

# HORUS

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## Marine Reinsurance Market 2001 Report: MARCH

In 1995 excessive margins gave underwriters a buffer that meant that they were prepared to follow rates down rather than risk losing accounts. Once started the downward compounding of rates gained momentum. As can be seen from the graph below, taking 1993 as 100% it is estimated that marine premiums on an indexed link basis in 2000 are only 55% of what they were in 1993. If 1994 were taken as 100% premiums in 2000 amount to only 45% of those pertaining in 1994.

In the latter part of the nineties, against this backdrop of declining premiums even a static level of claims activity would have given underwriters big problems in their attempts to maintain underwriting profitability. What happened was that claims incidence during that period actually increased.

The inescapable consequence of these contra-operating factors is demonstrated where for each of the years 1996 to 2000 the loss ratio is worse than the preceding year at the same point of the account.

The consequence of this is the reduction in the marine capacity of the market. The feast of capital has become a famine and, as dictated by the market laws of supply and demand, the price of the remaining capacity increases. Again this can be demonstrated from Lloyds statistics.

### 2001 and beyond

Just as the upturn in the early 1990 was reinsurance driven, so is the 2001 hardening. The increased cost and value of capital within the reinsurance sector has dictated that all levels of reinsurance are being aggressively rated. Bottom end excess of loss cover is impossible to purchase and lower to middle areas of the excess loss market are attracting aggregate retentions, even for clean renewals. For those underwriters with a poor reinsurance record the renewal terms are penal.

Accountants and corporate backers have a much larger say in the underwriting. The underwriter is now not necessarily King. In addition, a new generation of underwriters has emerged as their predecessors have moved to managerial roles or are no longer involved in underwriting. The current incumbents are aware of the requirements of them and are not willing to compromise their market stance for (Special) cases.

These changes mean that there is very little room for discretion.

The gloom, doom and despondency of this report is a reflection of the current state of the market. The future expectation of profit however, is the driving force behind the provision of capital into the market. The Lloyds capacity for 2001 of Sterling Pound11.06 billion shows an increase of 10% over 2000.

This is the largest hike for seven years. Much of this capital is new and is reflected in the creation of three new syndicates, being Cathedral, (Sterling Pound80 million), Groupama (Sterling Pound40 million) and Managing Agency Partners (Sterling Pound110 million). Corporate capacity is likely to provide over 85% of the total Lloyds capacity for 2001. This provision of capital has been made on the assumption that there will be a triumph of experience over hope, rather than hope over experience.

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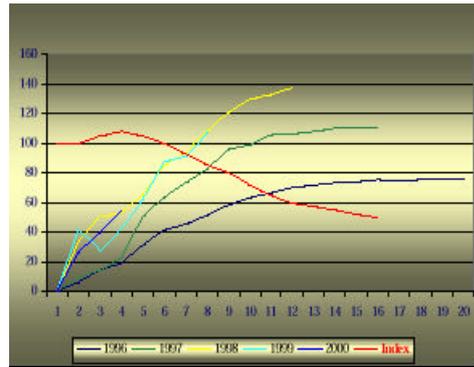
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## Hull

The chart below shows the decline in level of hull rating between 1993 and 2000, superimposed upon the Lloyd gross hull account loss ratios for the years 1996-2000.



In recent years, there has prevailed within the global market for marine insurance, an extremely competitive atmosphere, with a substantial number of insurers seeking to take a share of a rapidly diminishing quantity of good quality marine hull and machinery business. Given these circumstances and the nature of international trade, it is inevitable that there has been a general downward pressure on premium levels.

From 1995 onwards, capacity had increased progressively and as a result, premiums on average have reduced. At a maritime conference earlier in the year, it was suggested that the average premium base in 1998 was a mere 30% of that in 1994 and maybe in 2000 this is as low as 20%. However the philosophy of any trading market must also be dictated by results which will in turn determine price (premium) movements in any given direction. Erosion of the premium base of the magnitude that has occurred since 1995 is only sustainable for as long as the market place remains profitable.

Thus with the publication of Underwriters annual reports at the end of 1999, the expectation was that the market would harden. There is certainly evidence to suggest that this has happened, albeit in a far more gradual manner than predicted. Consequently, there has existed, what should be described as a transitional marketplace. Any market hardening that has occurred has not taken the form of the traditional (knee-jerk) reaction. Instead of imposing an indiscriminate rise across the whole Hull & Machinery book, whether individual results warranted it or not, Underwriters have preferred to focus their efforts on the less deserving Owners. Consequently the larger or more profitable accounts have continued to receive favorable terms during 2000. However as the year has progressed, the market is clearly now emerging from this (transitional state). Underwriters are showing a noticeably hardening attitude to both renewal and new business alike.

In certain areas there are management directives having been given to Underwriters to either allow no further reductions in rates or deductibles or only to underwrite business that is paying an increased level of premium.

Lloyds List and Tradewinds continue to carry gloomy weekly warnings of poor results and consequent rate increases and the 2000 I.U.M.I conference in well publicized form, universally advocated a rise in premiums. It is predictable also, given that the availability of (direct) capacity places a heavy reliance upon affordable outward reinsurance, that results in the Excess of Loss market can also have a profound influence on the appetite for risk of the direct insurers.

London, Norway, U.S. and France remain the traditional centres and still provide substantial capacity.

Inevitably therefore, when results dictate the market trends with the exception of the unilateral actions of individual insurers, it is to these markets that is expected to react.

### London

Marine Underwriting results have continued to deteriorate as illustrated by the enclosed marine market results as released by Lloyds, that has further focused attention on rating.

The direct market is caught between higher reinsurance costs, higher retentions and part of their direct business as multi year deals. The pressure for obtaining significant increases on the direct account renewals is therefore very strong.

