5	123.5	85.8	92.7
Montpelier Re Holdings Ltd.	61.3	60.3	200.7	77.8	100.0
PartnerRe Ltd.	80.4	84.4	116.3	94.3	93.8
Platinum Underwriters Holdings Ltd.	81.0	83.6	114.5	96.8	94.0
Everest Re Group Ltd.	91.6	89.7	120.3	98.8	100.1
RenaissanceRe Holdings Ltd.	59.3	54.7	139.7	104.4	89.5
Average	*77.8*	*77.9*	*125.5*	*91.5*	

TABLE 2: Effect of reserve strengthening (releases) on combined ratio (%)

Company	2007	2006	2005	2004	Average
Arch Capital Group Ltd.	(6.3)	(2.5)	(4.0)	(3.4)	(4.0)
Aspen Insurance Holdings Ltd.	(6.2)	(3.1)	(3.4)	(5.0)	(4.4)
Allied World Assurance Co. Holdings Ltd.	(10.6)	(8.8)	(3.9)	(6.0)	(7.3)
AXIS Capital Holdings Ltd.	(12.3)	(8.0)	(15.0)	(9.0)	(11.1)
Endurance Specialty Holdings Ltd.	(10.0)	(3.5)	(9.4)	(8.4)	(7.8)
Montpelier Re Holdings Ltd.	(6.5)	(4.1)	(2.0)	(12.4)	(6.3)
PartnerRe Ltd.	(11.0)	(6.9)	(6.5)	(3.7)	(7.0)
Platinum Underwriters Holdings Ltd.	(6.9)	(4.5)	(5.7)	(3.9)	(5.3)
Everest Re Group Ltd.	5.2	3.5	(0.7)	7.1	3.8
RenaissanceRe Holdings Ltd.	(16.4)	(8.9)	(17.2)	(10.5)	(13.3)
Average	*(8.1)*	*(4.7)*	*(6.8)*	*(5.5)*	

those returns in the past, and it remains unclear whether they will be able to in the future.

Future Earnings Could Be Less Volatile

The past 10 years have seen erratic operating performance in the global reinsurance industry. However, we're optimistic that future performance may be less volatile. We base this belief in large part on our views of reinsurers' improved ERM and the increased transparency that has accompanied it. We consider 13% of global insurers and reinsurers to have strong or excellent ERM. However, reinsurers are ahead of the game, with 40% excellent or strong. Although we were not formally assessing ERM at the equivalent stage in the previous underwriting cycle, we believe that few if any (re)insurers would have attained a strong ERM assessment, let alone excellent. This has changed, because reinsurance management teams have come to recognize all the issues we mentioned above. We'll need to analyze a few more years of operating performance before we fully validate this view. But early returns (in the form of pricing information) indicate that reinsurers are holding firmer on pricing and terms and conditions during this down cycle. This, combined with more conservative risk tolerance levels and better monitoring tools, suggests that reinsurers may be facing a less volatile future. ■

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TABLE 3: Effect of catastrophe losses on combined ratio (%)

Company	2007	2006	2005	2004	Average
Arch Capital Group Ltd.	1.8	1.5	11.8	5.9	5.3
Aspen Insurance Holdings Ltd.	4.4	4.0	39.4	15.9	15.9
Allied World Assurance Co. Holdings Ltd.	0.0	0.0	38.9	14.1	13.2
AXIS Capital Holdings Ltd.	2.8	0.0	39.9	13.1	14.0
Endurance Specialty Holdings Ltd.	2.1	0.0	41.6	8.3	13.0
Montpelier Re Holdings Ltd.	18.3	5.0	141.8	36.0	50.3
PartnerRe Ltd.	1.3	0.0	25.3	4.7	7.8
Platinum Underwriters Holdings Ltd.	3.8	0.4	35.3	13.2	13.2
Everest Re Group Ltd.	4.0	7.5	37.5	8.8	14.4
RenaissanceRe Holdings Ltd.	15.6	7.7	77.5	45.8	36.6
Average	*5.4*	*2.6*	*48.9*	*16.6*	

TABLE 4: Combined ratio excluding reserve strengthening (releases) and catastrophe losses (%)

Company	2007	2006	2005	2004	Average
Arch Capital Group Ltd.	89.8	87.5	88.9	90.9	89.3
Aspen Insurance Holdings Ltd.	84.8	81.5	81.1	72.5	80.0
Allied World Assurance Co. Holdings Ltd.	91.9	87.7	89.4	87.8	89.2
AXIS Capital Holdings Ltd.	84.8	85.3	76.9	80.3	81.8
Endurance Specialty Holdings Ltd.	87.7	85.0	91.3	85.9	87.5
Montpelier Re Holdings Ltd.	49.6	59.4	61.0	54.2	56.0
PartnerRe Ltd.	90.0	91.3	97.5	93.3	93.0
Platinum Underwriters Holdings Ltd.	84.1	87.7	84.9	87.5	86.1
Everest Re Group Ltd.	82.4	78.7	83.5	82.9	81.9
RenaissanceRe Holdings Ltd.	60.1	55.9	79.4	69.1	66.1
Average	*80.5*	*80.0*	*83.4*	*80.5*	

Insurance-Linked Securities: Here To Stay

Insurance-linked securities (ILS) have become routine in the reinsurance marketplace, albeit that the softening traditional reinsurance market is causing a temporary lull in activity.

By Damien Magarelli and David Harrison

ILS in general provide additional capital to insurance and reinsurance companies (ceding companies) by issuing fixed income bonds to investors. Ceding companies are continually managing the threat of catastrophe losses within a capital-intensive industry, while the capital markets have shown an increasing appetite for broadly uncorrelated high-yield assets.

However, the volume of ILS will ebb and flow based on traditional insurance and reinsurance prices, required capital expectations, the frequency and severity of large loss events, and general conditions in the capital markets. That said, Standard & Poor's Ratings Services expects that ILS will continue to provide significant capacity for the sector.