Some of the capacity is withdrawing from the class and announcements of mergers and other moves are becoming frequent.

### Norway

There is a noticeable toughening of attitude within the Norwegian market at the current time for new as well as renewal business. Oddly though there are very few renewals on Norwegian accounts at the present time, as nearly 90% of Norwegian business are in the midst of long term deals with expiry dates ranging from 2002 to 2005. In general a 10% increase on claim-free, (core business) would probably be considered a good renewal and 24 month policies whilst still achievable, are now rare without being linked to a review clause. Such review clauses give us a clue as to the vague nature of the potential terms likely to be on offer in 2001, ranging as they do from a 5% reduction to a 50-70% rise.

### France

French Underwriters, in common with other major markets, are now looking to improve their premium base with a view to restoring the Hull account to profit. As with the others, with each passing announcement their resolve is strengthened and on average the rises are no less 10% but substantially more where the loss record of the owner appears to warrant it.

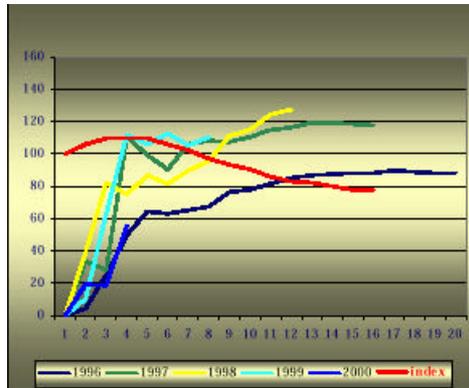
### U.S.A

Market continues to be in (transition), several Underwriters have left the Hull market and only one has commenced operations.

The market that remains is sitting back ready to write new and renewal business anticipating premiums on (clean) business of no less than plus 10%, when not committed to long term contracts.

### Cargo

The chart below shows the decline in level of cargo rating between 1993 and 2000 superimposed upon the Lloyds gross cargo account loss ratios for the years 1996-2000.



A lack of stability, pressure from capital providers, soaring reinsurance costs together with continued poor Underwriting results has finally seen the soft market cycle end.

There was general feeling within the industry that there would have to be blood on the walls before the Marine Market would be forced to take a more positive approach in order to preserve its existence. Sadly this was the case with a number of Syndicates and several Companies withdrawing from the class.

With the realization that reinsurance protections would be costing more with greater demands put on higher retention and greater deductible levels. Naturally these outgoing costs had to be transferred to the direct account.

Certainly there will be a return to more disciplined underwriting with many Marine insurers re-evaluating their portfolios and often being more selective about the cargo risks that they participate in. Although there is still some massive capacity available many Underwriters are changing their line structures in an attempt to obtain a more balanced book of business.

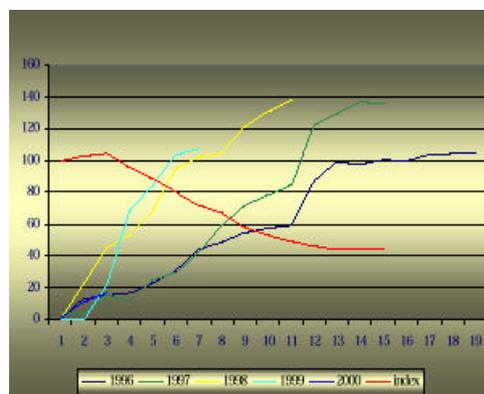
#### Cargo - Underwriters view

True, insurance is well known as a cyclical industry. What appears to be different this time, however, is that many insurers don't see the marine insurance industry as being a sector that is worth committing capital to through the period of the cycle. This view is not only held by the insurance companies but also by their capital providers. The returns from marine insurance have in the past been extremely lucrative, but in even the current climate of stock market volatility, there are plenty of other high risk investments that do not offer the same headaches as insurance.

It is a commonly held view that Marine Hull and Marine Cargo rates are currently at between 30% and 40% of their peak of the mid 1990s. One of the key problems is that very few insurers seem to actually know how much their prices have dropped. The message is loud and clear to the customer base: Choose your insurance carrier wisely. There is often no reason to believe that the most expensive choice is the wisest, but the carrier who is consistently the cheapest may be the carrier whose existence is short-lived.

### Energy

The chart below shows the decline in level of energy rating between 1993 and 2000 superimposed upon the Lloyds gross cargo account loss ratios for the years 1996-2000.



The marine energy market has seen a considerable tightening in the last three months as a result of a number of syndicates/companies exiting, these include Cox syndicate, Trevor Hart, the consolidation of both Gargrave and Janson

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Green, and Gjensidige, Vesta and Storebrand into Gard.

In addition to this, underwriters minds have been concentrated by the increasing contraction of the reinsurance market. This has led to substantial increases in retentions from \$50,000/\$100,000 to \$500,000/\$1,000,000 and in some cases \$4,000,000 depending on how hard these reinsurance programmes have been hit by claims in 1997-8, 1998-9 and 1999-2000. Reinsurance price increases range from a minimum of 30% up to 100% in addition to increased retentions.

The primary facultative market has disappeared and consequently claims in 1999/2000, 2000/2001 have hit the medium and low level excess of loss layers. This has resulted in the weaker syndicates and/or companies with high loss ratio and higher reinsurance leaving the market as it becomes uneconomic to trade.

These market conditions are further heightened by the fact that the majority of backing is now provided by capital expenditure and consequently may not have the longevity of some of the names who would trade through the cycles of the markets.

These pressures have resulted in the market reaching an inconsistent phase where there is no common view over how renewal business should be treated. This leads to inconsistencies in renewal terms and producing wide gaps in the terms that leaders offer on similar packages.