ILS Issuance Predicted To Fall In 2008

Use of ILS for property/casualty-related transactions has tended to increase following a major natural catastrophe event, when ceding companies need to access capital. For example, from 1999 to 2005, natural peril catastrophe bond issuance remained between $700 million and $1.7 billion. After the major catastrophes in 2005, issuance increased significantly to about $4.5 billion in 2006 and more than $5 billion in 2007.

In the near term, ILS volume issuance may decline, primarily due to traditional reinsurance offering lower rates

On the life side, regulatory pressures arising from XXX and AXXX reserve requirements for U.S.-domiciled insurers have stimulated issuance. As a result, volumes have been more consistent, peaking in 2006 at nearly $5 billion, before falling back to $3 billion in 2007. This is still a substantial volume for a market that didn't exist before 2003.

This year, however, Standard & Poor's expects that ILS volume will decline. In property/casualty, the main cause is the fall in traditional reinsurance rates. In addition, strong earnings strengthened ceding company balance sheets in 2007, so the industry's need for additional capital in the near-term has declined. As the reinsurance market softens, the appetite for ILS (where costs have exhibited greater stability) will decline with it.

The decline in ILS linked to XXX and AXXX reserves is partly a function of the availability to insurers of alternative funding, and partly a function of the disruption in the credit markets and the issues surrounding bond insurers. To date, issuers have almost always found financial guarantors to wrap these transactions and no market has yet been established for unwrapped deals. However, we expect the first unwrapped transaction to be completed before year end.

Over the long term, we expect ILS capacity to increase as the sector continues to seek innovative ways to manage catastrophic risk

ILS Structures And Triggers Fall Into Distinct Categories

Generally, investors contribute funds to a special purpose vehicle sponsored by an insurance or reinsurance company. In return, they receive an interest payment on the bonds. ILS are usually for severity events that include natural catastrophe events or adverse population mortality events. The most commonly covered catastrophe events are U.S. hurricane, U.S. earthquake, European windstorm, Japanese earthquake, and Japanese typhoon, but events such as Australian earthquake, Australian cyclone, U.S. tornado, U.S. wildfire, Mexico earthquake, and U.K. flood are also covered in some transactions.

If a trigger event does not occur during the investment period, investors receive back their principal at maturity. If a triggering event does occur, the investors' funds are used to cover insurance or reinsurance company losses, with a full or partial loss of principal to investors. As in other types of structured transactions, different tranches of securities may be issued at varying rating levels.

Types of ILS

The most common forms of ILS include:

- Indemnity issuances, which mirror the actual losses of the ceding company as well as its claims function and capabilities. The time from event to trigger can be significant, depending on the type of event. For example, some insurers and reinsurers still carry reserves for the Northridge earthquake in 1994.
- Industry loss notes are typically connected to Insurance Services Office's Property Claim Services (PCS) tally of the U.S. primary insurance industry's claims for a particular event, or a Swiss Re Sigma's publication of aggregate claim data. In this case, the trigger event is connected to industry losses, rather than company-specific losses, and thus a shorter development period is typical.
- Parametric notes are not triggered by a ceding company's portfolio of exposures, but by a mathematical formula related to the quantifying characteristics of an event. These may include earthquake magnitude and depth, or maximum wind speed. These notes usually have the shortest development period.

Trigger Events And Transaction Structures Are Both Examined During The ILS Rating Process

Standard & Poor's analyzes the probability of a trigger event, including the frequency and severity of risks. We recognize that modeling error is inherent in the results, so we add an additional cushion to the modeled probability of default when assigning a rating. The rating process entails examining the source of data, modeling assumptions, offering documents, and exceedence curves. The analysis also includes a review of cash flow, ratings on relevant parties, and priority of payments.

Standard & Poor's has rated ILS using output from the models of all three main vendor catastrophe modeling companies (Risk Management Solutions Inc., AIR Worldwide Corp. and EQECAT Inc.) for natural-peril catastrophe bonds, as well as consultants Tillinghast and Milliman Inc. for mortality catastrophe bonds.

For natural-peril ILS, we base our rating on a comparison between Standard & Poor's adjusted trigger event probability and the default table used to rate ILS, which includes details on the maturity of notes, and the probability of attachment (annual and cumulative). We apply the following rating caps for natural-peril catastrophe bonds:

- First event is capped at 'BB+' (although it can be rated as high as 'BBB-' for a one-in-250-year event and 'BBB+' for a one-in-500-year event).
- Second event rating cap is 'BBB+'.
- Third event rating cap is 'A+'.

The transaction can be rated as high as 'AA' if a minimum of five independent events are required to trigger the bond over the transaction's tenor. Correlation of events must be limited and each actual event must result in a maximum of one rating category downgrade.

Mortality catastrophe bonds are capped at 'AA.' Mortality and natural-peril ILS do not reflect the potential for recovery (which will be limited in most cases anyway). Instead, they reflect the "first dollar" loss.

In conclusion, insurers have used the capacity released by ILS to gain an additional source of capital and so manage ever-increasing catastrophe risks within the property/casualty and life sectors. In the near term, ILS volume issuance may decline, primarily due to traditional reinsurance offering lower rates. However, over the long term, we expect ILS capacity to increase as the sector continues to seek innovative ways to manage catastrophic risk. ■

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Should Cedants Favor Local Or Global Reinsurers?

Many reinsurers are increasing their presence in emerging markets. How do cedants make their choices between local and global players?

By Kevin Willis and Rob Jones

Across the globe, an established network of locally focused reinsurance companies has co-existed alongside the might of the global players. In recent months, we have seen an influx of new players into these local reinsurance markets. Financial strength is important to all cedants, but these markets are less sensitive to ratings than more developed markets. So do local or global reinsurers serve cedants best?

In some cases, local players have operated in protected markets, which have sustained them. However, markets everywhere are opening up and these companies are now facing the global players head on, forcing them to increase their commercial appeal. The Middle East has been a particular target for new entrants looking to attract business from both the traditional insurance markets and the rapidly growing Islamic insurance (takaful) sector. The region appeals because of the primary sector's long-established underwriting profitability, and the huge scale of infrastructure development occurring in the region, particularly the Gulf Cooperation Council (GCC) member states.