## **Energy - Underwriters view**

### **Overview**

The Energy market may have dragged itself back from the abyss just in time. After a sequence of severe loss making years, the market has at last taken a firm position to improve the situation. Rating levels, deductibles, and scope of coverage are all being improved in favor of the underwriter. Furthermore this upward trend is accelerating at a rapid pace.

Increasingly underwriters have perceived that only a fundamental re-rating of the business can resolve the problems created by the devastating soft market of recent years. This attitude being taken is driven by the very short time window available in which to return the market back to profit. The (step by step) approach is totally inadequate, and only a fundamental and aggressive re-assessment of the account is viable. This underwriting concept does not reflect wanton greed from underwriters, but only a desire to survive for the long term. The majority of clients and brokers aggressively played the soft market cycle over recent years, and they will now have to face the consequences.

### **Offshore Property**

Although it is fair to say that the results from the offshore fixed installation portfolio have not been disastrous, the market has benefited from a remarkable run of good fortune. There has been a conspicuous absence of catastrophe losses (either single risk or multi risk). Any basic analysis of the premium base will show how vulnerable current rating concepts are. Accordingly a robust approach to the business is now being taken.

### **Onshore Property**

The market is strewn with defunct onshore capacity. The atrocious results of recent years have taken the toll on the market. Capacity is very tight, and rates and deductibles are increasing in multiples. Insurance buyers have little hope of securing coverage unless they are prepared to accept a very significant increase in cost. An increased frequency of loss over the last few years appears to be a direct result of diminished management controls, prototypical technologies and inadequate operating procedures. The market has accordingly grasped the situation with admirable tenacity, and is now resolved to underwrite the business correctly.

### **Mobile Offshore Drilling Units**

The tragic tale of this class is well documented. Losses have been both severe and frequent. The increasing number of mergers has found the industry lacking in the managements ability to integrate cultures and risk management correctly. Very high levels of utilization have led to both sub-standard units and crews coming out of (retirement), and an increased frequency of tows. Losses will inevitably follow.

Regrettably much of the business is on long term policies which will not be reviewed until later in 2001 or early 2002. The drilling contractors need to prepare themselves for some dramatic changes.

### **Construction**

The offshore construction market is another strong example of the market endeavoring to correct the sequence of several disastrous loss years. Rating levels have increased six fold, deductibles up significantly and coverage restricted.

Leadership in London is increasingly polarized with a single leader driving the market. New wordings have gained acceptance and are now addressing issues of quality control and faulty part coverage. Distressed construction placements are almost an everyday occurrence in the marketplace.

### **Control of Well**

The market available (both in London and Internationally) has contracted significantly. Leadership is now down to a handful of underwriters. As a result the inevitable is happening, with a very significant change in market conditions. Rating levels are moving upwards on a daily basis. Engineering warranties are now commonplace and risk selection is paramount to underwriters. This account is being fundamentally re-appraised, with rating levels being set in excess of the (Addendum) rating scale on a regular basis. There is still some naive capacity both in London and the US who seem to have little ability to understand either the risk, or the dynamics of a hardening market. Such capacity, fortunately, has a very short life expectancy.

### **Liability**

This market is beginning, albeit slowly, to address the fragility of its premium base.

Any comparison between the worldwide premium base and the exposures accepted will demonstrate that this market has been living on luck in recent years. Market participants seem to enjoy this (white knuckle ride) and the inevitable distress is just around

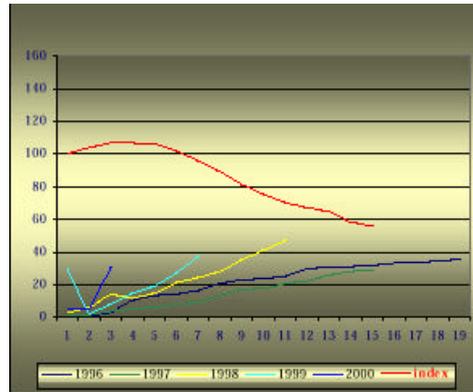
the corner.

### Reinsurance

The forthright approach of the reinsurance market this recent renewal season has reinforced underwriters resolve to drive the market back into profit. The combination of increased retentions and cost, no doubt focuses underwriters minds more fully on gross underwriting skills. However the anticipated unrestricted brutality of the reinsurance market did not fully materialize, and it looks, regrettably, that some underwriters were let off the hook for 2001. No doubt reality will catch up with a vengeance.

### Liability

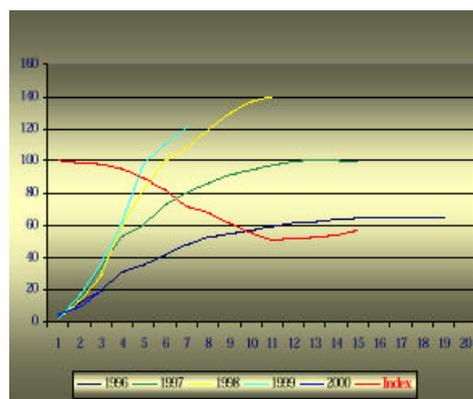
The chart below shows the decline in level of liability rating between 1993 and 2000 superimposed upon the Lloyds gross cargo account loss ratios for the years 1996-2000.



Underwriters have renewed their reinsurance policies and have found themselves having to pay substantially more premium and having to accept greater retentions for their reinsurance policies. This has had two main effects. The increased retention has led to the raising of premium in areas where underwriters consider there to be a regular chance of claim. The next is that capacity risks have seen a considerable rise due to (top end) reinsurance rates in many cases doubling. Underwriters are seeking to pay for this by charging their insureds rises of between 15 and 25%. These rises are being tempered by the marine liability market remaining profitable and marine reinsurers concentrating on marine liability insurance as being an attractive line of business in comparison with hull and cargo. Capacity in the London market remains stable at around \$1 billion. With up to two years still to run on the International Group Reinsurance which in premium terms represents up to 50% of most underwriters income the medium term outlook remains stable as well.