The region appeals because of the primary sector's long-established underwriting profitability, and the huge scale of infrastructure development occurring in the region, particularly the Gulf Cooperation Council (GCC) member states

Legal Support For Local Reinsurers Is Fading

Local reinsurers may exist largely for legal reasons; the local government (or regulator) may require a local reinsurer to harvest the local risks before they are disseminated into the international market. But this "compulsory cession" model is increasingly fading away. After many years of uncertainty, the Brazilian market at last opened its doors to international reinsurance companies in 2008 and the IRB has been converted into more of an open market vehicle. In Africa we see that the many local, state-sponsored reinsurers--such as those of Morocco, Tunisia, Algeria, and Egypt--are beginning to expand their operations away from the purely domestic market. They do so at a tough time in the reinsurance cycle and bring upon themselves significant execution risk. However, we expect these companies to focus on those markets with the greatest affinity to their domestic markets.

Local reinsurers often lack scale and cannot offer sufficient capacity to meet all their cedants' needs. This limits their importance to their cedants

Local knowledge is important to many cedants. Local reinsurers are best placed to understand local market dynamics and provide appropriate protection while managing their acquired exposure effectively

Benefits Of Local Players

Local players offer their cedants local knowledge, local relationships, good service standards, and diversity:

- Local knowledge is important to many cedants. Local reinsurers are best placed to understand local market dynamics and provide appropriate protection while managing their acquired exposure effectively.
- Although reinsurance has become increasingly transactional, especially in developed markets, it remains a relationship business and is most effective when the reinsurer has a local presence. The relationships that the local reinsures enjoy have frequently lasted decades and are difficult to sever.
- Local reinsurers often provide good service standards in terms of regular face-to-face contact, good response times, and prompt claim settlement.
- Finally, they offer diversity. Cedants normally prefer a diverse portfolio of reinsurers. They rarely want to be wholly dependent on the global players, whose priorities continuously change, making their regional presence less stable.

Shortcomings Among Local Players

Local players often lack scale and expertise:

- Local reinsurers often lack scale and cannot offer sufficient capacity to meet all their cedants' needs. This limits their importance to their cedants. This lack of scale usually means that they must themselves seek substantial reinsurance protection. Inevitably, they look to the global reinsurers, which in turn gives the global reinsurers a greater insight into the local market.
- Furthermore, they often lack the expertise enjoyed by the global players, particularly with regard to large complex industrial risks and infrastructure projects. Even where local reinsurers are successful in writing this business, they rarely do so without having first placed facultative retrocession in the international markets and they typically retain a small proportion of the original risk. Alternatively, they may co-lead the risk, but take a small proportion of the business on the "slip". Their lack of expertise tends to focus the local reinsurer on proportional reinsurance, which suits poorly capitalized primary insurers. The global reinsurers tend to favor nonproportional business. As a result, as primary insurers' capitalization improves, the global reinsurers may meet their needs more easily, especially since they offer the necessary technical expertise. Global players also provide support services, such as training, which a local reinsurer may find difficult to replicate.

Conclusion

In the long term, global players represent a considerable threat to the long-established local reinsurers. As more and more midsized reinsurers set up a local presence in search of growth and diversification, the pressure on local reinsurers increases. Over time, some of the local reinsurers may be acquired or otherwise wither away, but others will prosper. In the medium term, peaceful co-existence will continue and cedants will use a judicious mix of both. ■

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Brazil Finally Comes Of Age

The Brazilian reinsurance market has promised much for so long. It is now poised to deliver.

By Milena Zaniboni and Alfonso Novelo

After a decade of debate, the Brazilian reinsurance industry has finally been opened to competition. The passage of Complementary Law 126 ended the 69-year-old monopoly of government-related IRB Brasil Resseguros S.A. (IRB-Brasil Re; unrated). Resolution 168, approved by the National Council of Private Insurance (CNSP) and enacted in December 2007, provides a general framework for the functioning of the domestic reinsurance industry under a new environment of regulated competition.

The opening of the domestic market to national and international reinsurers became effective on April 17, 2008, and regulator Superintendência de Seguros Privados (SUSEP) has already authorized:

- Three local companies (IRB Brasil Re, J Malucelli, and Muenchener Rueck do Brasil);
- Eight admitted companies (Lloyd's, SCOR Global Life U.S., SCOR Reinsurance Co., Swiss Reinsurance America Corp., Swiss Reinsurance Co., Transatlantic Reinsurance Co., Partner Reinsurance Europe Ltd., and XL Re Latin America Ltd.); and
- Four occasional reinsurers (Everest Reinsurance Co., Hannover Rueckversicherung AG, Mapfre Re, Compania de Reaseguros, S.A., and Munich Reinsurance Co.).

Standard & Poor's Ratings Services does not rate the local companies.

The regulatory framework for occasional reinsurers limits their participation to 10% of ceded premiums. We therefore expect that occasional reinsurers may transition to become admitted reinsurers in the future.

Law 126 has transformed the reinsurance segment. IRB-Brasil Re has lost its historical role as regulator of the reinsurance market; this responsibility has been transferred to the established insurance industry regulator, SUSEP. The former monopoly will evolve to resemble its new foreign competitors, focusing on relationship management, internal systems, risk management, human resources, and competitive pricing.

Regulation Will Favor Local Reinsurers

SUSEP will authorize the operations of domestic and foreign reinsurers under three categories:

- Local reinsurer: a reinsurer domiciled in Brazil with minimum capital of Brazilian real (R$) 60 million, and exclusively carrying reinsurance and retrocession businesses.
- Admitted reinsurer: a reinsurer domiciled in a foreign country that establishes a permanent representative office in Brazil. An admitted reinsurer needs to maintain a minimum dollar-denominated domestic deposit of $5 million ($1 million for life reinsurers) with local banks to cover potential losses. The reinsurers needs to have a track record of five years in the business, minimum capital of $100 million, and credit ratings of at least 'BBB-'.
- Occasional reinsurer: a reinsurer domiciled in a foreign country, with no representative office in Brazil. The reinsurer has to report minimum capital of $150 million, and credit rating of at least 'BBB'.