### Excess of Loss

The chart below shows the decline in level of liability rating between 1993 and 2000, superimposed upon the Lloyd gross liability account loss ratios for the years 1996-2000.



The complete withdrawal of low-level capacity has allowed reinsurers to impose very significant deductibles which, for the most part, are likely to remain as an absolute net - a sobering thought when this figure is now likely to be somewhere between USD 250,000 - USD 1,000,000 dependant on class. Further, the continued downturn in any sort of available margin has prompted the most severe rate increases seen since 1992, varying from a minimum 20% on clean 1st tier business to 30% - 100% on retro accounts. There have been few, if any, exceptions to this salutary process. For the direct carriers the phrase (underwriting for a gross profit) has now taken on a real meaning. The endless days of a

compliant XL market willing to offer virtual ground up cover at give away prices are well and truly over. For the foreseeable future, a reassured risk selection process now rather alarmingly impacts upon their own balance sheet and not on their reinsurance partners - for many this will be a novel experience. To manage this change and vote for survival, direct underwriters must be both particular in their client selection and more than just disciplined in the terms offered. The question is, can they do this in a market still brimming with capacity?

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# Global Reinsurance Highlight

## Gearing Up for 2002

### Standard & Poor

#### Introduction

As the world moves increasingly toward more transparent accounting practices, shareholders of reinsurance companies are beginning to realize they are getting a woefully low rate of return on investment. What, then, should reinsurers priorities be? Can they have it both ways? Clearly not, and the result could be that AAA reinsurance ratings will become increasingly untenable.

No longer able either to submerge operating results in the context of group membership or to benefit from parent companies support, reinsurance companies are now being seen as non-strategic (in effect, second-rate) investments. Most recently, Standard & Poor has seen this from European-based holding companies such as Winterthur, Groupama, and Mutual de Mans, which have largely disposed of their reinsurance divisions. Next might be the reinsurance units of the Zurich Financial Services Group or CNA Financial. Earlier this year, Zurich Financial announced its intention to de-merge Zurich Re in Switzerland, Zurich Ruckversicherung (Köln) AG, and Zurich Reinsurance (North America) Inc.

Marginal returns in good years and three years of underwriting losses have some multi-line insurers reconsidering their support for a line of business that does not behave in the steady growth mode demanded by global equity investors.

#### Global Reinsurance Begins to reap the benefits of a hardening market

Premiums written rose modestly (9%) in 2000 and set the stage for recovery from the soft market of the past decade. Some companies hit bottom in 2000, as the global reinsurance industry posted its worst result since Hurricane Andrew ripped across Florida in 1992. Although results in 2001 will not be the boon many had hoped for, rate increases continue across the board for reinsurers, with industry net premiums written expected to mount double-digit increases for the full year.

The change in market psychology is significant, and even the emerging fears of another round of asbestos-related charges will not derail the prospects for improving earnings over the next couple of years. Of course, the cost to the reinsurance industry has been high, as underwriting losses and reserve strengthening in 2000 recognized the soft market conditions of recent years. Weak pricing and adverse loss development on the 1997-1999 underwriting years threatened ratings as companies cannibalized strong balance sheets to shore up their positions. Standard & Poor outlook on the global reinsurance industry is improving though still negative, as still more reinsurers come to terms with the excesses of the past few years.

Unlike low points of the underwriting cycle over the past decade, catastrophe losses are not the principal cause of the industry woes today and, unlike then, the reinsurance industry is unlikely to see the three years of rate increases that property writers experienced following the catastrophe losses of a decade ago. In fact, one might point to increased property catastrophe rates in 1992 as sowing the seeds of the current down cycle. Market forces moved efficiently to provide reinsurance capacity as capital flowed into several start-up catastrophe reinsurers between 1992 and 1994, and catastrophe bonds became a reality a few years later. Proving the cycle is still alive, the extraordinary returns produced by catastrophe writers brought in more capacity, driving rates down once again.

Capital grew across the industry through 1998 as catastrophe losses remained a manageable factor and investment returns were strong for the remainder of the decade. Shareholder pressure to maximize returns on capital and competitive forces in general had reinsurers scrambling to maintain premium levels in a declining rate environment. In U.S. dollar terms, the global reinsurance industry net written premium was flat or declined over much of the last five years, while exposure frequently increased. The growth of pro rata covers, workers compensation carve out, and program business provided large premium volume to offset rate declines - but at substantially higher loss and expense costs, as demonstrated by the deterioration in the industry combined ratio.

The consequence of cheap capacity is perhaps best illustrated by the industry performance since 1997. Combined ratios were more than 113% globally and much worse in selected markets. Operating margins, as defined by return on revenue, have also been hard hit, with many reinsurers dipping into a fast-disappearing pool of long-term gains to offset large underwriting losses. In many cases, premium growth occurred at the expense of non proportional covers, as insurers took advantage of cheap reinsurance capacity. Despite the substantial advances made by underwriting tools, many primary insurers found it easier and cheaper in the late 1990s to reinsure the risk with proportional covers. The French and Danish storms at the end of 1999 and the proliferation of program business in the U.S. illustrated the difficulty reinsurers had in pricing this risk.

#### Difficult Times for casualty Reinsurance

Although the property cycle soared following Hurricane Andrew and the Northridge earthquake, casualty reinsurance has faced unrelenting downward pressure in the 1990s, with little relief. Casualty rates fell steadily from the peak set at the end of the 1980s, as some underwriters concluded that new policy forms and exclusions would better protect insurers. Loss development appeared to support some of these underwriters, as many companies justifiably took back into earnings casualty reserves that were favorably developing. Unfortunately, this favorable development helped to create a rising sense of infallibility by underwriters that even now is not fully addressed.

A series of court judgments in the late 1980s and early 1990s mandated an unprecedented reserve charge for exposures to asbestos and environmental exposures in 1995 and 1996. The good bank structure came to the insurance industry as Lloyd, CIGNA Corp., and then others created newly chartered entities to manage run-off exposures. Although environmental losses continue to perform at or better than expectations, the rise of a new class of asbestos claims is keeping the clouds on the horizon, as demonstrated by the mid-year reserve strengthening of Equitas Holdings Ltd. and CNA Financial Corp. Standard & Poor estimates that insurers will need to strengthen asbestos reserves another \$5 billion-\$10 billion in 2001

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to adequately address the rising risk of liability from manufacturers. Globally, reinsurers hold a substantial share of this exposure, providing a further drag on earnings over the next few years.

### **Calendar Year Versus Accident Year**

Beyond shareholders pressures for growth and insurers demand for cheaper coverage, the role of accounting decisions in the deteriorating industry results cannot be understated. Many factors led to the growing confidence of underwriting as quantitative techniques - from property catastrophe modeling to dynamic financial analysis - improved the ability of underwriters to assess risk. In fact, reinsurance industry underwriting performance (as measured by the combined ratio) and operating margins (as measured by return on revenue) improved from 1992 through 1997. Reserve strengthening in the mid 1990s allowed reinsurers to manage posted results as they took down redundant reserves in the latter half of the decade. However beneficial the reserve take-downs were for the bottom line, underwriters and their clients could point to these results and persuasively argue for additional rate cutting and contract changes.

The focus of many turned to the calendar-year combined ratio, which is more easily manipulated by accounting decisions. The more favorable calendar-year loss ratios obscured a steadily deteriorating accident-year combined ratio. By 2000, most reinsurers had exhausted their redundancies from prior years, causing a more dramatic effect on financial statements as reinsurers recognized the inadequate pricing over the 1997-1999 period with additional reserve strengthening.

### **Transition in the Global Reinsurance Industry**

Much has been made of the transition from proportional to non-proportional reinsurance in recent years. Standard & Poor believes this underlying trend is accelerating across Europe once again. Whereas proportional reinsurance was a strategic protection typical of many insurers in the past, it has now become more opportunistic, as it benefits from cheap reinsurance capacity.

Following the lead of the U.S., non-proportional reinsurance first took hold in the U.K., the Nordic region, and Benelux, whereas the rest of Europe retained a preference for proportional risk covers. This remains the case, but non proportional now features highly in France and Italy, too. Proportional business lives on most prominently in Germany, where the previously highly regulated motor insurance business protected the existence of large numbers of small insurers. In a recently deregulated market, German insurers are beginning to seek more excess-of-loss protection. This is a trend that Standard & Poor expects to continue as consolidation occurs. Some of the historically proportional relationships, which have often been highly profitable for the large continental reinsurers, are moving to new markets. Some insurers are even making the leap directly to alternative risk transfer-type protections. Proportional reinsurance still forms a strategic part of reinsurance protection in Central and Eastern Europe where companies are typically less well capitalized.

The more opportunistic approach to proportional protection is evident in the U.K., where non proportional protections have long featured most prominently in reinsurance programs. There has been rapid growth in proportional business in the U.K. over the last two years, as motor business rates have risen dramatically and therefore have stretched premium-based measures of capital adequacy. However, this does not represent a strategic shift, nor does it signal new long-term reinsurance relationships. Rather, it represents opportunism. These protections will disappear as quickly as they arrived as reinsurance capacity becomes scarcer.

One conundrum facing highly rated reinsurers is the pricing of their product. Ultimately, AAA rated reinsurers must achieve superior earnings, which requires that their customers pay AAA prices to support AAA capital bases. Unlike capital markets, which price transactions very precisely for all aspects of risk, this logical step eludes the reinsurance market. Unless this changes, sustainability of AAA ratings over the next five to 10 years will be challenging, as subpar financial results translate to weaker capital adequacy and financial flexibility.

The banking world has successfully navigated this transition. Where legions of AAA rated banks existed 15 years ago with ROEs of less than 10%, banks have aggressively cut costs, improved processes, and focused on more efficient utilization of capital. Today, only one bank - Rabobank Nederland - retains a AAA rating. The major global banks have learned to operate effectively with lower levels of financial strength, with A and BBB rated banks widely sought after.

Similar to the banking industry, much of the underlying business of reinsurers does not require AAA levels of protection. For example, proportional protection provided to motor insurers is not a particularly risky class of business, and it cannot be expected to generate AAA earnings over cycles. Similarly, insurers may consider AAA protection unnecessary for this short-tail class, particularly if the market were to price for the cost of credit quality. Swiss Reinsurance Co. seems to have recognized this by effectively retroceding its German motor underwriting risk to the capital markets for 2001. By this and a myriad of other means, reinsurers will ultimately be the major risk transformers in the industry future.

### **Outlook**

Not surprisingly, reinsurance capacity began to shrink in late 1999 as underwriting results led to real reductions in capital, and the number of active reinsurers declined by 18 to 197 in Standard & Poor 2001 Global Listing of Reinsurers.

Property/casualty reinsurance earnings proved that cyclical earnings could remain in the trough far longer than some shareholders could tolerate. Of note were the divestments made by primary insurers, Kemper Insurance Companies, Winterthur Swiss Insurance Co., Les Mutuelles du Mans Assurances IARD, and Caisse Centrale des Assurances Mutuelles Agricoles (GROUPAMA) as well as the proposed spin-off of CNA Reinsurance Co. Ltd. Large, multi-line institutions began to divest nonstrategic reinsurance operations in search of greater focus on their core businesses. Poor operating results and newly available nonstrategic operations created opportunity for consolidating companies, as ACE Ltd., PartnerRe Ltd., and XL Capital Ltd. all jumped in Standard & Poor rankings of the Top 25 Global Reinsurance Groups in 2000.