The regulation in Brazil not only implements minimum requirements for operations, but also distinguishes

them by local and foreign reinsurers. IRB-Brasil Re and other local reinsurance companies will be "preferred" to foreign-domiciled companies at first. Between 2008 and 2010, local reinsurers will have the right of first refusal over at least 60% of the reinsurable business of local insurance companies.

As the transition to a fully open market progresses after 2010, 40% of the annual reinsurance cession will have to be offered to local reinsurers. If the local reinsurer refuses to accept a certain risk, the insurance can be offered to a foreign reinsurer. Only local reinsurers can reinsure endowment insurances and supplementary pension plans. We believe that the intention of the rule is to give enough time for local reinsurers to adapt to the new rule, and provide incentives for the incorporation of reinsurers in Brazil.

Retention Limits Offer Potential For Market Consolidation

Another important aspect regulated by Resolution 168 is the minimum retention levels. The new framework limits reinsurance and retrocession to 50% of the premiums written. This requirement eliminates a long-standing practice in Brazil--common among small carriers operating mainly as insurance brokers--of ceding nearly all of their risk to the reinsurer monopoly. With this practice no longer permitted, the proposed retention requirements could force some insurers with weak capitalization and limited financial flexibility out of the market, and open up opportunities for market consolidation.

Brazil is among the last countries in the world to end its reinsurance monopoly. Costa Rica and Cuba are the only countries in Latin America that still protect their markets with a monopoly. Until April 2008, IRB-Brasil Re was the sole provider of reinsurance in Brazil, reporting total gross premiums written of R$3.26 billion (approximately $1.9 billion) for the year ended December 2007. As most of the insurance lines in Brazil are short-tailed, IRB-Brasil Re's main target is property risk. In 2007, this sector recorded earnings of R$5.7 billion ($9.2 billion) with a loss ratio of 31%. Overall, IRB-Brasil Re reported a combined ratio of 71% and a return on equity of 20% in 2007.

Insurers Should Benefit From The Favorable Economic Conditions In Brazil

Despite the opening of the market to competition, IRB-Brasil Re will continue to be the largest local reinsurer in Brazil and will retain a fairly advantageous position against new entrants for the foreseeable future. IRB-Brasil Re also benefits from its long-term relationship with local insurance companies and its knowledge of the domestic market should enable it to remain competitive. Despite these strengths, IRB-Brasil Re also understands that it needs to adapt and is trying to adjust itself to the new rules and market conditions. It is focusing on process and product improvements to enable it to compete with companies in the private sector.

We believe that total reinsurance premiums should

Brazil is among the last countries in the world to end its reinsurance monopoly. Costa Rica and Cuba are the only countries in Latin America that still protect their markets with a monopoly

increase steadily because of Brazil's good prospects for the primary insurance business. As the market opens, innovations will be introduced and dynamism regarding new reinsurance operations will increase.

The Brazilian insurance industry has significant potential for growth. We expect the industry to take advantage of the fundamental changes taking place in the domestic market, notably the opening of the reinsurance industry and improved regulation in line with international standards (informed by the International Association of Insurance Supervisors), together with greater monetary stability. Standard & Poor's acknowledged the stabilization of the Brazilian economy when it raised the Republic of Brazil's foreign currency rating to 'BBB-' on April 30, 2008. While Brazil's attainment of investment-grade status will ultimately result in lower interest rates, it is also bringing substantial new opportunities for insurance companies.

Total insurance premiums in Brazil have been growing at an average rate of 15% year on year since 2003. Nevertheless, it is still a fairly underdeveloped industry that represented only 2.91% of GDP in 2007. With total written premiums of R$58.6 billion ($34 billion), the developing domestic industry is already the largest in the region, attesting to its huge potential. The improvement in income levels brought about by the control of inflation and increase in formal employment is also boosting domestic credit, and thus the demand for insurance. The boom in auto loans and residential mortgages, for instance, is promoting vehicle and residential insurance because lenders have made it mandatory. Large investments under project finance structures, necessary to solve bottlenecks in the country's infrastructure, should boost surety and credit insurance.

Industry concentration is high and should remain so, encouraged by the competitive environment, lower interest rates, and stricter regulatory rules. These will support greater solvency and a more functional reinsurance industry, which will, in turn, require greater governance from all players and greater retention capacity. We expect financial conglomerates' participation in the insurance markets to remain strong. Foreign insurers will also become increasingly important players, given their interest in tapping a large potential market. ■

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Takaful Spreads Its Wings

The rapidly expanding Takaful business model is bringing insurance to Islamic adherents across the world.

By Kevin Willis

Islamic scholars consider the classic risk transfer model through insurance to be unacceptable for use in Islamic communities. This religious doctrine may be compounded with cultural issues, contributing to the poor level of development of insurance markets often seen in Islamic regions.

The world's Islamic population is estimated to comprise some 25% of the global total: a meaningful "risk-transfer" market by any standard. Therefore, in recent years, the Islamic, Sharia-compliant "takaful" model for insurance has come to be considered a key factor in increasing insurance awareness and delivering a successful, expanding business platform. This can be seen most clearly in the Gulf Cooperation Council (GCC) region, which is also capitalizing on rapid positive economic development.

For example, in the United Arab Emirates (UAE), overall market gross premiums grew by over 30% in 2007. Contributions (premiums) within the takaful sector increased by roughly twice this rate, so these companies are growing very rapidly within a dramatically expanding economy. Similar takaful contribution growth rates are evident in other regions. However, takaful activity is low in absolute terms, contributing less than 10% of the total regional market share.

The opportunities for increased uptake of takaful insurance in the GCC should be positive

Expansion Could Extend Beyond The Uninsured Market

The opportunities for increased uptake of takaful insurance in the GCC should be positive. The considerable economic growth in the region, coupled with a sizable, underinsured population, means that there are substantial prospects for further development of personal lines cover. The ability of the industry to persuade potential policyholders of the need for and benefits of insurance, as well as to successfully meet customer demands, remains unproven, however. Takaful operators sometimes present an unclear business model: "takaful" is a religious concept, so should the service be available to, or attractive to, non-adherents to Islam? The business prospects for takaful are not wholly derived from the personal lines sector, although this was originally thought to be its obvious focus. Prospects have also emerged in the commercial sector, where takaful operates in direct competition with the traditional insurance market.

One of the problems facing takaful is the lack of awareness among retail customers of the social and individual benefits of insurance. That said, the future success and sustainability of this pace of development will depend on a number of factors that, within per-

sonal lines, are just as relevant to the traditional as to the takaful regional markets.

The takaful market faces some unusual challenges. It has to match the service quality of the traditional insurance market and persuade an uninsured market to use its facilities. Takaful companies must demonstrate a credible alternative to the traditional market, over and above the initial religious affiliation.

Increasingly, however, traditional insurers are creating new takaful divisions or subsidiaries into which they can accept risks. This operational model achieves the key requirements:

- It meets Sharia council approval;
- It is accepted by the Islamic community and policyholders;
- It passes regulatory requirements; and
- It delivers real economies of scale.

Long-Term Success Needs Greater Focus On Profitability

Stand-alone takaful companies are likely to face more difficulties achieving economies of scale, compared with their rivals among the takaful subsidiaries that are backed by traditional insurers. Future takaful development will be constrained unless operators can create demand and increase awareness of the need for insurance. The onus remains on them to emphasize the broad appeal of Islamic insurance. The growth of Islamic finance, and in particular retail Islamic banking solutions such as Islamic mortgages and credit cards, is certainly encouraging and will help the insurance sector.

In terms of underwriting performance, to date, takaful has not necessarily been the more profitable approach. Standard & Poor's would expect application of the general concept of mutualization of risks to moderate profitability and, as expected, average combined ratios for takaful companies have been higher than for traditional regional peers. Although the essence of takaful is cooperative risk sharing and community well-being, rather than profit maximization, continued underwriting profitability will be important to support future growth and retain the support of shareholders. This is particularly true in view of the shareholder's compulsory takaful fund support mechanism via the "qaad hassan" facility.

Retakaful Support Is Emerging

A growing number of Islamic reinsurance (retakaful) companies are being established and the success of this sector has to be directly linked to the success of the primary "takaful" sector. All the points made above relate also to retakaful players. Looking further ahead, investors could be considering the creation of a "retrotakaful" market place to support the young retakaful market, and this holds up the opportunity for a parallel Islamic risk transfer market alternative to the long-standing "traditional" model.

In summary, Standard & Poor's expects the global takaful sector to continue its rapid growth and that it will become a significant contributor to the global "risk transfer" market place. That said, the competitive environment will remain challenging, because members of the traditional insurance market should have the ability and tools to match the ambitions of the Islamic sector members. At present, the building blocks to service this growing facility are still being put in place in the form of new primary takaful and retakaful capacity. Most takaful companies are still local organizations, but we see great opportunities for real regional leaders to develop and service the growing insurance needs of the Islamic community, and also to attract non-adherents. ■

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What Is Takaful?

The "traditional" insurance model is deemed forbidden (haraam) from an Islamic perspective because it is perceived to breech 3 fundamental Islamic principles of:

(a) Voiding interest (or al-riba).
Within the Islamic culture, money is not a commodity of any intrinsic value, merely a form of exchange and so the holders of money are not allowed to benefit, or suffer from, its possession by payment or receipt of interest.

(b) Voiding uncertainty/deception (or al-gharar).
Traditional insurance introduces uncertainty through the payment of a fee (premium) for an uncertain reward (loss recovery). Islamic principles do not permit this as no tangible value is received by policyholders for the payment of premium avoiding gambling (or al-maisir). Islamic scholars believe that a policyholder is "gambling away" his wealth by payments (of premium) to the shareholder for no return. Clearly the Islamic principles of "uncertainty" and "gambling" in insurance are linked, hence the takaful (cooperative) model through which all takaful members share in the success of the pooled transactions by some form of profit share.

The takaful risk-transfer solution is administered through the takaful fund, through which there is a grouping of individuals with common interests, pooling resources (contributions) to protect against risk, and share in the outcome. As such, therefore, the takaful fund members employ a third party to manage the takaful fund. This is the role of the shareholder and through the "qaad hassan" facility (an interest-free loan) the shareholder is obliged to give tangible support to any shortfall in the takaful fund at zero cost until the members have contributed sufficient to cover the shortfall and reimburse the loan.

Extending Ratings To Subsidiary Companies

There is well established criteria for rating the subsidiaries of reinsurance groups.

By Taoufik Gharib and Thomas Upton

Standard & Poor's Ratings Services is often asked how it assigns the ratings on separate subsidiaries within a large insurance group. Whether the subsidiary is a well-established entity with a proven operating track record or a start-up, management teams often expect that we will assign a rating equal to that of the other main subsidiaries within the group. However, recognizing that strategic priorities change with great regularity, we rigorously review the strategic significance of any subsidiary to which a rating is assigned.

The degree to which we will recognize support from an organization to its various rated legal entities is guided by our Group Rating Methodology criteria, which we have employed in our analysis of insurance groups for more than 10 years. This methodology describes the implicit basis for the extension of a rating on a group to one of its subsidiaries. Under this methodology, each rated subsidiary is designated as being either core, strategically important, or nonstrategic. Typically, core subsidiaries receive the same rating as the group, strategically important subsidiaries receive a rating which is lower than the group rating but higher than the subsidiary's stand-alone rating, and nonstrategic subsidiaries received little if any uplift from the stand-alone rating.

In addition, management teams often use agreements such as a guarantees, maintenance-of-net-worth agreements, or reinsurance agreements to provide explicit support to their subsidiaries in the interest of having such support recognized in the ratings on subsidiaries.