The reinsurance industry began to recover in 2001. Results are likely to be mixed, with most reinsurers demonstrating improvement. Significantly improved results will probably have to wait until next year, as further reserve strengthening and property losses will keep loss ratios high. Offsetting better underwriting results, investment returns are likely to be down, with some reinsurers posting losses on investments that will depress total returns. Rate improvements were strongest in the U.S.,

but the rest of the world has also responded to tightened underwriting terms, with further rate improvement likely into next year. Globally, Standard & Poor expects combined ratios to average about 108%, with operating margins still below appropriate return levels.

It is still too early to celebrate, but the cycle has clearly turned. Underwriting is making an impact, and better times should begin to roll, particularly if the rates hold through next January.

### Top 25 Reinsurance Groups Ranked by Net Reinsurance Premium Written

Rank	Company	Net Re	Adjusted	Loss Ratio		Expense ratio		Pretax Operation Income			Return on revenues	
		written	Share									
		Premiums	2000	2000	1999	2000	1999	2000	1999	change %	2000	1999
1	Munich Re Group	15,276.6	19,437.0	85.0	88.2	30.3	30.7	529.8	375.0	41.3	2.8	2.2
2	Swiss Re Group	14,478.8	14,139.4	88.0	85.0	29.0	31.0	-384.7	217.7	-276.7	-2.3	1.5
3	Berkshire Hathaway Re	8,574.7	40,140.0	94.8	94.7	16.8	22.7	N.A	1,177.8	N.A	N.A	13.4
4	Employers Re Group	7,924.0	6,025.0	84.4	77.8	31.4	34.1	-11.0	245.0	-104.5	-0.1	2.9
5	Hannover Re Group	4,994.3	1,481.5	85.8	71.1	20.8	24.8	116.4	113.1	2.9	2.1	2.4
6	Gerling Global Re Group	4,117.0	1,388.4	86.4	87.0	25.7	25.4	-43.6	-74.2	N.M	-1.0	-1.8
7	Lloyd	3,952.9	8,268.4	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
8	Allianz	3,726.5	53,414.1	76.0	74.4	32.9	33.0	185.7	250.0	-25.7	4.6	6.8
9	SCOR Re Group	2,809.8	1,267.4	88.0	80.7	32.0	29.0	71.6	128.5	-44.3	2.5	4.5
10	Zurich Re Group	2,485.0	1,541.6	83.1	82.6	22.6	21.9	42.8	276.7	-84.5	1.6	12.7
11	Transatlantic Holding Inc.	1,658.6	1,856.4	73.4	77.4	26.5	27.8	234.9	153.3	53.2	12.6	8.9
12	AXA Re Group	1,424.7	1,628.2	80.2	93.0	37.5	28.0	-51.6	10.8	-577.6	-3.1	0.9
13	PartnerRe Ltd.	1,380.3	2,086.0	70.2	77.1	32.3	32.7	161.3	66.9	141.3	10.2	4.1
14	St. Paul Re Group	1,251.5	7,178.0	79.2	69.3	34.8	31.2	N.A	N.A	N.A	N.A	N.A
15	Everest Re Group	1,218.9	1,583.4	75.3	72.0	27.6	31.5	230.9	213.3	8.2	15.6	16.1
16	XL Re. Group	1,022.2	5,573.7	74.3	65.6	35.9	36.0	213.5	N.A	N.A	16.8	N.A
17	Korean Re Co.	977.5	323.4	76.4	75.2	21.4	23.4	34.0	34.4	-1.2	3.4	4.2

18	CNA Re Group	951.0	8,387.0	81.6	84.9	27.3	31.5	89.0	-28.0	N.M	6.9	-2.1
19	Toa Re Co. Ltd.	942.4	2,204.0	69.4	74.8	N.A	37.0	25.8	-22.4	N.M	2.5	-2.1
20	Hartford Re Co.	825.9	5,668.0	77.1	74.5	31.7	32.7	N.A	N.A	N.A	N.A	N.A
21	Tokio Marine & Fire Insurance Co. Ltd	705.3	20,432.2	60.3	62.1	36.0	36.4	440.2	1,264.0	-65.2	3.1	7.1
22	Odyssey Re Group	701.3	957.9	73.9	75.5	36.9	35.9	57.0	74.8	-23.8	7.0	11.7
23	ACE Tempest Re Ltd.	699.1	1,281.6	49.0	69.2	33.0	24.4	156.4	57.2	173.4	23.6	28.4
24	Caisse Centrale de Reassurance S.A	694.9	1,131.4	75.6	98.7	12.5	22.5	178.6	-68.0	N.M	22.7	-8.6
25	Sirius International Insurance Group	599.1	849.7	80.0	N.A	23.0	N.A	67.6	125.0	-45.9	9.1	21.8
	<b>Total</b>	<b>83,392.1</b>	<b>208,243.7</b>	<b>84.7</b>	<b>83.3</b>	<b>27.4</b>	<b>29.4</b>	<b>2,344.6</b>	<b>4,590.9</b>	<b>-48.9</b>	<b>2.5</b>	<b>4.8</b>

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# 11th September, 2001

## Report by: Munich Re

### Description of the buildings

The two towers were 417 m (North Tower) and 415 m (South Tower) tall and had 110 storeys, thus surpassing the Empire State Building as the tallest building in New York.

The two towers measured more than 63 m along each side of their square footprint; together they accommodated more than 920,000 m<sup>2</sup> of office space. The first two of the six underground levels were used as shopping centres. Below them were two underground parking levels with space for 2,000 vehicles, while the two lowest levels were used as a station for two subways and a railway line.