Frequently Asked Questions

Within Standard & Poor's Group Rating Methodology, there are several factors used to determine whether or not a subsidiary is core to its group, such as "operating in lines of business integral to the group" and "sharing the same name or brand with the group." Can these factors be used as a checklist? Will a subsidiary automatically be considered core and obtain the rating on the group if it meets each of these considerations?

No. The decision on whether or not a given subsidiary is core is ultimately and necessarily qualitative in nature. The list of factors identified in the criteria is neither all-inclusive nor strictly determinant. The factors are presented only as guides to what will be foremost in the minds of rating committee members as they debate the issue and cast their votes to establish an entity's group status.

The factors listed in criteria for subsidiaries that are strategically important are less stringent than those for companies that are considered core. Does that make them any more objective in nature and less subject to qualitative judgment on the part of the rating committee members?

Actually, there are two levels of qualitative judgment applied with strategically important companies. First, there is the same qualitative assessment of a strategically important subsidiary's characteristics as there is with companies considered core. Layered on top of that is the judgment of how many notches of support to provide. In most cases, criteria allows for up to three notches (one full rating category) of support up to a maximum of one notch below the group rating level. After concluding that a particular subsidiary is strategically important to a group, the rating committee then has to make the qualitative decision of how many notches of support within the allowable maximum should be added to the stand-alone rating on the subsidiary.

How does Standard & Poor's ensure consistent application of its criteria across insurance sectors and across different geographic regions?

We have developed our Group Rating Methodology with the express purpose of ensuring greater consistency in our ratings across insurance sectors and

across geographic regions where subsidiary ratings are concerned. Furthermore, every rating committee's presentation includes peer group comparisons that require committee members to consider other similar examples. In addition, we perform regular peer review committees in which all such decisions are reconsidered and possible outliers are addressed. We have also formed several global analytical groups (e.g., reinsurance) that meet on a regular basis to discuss, among other things, consistency of our ratings in various geographic regions. The rating committees that assign ratings to groups and individual subsidiaries always consist of analysts from the region in which the group is domiciled and analysts from the region in which the subsidiary is located.

What is explicit support and how does it affect the extension of a rating to a subsidiary of a group?
Explicit support may be used to raise the stand-alone rating on both strategically important and nonstrategic entities within a group. Accepted forms of explicit support are guarantees and, in some cases, net-worth-maintenance agreements. A full guarantee that allows for timely cash payments of the subsidiary's contractual obligations by the guarantor can be used to raise the relevant ratings to the level of the guarantor. In addition, strongly worded net-worth-maintenance agreements can be used as a means of explicit support for both strategically important and nonstrategic subsidiaries, but usually only in cases where a guarantee is legally not available.

Based on our criteria, the rating on a strategically important subsidiary that has received an acceptable net-worth-maintenance agreement as explicit support may be raised to one notch below the rating on the entity providing the support. In the case of a nonstrategic subsidiary, an acceptably worded net-worth-maintenance agreement will normally allow the rating on this subsidiary to be raised by one rating category but no higher than one notch below the core group rating. A net-worth-maintenance agreement will be accepted only when we believe that policyholders or other third-party beneficiaries, such as regulators, can enforce the agreement.

If a group contributed a significant amount of capital to a subsidiary that is already considered strategically important, would a rating committee reconsider it as core?
In theory, it is possible, although this particular scenario would be highly unlikely. The only way this specific event would occur would be if the rating committee concluded that the subsidiary in question was viewed to be core in every aspect except capitalization. A much more likely scenario would be a case where the subsidiary was considered strongly strategic to the group, and a core entity within the group entered a quota share or stop loss reinsurance with the subsidiary, whereby a substantial portion of the risk was ceded to the core entity. Depending on the extent of the cession, this might still be insufficient to redesignate the subsidiary as core in the qualitative judgment of the committee. The most foolproof form of explicit support is an absolute guarantee of the obligations of the subsidiary in a form satisfactory to Standard & Poor's.

Could explicit support in the form of reinsurance alone result in treating any subsidiary as if it was core?
Yes it could but the extent of the reinsurance needs to be very substantial. This is normally reserved for quota share reinsurance of 90% or more, or stop loss reinsurance resulting in a similar financial impact.

Why aren't guarantees commonly used in the insurance industry as is the case in the banking industry?
Often, there are regulatory constraints against one insurer guaranteeing another, especially when the guarantor is located in a different jurisdiction than the entity whose obligations it wants to guarantee. In most cases, tax considerations also discourage the use of guarantees. Moreover, if the subsidiary is large enough, explicit support of this nature would require a consolidated analysis, which could affect the rating on the consolidated insurance group.

Once the group status and the rating are assigned, are these rating decisions settled and not revisited?
No. Insurers are dynamic and their strategies and operations change over time. As part of our annual review process, each subsidiary's stand-alone rating, group status, and existing support (i.e., implicit, explicit) are revisited and reassessed. For example, if a group formed a new subsidiary to write a new line of business, intending to capitalize it only sufficiently to cover the business to be written in the coming year, we might extend the group rating to that subsidiary only with an absolute guarantee from a core affiliate. However, after a significant period of time, say five years, we might conclude that the subsidiary had become material and its business integral to that of the group, and we would no longer look to a guarantee to extend the rating, because the implicit support by the group would then be sufficient under our criteria to extend the rating. On the other hand, a subsidiary that we previously considered to be core might be in a business that over time declines and diminishes in its significance to the group, and the extension of the rating on the group can thereafter only be maintained through the explicit support of a guarantee. ■

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Examples Of Supported Ratings

Subsidiary	Subsidiary's domicile	Group status	Subsidiary's supported FSR*	Parent	
General Reinsurance Australia Ltd. (GRA)	Australia	Core	AAA	General Reinsurance Corp.	
General Reinsurance Corp.	U.S.	Core	AAA	Berkshire Hathaway Inc. (BRK)	
Hannover Re Bermuda Ltd.	Bermuda	Core	AA-	Hannover Rückversicherung AG	
Toa Reinsurance Co. of America	U.S.	Core	A+	Toa Reinsurance Co. Ltd.	
DaVinci Reinsurance Ltd.	Bermuda	SI	A+	RenaissanceRe Holdings Ltd. (RNR)	

	Parent's domicile	Core subs' FSR*	Rationale
	U.S.	AAA	Being a core member of the General Re group, GRA is able to leverage the group expertise and strong global network. The close integration via strategy, underwriting policy, and risk management enables GRA to offer a wider range of risk coverage than its stand-alone capability would permit. The strong global brand provides further support for GRA to sustain its established position in the Australian and New Zealand markets.
	U.S.	AAA	The insurer financial strength ratings on the operating companies that comprise the General Re Group are based on General Re's core status to BRK. General Re benefits from explicit support provided through a loss portfolio contract and quota share agreement from National Indemnity Co. (NICO) and Columbia Insurance Co. (Columbia)-both members of BRK. General Re cedes to NICO 40% and to Columbia 10% of its prospective (as of Jan. 1, 2005) business on a quota-share basis, and 50% of historical liabilities through the loss portfolio contract. The substantial amount of liabilities historically and prospectively that are transferred to NICO and Columbia support the view that General Re is core to BRK. Also, Standard & Poor's expects that BRK will not sell General Re. In addition, BRK and General Re have aligned management and corporate strategies, investment strategies, and financial flexibility, which further supports core status.
	Germany	AA-	The insurer financial strength rating on Hannover Re (Bermuda) Ltd. (HRB) is based on its core status to its parent, Hannover Rueckversicherung AG. The rating on HRB reflects an aligned strategy and parental support, demonstrated by past capital infusions, reinsurance protections, and operational support (marketing, underwriting, investment management, etc.).
	Japan	A+	Toa Reinsurance Co. of America (TRA) is viewed as core to its Japanese parent, and the company is becoming more important in the parent's diversification strategy. The two companies share the same name, and TRA's assets are contributing more than 25% of Toa Reinsurance Co. Ltd.'s consolidated assets. Because of the limited growth prospects in Japan, the parent is focusing on TRA, which is one of its key overseas subsidiaries, to expand business in the U.S.
	Bermuda	AA-	Standard & Poor's views DaVinci as strategically important to RNR based on shared underwriting, modeling, and management. Though RNR manages DaVinci and effectively has governing control, it is a minority shareholder, owning about 20%, and there is no contractual capital support obligation between DaVinci and RNR.

Subsidiary	Subsidiary's domicile	Group status	Subsidiary's supported FSR*	Parent	
MS Frontier Re Ltd.	Bermuda	SI	AA	Mitsui Sumitomo Insurance Co. Ltd.	
RGA Reinsurance Co.	U.S.	NSI	AA-	MetLife Inc.	
Generali USA Life Reassurance Co.	U.S.	NSI	A	Assicurazioni Generali SpA (AGS),	
Allianz Risk Transfer (ART)	Switzerland	SI	AA	Allianz SE (AZSE)	
Royal Bank of Canada Insurance Co. Ltd. (ICL)	Barbados	Core	AA-	Royal Bank of Canada (RBC)	

* FSR—Financial strength ratings as of July 25, 2008, SI: strategically important, NSI: nonstrategically important.

	Parent's domicile	Core subs' FSR*	Rationale
	Japan	AA	The 'AA' insurer financial strength rating on MS Frontier Reinsurance Ltd. is based on the company's superior capitalization, its strategic importance to the Mitsui Sumitomo Insurance Group, and its guaranteed support from parent company Mitsui Sumitomo Insurance Co. Ltd.
	U.S.	AA	Our ratings on RGA receive no uplift from MetLife's majority ownership interest and reflect only RGA's stand-alone characteristics because of our opinion that RGA is not strategic to MetLife.
	Italy	AA	Although Standard & Poor's views Generali USA as nonstrategic to its ultimate parent, the ratings include one notch of implicit support to reflect AGS' commitment to the operations.
	Germany	AA	ART is considered strategically important, but not core, to AZSE. According to Standard & Poor's criteria, this would usually result in the ratings being capped at one notch lower than the ratings on a group's core operation. The ratings on ART are nevertheless equalized at the level of those on AZSE due to the parental support embodied within two explicit agreements. Firstly, there is a net worth maintenance agreement (NWMA) in place, which underlines AZSE's commitment to ART, even if it does not completely satisfy Standard & Poor's criteria with regards to the external enforceability of the NWMA. Secondly, there is a rolling stop-loss contract with AZSE and a cap provided by Allianz Global Corporate & Specialty AG (AA/Stable/--) on a quota share contract, which limit ART's downside risk in respect of the bulk of its traditional business. In fact, the latter agreement caps ART's exposure at a combined ratio of 110%. ART is expected to continue to play a significant role in the enhanced integration of the international division Global Lines under Clem Booth's leadership (Head of the group's international division), thereby reinforcing ART's strategic importance to the group.
	Canada	AA-	We view ICL as core to RBC because it shares a common identity, is 100% owned by RBC, contributes materially to RBC's consolidated earnings, and operates in lines of business that are compatible with its parent's long-term business strategies. Consequently, ICL receives the same ratings and outlook as RBC.

Insurer Financial Strength Ratings

A Standard & Poor's Insurer Financial Strength Rating is a current opinion of the financial security characteristics of an insurance organization with respect to its ability to pay under its insurance policies and contracts in accordance with their terms. Insurer Financial Strength Ratings are also assigned to HMOs and similar health plans with respect to their ability to pay under their policies and contracts in accordance with their terms.

This opinion is not specific to any particular policy or contract, nor does it address the suitability of a particular policy or contract for a specific purpose or purchaser. Furthermore, the opinion does not take into account deductibles, surrender or cancellation penalties, timeliness of payment, nor the likelihood of the use of a defense such as fraud to deny claims. For organizations with cross-border or multinational operations, including those conducted by subsidiaries or branch offices, the ratings do not take into account potential that may exist for foreign exchange restrictions to prevent financial obligations from being met.