The facade mirrored the strict verticality of the loadbearing structure with 60 external steel columns on each side of the building. For static reasons, these were closely spaced with a centre distance of just over one metre, with the result that from a distance the facade appeared to be without windows.

On the first three storeys the steel columns were combined in groups of three to form one stronger column, producing larger openings. The facing was curved to yield a more elegant portal form.

### Aircraft impact

On 11th September 2001, an American Airlines Boeing 767 flew right across the Manhattan peninsula at low altitude, heading southwards. The aircraft had a wingspan of almost 48 m, weighed approx. 180 tonnes, and had 92 passengers and crew on board. The aircraft had taken off in Boston shortly before and was hijacked en route to Los Angeles. At 8:45 it slammed into the North Tower of the WTC, between the 96th and 103rd floors. The impact was immediately followed by a major explosion, and the entire building was shrouded in black smoke. The steel columns of the facade were severed over a width of roughly 50 m. The heavy aircraft probably also severed a number of steel columns in the inner core. The aircraft had an almost full complement of fuel so that over 90,000 litres of kerosene poured into the interior of the building, ran down through the vertical elevator shafts to the storeys below and ignited.

A second Boeing 767 - operated by United Airlines - with 65 people on board was also hijacked en route from Boston to Los Angeles. This aircraft approached the WTC in a long drawn-out curve from the seaward side and struck the South Tower at an angle roughly between the 73rd and 77th floors at 9:03, little more than a quarter of an hour after the first impact. Whether by coincidence or through perfidious planning, the kerosene in the wing tanks was distributed over several storeys by the oblique impact of the 48-m-wide aircraft, thus accelerating the fire with fatal consequences.

A huge fireball on the outer facade and dense black smoke from the building interior heralded its imminent demise.

### Effects

It is no wonder that up to 50,000 people worked in the two towers every day and that the number of visitors could exceed 100,000 on peak days.

The number of parties affected by the attack is therefore high. Those directly affected include, in addition to the owners and lessees of the towers, above all the firms domiciled there: telecommunications companies, banks, insurance companies, brokers, hotels, and public authorities.

The interruption or even discontinuation of their business activities has led to considerable losses of rental value as well as loss of business income and extra expense.

However, as an indirect consequence, the collapse of the two towers following the outbreak of fire resulted in another 50 buildings being severely damaged or even collapsing in Manhattan, with its dense concentration of high rise buildings. This is not surprising, considering the dynamic force and energy released during the collapse of the two towers, the resultant pressure waves, and the masses of falling structural components and flying debris that were spread over the district.

The entire area of Lower Manhattan was closed off as a result of the catastrophe. Over 150,000 people lost their jobs temporarily or permanently because thousands of smaller businesses and offices were forced to close due to limited access. This in turn led to a breakdown of the entire infrastructure.

Bridge and tunnel operators are suffering from the loss of toll fees, whilst subways, ferries, and other public transport companies have had to suspend operations, and there are no passengers for the taxis.

### Underwriting issues

The following covers are usual on the US market and will very probably be affected in view of the losses described in the second section:

Property insurance covers for:

- Buildings and contents taken out by the owners and tenants of the buildings directly affected and of other destroyed or damaged buildings
  - Debris removal and clean-up costs on directly affected buildings and other destroyed or damaged buildings
  - Extra cost of reinstatement due to restrictions or requirements placed on reconstruction by the authorities
  - Possible increases in prices for construction services subsequent to the inception of the loss
  - Consequential .re losses, e.g. costs of cleaning undamaged buildings
- Covers for the financial consequences:
- Owners loss of rental value as well as loss of business income and/or extra expense of tenants of the buildings directly affected and of other destroyed and damaged buildings

- ❑ Dependency risks of policyholders not affected by the property damage
- ❑ Loss of business income due to prevention of access caused by actual damage or by action of civil or military authorities.

### **Property insurance aspects**

The overall economic burden arising from the property losses and costs affecting the WTC and the insureds in the neighboring buildings is estimated at some US\$ 10bn to 12bn.

### **Property loss**

Property insurance covers the destruction, damage, and loss of insured objects. The insurance cover generally extends to the cost of reinstatement or the new replacement value, i.e. the cost of replacing the building, the operating equipment, and all the supplies that are in the insured possession or that are in the insured safekeeping and for which the insured assumes the risk. This forms the basis of the sum insured, which defines and limits the amount of the insurer liability insofar as limits of indemnity have not been agreed upon. In the case of non-proportional insurance, a form of coverage quite customary in the USA, the insurer total liability is divided into several layers, for which sums are defined. When specifying the overall limit for high-rise buildings on a scale such as that of the WTC, the buildings total destruction was not considered a possibility in the past. In the case of the loss on 11th September 2001, the insurers and reinsurers liability under each policy is therefore likely to be limited. There are already speculations in the press that the sums to be paid out by the insurers may not suffice to cover the costs of the restoration.

### **Insured perils and exclusions**

When defining the scope of cover in property insurance, regardless of whether named-perils or all-risks policies are concerned, no consideration is given to the cause that brings about the realization of the insured peril and the occurrence of the damage. For this reason, political risks, especially terrorism, are excluded only if a corresponding exclusion of such causes has been agreed upon in the contract or if there are corresponding statutory provisions regarding the exclusion of such causes. Both all-risks and named-perils policies not only cover the risks of fire and explosion but also generally include so-called cold damage caused by the impact of manned or unmanned aircraft. In view of current underwriting practices in the USA, terrorism is unlikely to be excluded in many of the primary insurance policies covering the WTC and the aggrieved parties in the surrounding area.

### **Business interruption aspects**

Experts believe that the BI losses generated by the event on 11th September 2001 will ultimately far exceed the sum of all the property losses. Local investment bankers, for instance, are not alone in fearing the highest accumulated BI loss in history. What are the facts and assumptions behind these fears?