Insurer Financial Strength Ratings are based on information furnished by rated organizations or obtained by Standard & Poor's from other sources it considers reliable. Standard & Poor's does not perform an audit in connection with any rating and may on occasion rely on unaudited financial information. Ratings may be changed, suspended, or withdrawn as a result of changes in or unavailability of such information, or based on other circumstances.

Insurer Financial Strength Ratings do not refer to an organization's ability to meet nonpolicy (i.e. debt) obligations. Assignment of ratings to debt issued by insurers or to debt issues that are fully or partially supported by insurance policies, contracts, or guaranties is a separate process from the determination of Insurer Financial Strength Ratings, and follows procedures consistent with issue credit rating definitions and practices. Insurer Financial Strength Ratings are not a recommendation to purchase or discontinue any policy or contract issued by an insurer or to buy, hold, or sell any security issued by an insurer. An Insurer Financial Strength Rating is not a guaranty of an insurer's financial strength or security.

'pi' ratings, denoted with a 'pi' subscript, are Insurer Financial Strength Ratings based on an analysis of an insurer's published financial information and additional information in the public domain. They do not reflect in-depth meetings with an insurer's management and are therefore based on less comprehensive information than ratings without a 'pi' subscript. 'pi' ratings are reviewed annually based on a new year's financial statements, but may be reviewed on an interim basis if a major event that may affect the insurer's financial security occurs. Ratings with a 'pi' subscript are not subject to potential CreditWatch listings.

Ratings with a 'pi' subscript generally are not modified with '+' or '-' designations. However, such designations may be assigned when the insurer's financial strength rating is constrained by sovereign risk or the credit quality of a parent company or affiliated group.

Insurer Financial Enhancement Ratings

A Standard & Poor's Insurer Financial Enhancement Rating is a current opinion of the creditworthiness of an insurer with respect to insurance policies or other financial obligations that are predominantly used as credit enhancement and/or financial guaranties in Standard & Poor's rated transactions. When assigning an Insurer Financial Enhancement Rating, Standard & Poor's analysis focuses on capital, liquidity and company commitment necessary to support a credit enhancement or financial guaranty business. The Insurer Financial Enhancement Rating is not a recommendation to purchase, sell, or hold a financial obligation, inasmuch as it does not comment as to market price or suitability for a particular investor.

Insurer Financial Enhancement Ratings are based on information furnished by the insurers or obtained by Standard & Poor's from other sources it considers reliable. Standard & Poor's does not perform an audit in connection with any credit rating and may, on occasion, rely on unaudited financial information. Insurer Financial Enhancement Ratings may be changed, suspended, or withdrawn as a result of changes in, or unavailability of, such information or based on other circumstances. Insurer Financial Enhancement Ratings are based, in varying degrees, on all of the following considerations:

- Likelihood of payment capacity and willingness of the insurer to meet its financial commitment on an obligation in accordance with the terms of the obligation;
- Nature of and provisions of the obligations; and
- Protection afforded by, and relative position of, the obligation in the event of bankruptcy, reorganization, or other arrangement under the laws of bankruptcy and other laws affecting creditors' rights.

Insurer Financial Strength Ratings

An insurer rated 'BBB' or higher is regarded as having financial security characteristics that outweigh any vulnerabilities, and is highly likely to have the ability to meet financial commitments.

AAA

An insurer rated 'AAA' has EXTREMELY STRONG financial security characteristics. 'AAA' is the highest Insurer Financial Strength Rating assigned by Standard & Poor's.

AA

An insurer rated 'AA' has VERY STRONG financial security characteristics, differing only slightly from those rated higher.

A

An insurer rated 'A' has STRONG financial security characteristics, but is somewhat more likely to be affected by adverse business conditions than are insurers with higher ratings.

BBB

An insurer rated 'BBB' has GOOD financial security characteristics, but is more likely to be affected by adverse business conditions than are higher rated insurers.

An insurer rated 'BB' or lower is regarded as having vulnerable characteristics that may outweigh its strengths. 'BB' indicates the least degree of vulnerability within the range; 'CC' the highest.

BB

An insurer rated 'BB' has MARGINAL financial security characteristics. Positive attributes exist, but adverse business conditions could lead to insufficient ability to meet financial commitments.

B

An insurer rated 'B' has WEAK financial security characteristics. Adverse business conditions will likely impair its ability to meet financial commitments.

CCC

An insurer rated 'CCC' has VERY WEAK financial security characteristics, and is dependent on favorable business conditions to meet financial commitments.

CC

An insurer rated 'CC' has EXTREMELY WEAK financial security characteristics and is likely not to meet some of its financial commitments.

R

An insurer rated 'R' is under regulatory supervision owing to its financial condition. During the pendency of the regulatory supervision, the regulators may have the power to favor one class of obligations over others or pay some obligations and not others. The rating does not apply to insurers subject only to nonfinancial actions such as market conduct violations.

NR

An insurer designated 'NR' is NOT RATED, which implies no opinion about the insurer's financial security.

Plus (+) or minus (-)

Ratings from 'AA' to 'CCC' may be modified by the addition of a plus or minus sign to show relative standing within the major rating categories.

CreditWatch highlights the potential direction of a rating, focusing on identifiable events and short-term trends that cause ratings to be placed under special surveillance by Standard & Poor's. The events may include mergers, recapitalizations, voter referenda, regulatory actions, or anticipated operating developments. Ratings appear on CreditWatch when such an event or a deviation from an expected trend occurs and additional information is needed to evaluate the rating. A listing, however, does not mean a rating change is inevitable, and whenever possible, a range of alternative ratings will be shown. CreditWatch is not intended to include all ratings under review, and rating changes may occur without the ratings having first appeared on CreditWatch. The "positive" designation means that a rating may be raised; "negative" means that a rating may be lowered; "developing" means that a rating may be raised, lowered, or affirmed.

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