When assessing the BI risk, American risk managers and insurers primarily consider the probable duration of the interruption and essentially evaluate the necessary cover on the basis of the period required for the restoration of the premises or for the economic rehabilitation of the business. In the case of the WTC, it is impossible at present to forecast the duration of the interruption. On the basis of this time element, i.e. from the date of damage and destruction to the time of restoration, lessors of the facilities affected could assume a maximum loss in respect of their lost income from rents, a sum which, in the sense of a full-value BI insurance in European practice, should be equivalent to the sum insured under standard BI insurance.

What forms of coverage and extensions of BI insurance may come into question in the broader connection of the catastrophe of 11th September 2001?

a) In the interest of the numerous owners of the buildings and all the infrastructure facilities directly or indirectly affected such as toll roads, bridges, tunnels, and subway stations, there are tailor-made policies on a non-proportional basis, as described above. This means that following the occurrence of an insured event, the cover under the overall insurance concept includes up to the limit of indemnity not only the various property losses and costs but also all conceivable exposures from the BI sphere with individual sub-limits and deductibles.

b) Given the roughly 1,200 businesses which had rented space in the entire WTC complex - encompassing seven buildings over an area of approx. 7 hectares - an inestimable number of claims under standard BI covers must be expected, which will generally be tied to the proviso of material damage insured under a combined commercial property policy. Indemnification will cover the actual loss of business income sustained due to the necessary suspension of operations during the period of restoration, which begins 72 hours after the time of the direct physical loss or damage. This coverage is frequently combined with extra expense insurance, which attaches immediately upon the occurrence of the loss or damage.

Bearing in mind the standing of the tenants involved, such as banks, investment companies, stockbrokers, and insurance brokers, the total claims for compensation under these policies are expected to be very high. Claims settlement is likely to be very difficult in this case due to the extensive destruction of and damage to operating areas, the loss of experienced employees, and the destruction of the business data which is crucial to the settlement of BI claims. Nevertheless, in the wake of the 1993 terrorist attack it is to be anticipated that these businesses have tried and tested disaster recovery plans at their disposal. It is also said that a number of major companies have already relocated to alternative offices in Manhattan and the surrounding area and have restored normal business processes. In other words, loss-minimizing expenditure and further extra expense must be expected in such cases. It will be particularly difficult to make a distinction between the insured loss of business income due to business interruption caused by damage to buildings and contents and the uninsured financial losses attributable to the closure of the New York Stock Exchange (NYSE) on Wall Street, the loss of key staff, and the adverse impact on the financial market following the terrorist attack and the already tense situation on the financial market prior it.

c) In the interest of all businesses in the vicinity of the WTC: extensions to include contingent time-element coverages with regard to business income from dependent properties in addition to covering the effects on the insured operations as a result of property damage caused by insured perils at the premises of direct and indirect suppliers, customers, and public utilities (electricity, gas, water, telecommunications), insurance protection also extends to, among other things, loss of business income and extra expense incurred through business interruption as a consequence of access to business premises being restricted due to the direct impact of an insured peril - in particular when such restrictions are imposed by the authorities. Such extensions of cover may also encompass the consequences of damage to or destruction of (attractive) facilities in the trading area of the insured business caused by an insured peril, thereby leading directly to a reduction in the insured business volume.

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In tailor-made BI covers offered by major insurance brokers, the scope of cover under the above-mentioned clauses is, as experience shows, more extensive than that provided by a corresponding product within the framework of standard policies, which, in terms of the coverage extensions mentioned above, generally refer only to the consequences of property damage caused directly by an insured event on the premises of the supplier, customer, or utilities, loss of customer attraction, etc. We have no information on the individual BI covers for the majority of the tenants in the World Trade Center. However, it is important to bear in mind the possibility that there will be many further liabilities for the insurers arising from the inclusion of the above-mentioned extensions in BI covers as part of the standard package policies for retailers and commercial, trading, and service enterprises in the vicinity of the WTC, which was entirely or at least partially closed to public traffic for a substantial period of time over an area of approximately five square miles.

#### **Calculation of the individual PML**

When calculating the .re PML, some insurers only consider the possibility of a plane crash or arson at several locations in special cases (e.g. when buildings are located on the approach path or in the vicinity of an airport). These were considered (possible), but certainly not (probable) events.

#### **Calculation of the accumulation PML**

The problem of accumulation losses had arisen primarily in connection with natural hazards, such as windstorm, earthquake, and flood. However, the terrorist attack on the (single) risk of the World Trade Center has demonstrated in a very dramatic way just how necessary it is to perform a worst-case accumulation analysis encompassing all the property and BI types of loss specified above as a consequence of terrorist acts. Given the numerous types of loss and damage indicated in the above-mentioned sections, it is clearly a difficult task to calculate a realistic accumulation of property and BI losses. Even if the building and contents damage incurred by the owner of the building directly affected and the owners of the neighboring buildings is conservatively assumed to be 100%, there are a number of other items for which such a calculation poses considerable difficulties.

#### **Summary**

Insurers and reinsurers have in the past already taken the incalculability and unpredictability of terrorism losses into account in their risk assessment considerations. However, such a widespread conflagration affecting so many buildings as a consequence of two skyscrapers collapsing after an organized and pinpointed attack by a whole group of terrorists using wide-bodied passenger jets with a full load of fuel had previously been considered highly unlikely - if indeed it had been contemplated at all. For this reason, the work involved in calculating an accumulation of property and BI losses on the scale described above for the purposes of risk assessment in the context of such terrorism loss scenarios was - from the economic point of view - totally out of proportion to the loss expectancy value. However, the reality and possible repeatability of these and similar acts have rendered obsolete the previous assessment of such a scenario as (highly improbable).