

## America Terrorist Attacks Could it be the largest insurable Catastrophe

Report by: - BBC

As insurers count the cost of the terrorist strikes in the US, the insurance giant Lloyds of London has cautioned it may be years before the total claims bill is known. Ten of the world largest insurance companies have now made preliminary estimates of their liabilities from the attacks, but the overall figure is still only guesswork. Financial experts say the air strikes on New York constitute the single most expensive man-made disaster in history.

Quantifying our involvement in terms of an exact total number is meaningless at this stage

Saxon Riley, Lloyd chairman Early estimates said the atrocities may leave insurers facing bills totalling \$15bn (Sterling Pound 10.2bn). But some experts estimate the final cost could be as high as \$25bn-30bn. Meaningless sums Insurance market Lloyd of London warned that any estimate of the total damage caused by the strikes was as yet difficult to estimate.

Lloyd chairman Saxon Riley said the attacks have (generated the most complex set of insurance liabilities and interdependencies the industry has ever seen).

Any attempt to quantify Lloyds involvement would be (meaningless at this stage), he said.

But he confirmed that Lloyds has a (substantial involvement) with the WTC as well as the two US airlines whose planes were hijacked for the attacks, American Airlines and United Airlines.

Early estimates are likely be inaccurate because damage to buildings may not come to light for months or years, a Lloyd spokesman added. After the 1994 California North Ridge earthquake, claims were still emerging two years later, he said.

Too hard to imagine There are still questions over the extent of insurance cover for the building and its tenants.

Since the World Trade Center has been attacked by terrorists before, in 1993, there are reports that many tenants may have clauses in their insurance contracts specifically ruling out a terrorist strike.

And according to a report in UK newspaper the Guardian, the owners of the World Trade Center twin towers did not have enough insurance to cover both of them.

### Top insurance disasters

- 1: Hurricane Andrew, 1992, \$19.7bn
- 2: Los Angeles earthquake, 1994, \$16.3bn
- 3: Cyclone Mireille, 1991, \$7.14bn
- 4: Storm Daria, 1990, \$6.05bn
- 5: Storms Lothar and Martin, 1999, \$6.00bn

(The possibility of the loss of both structures was seen as so remote that cover was not taken out on those lines,) a spokesman for the US Insurance Information Institute told the paper.

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HORUS Newsletter been prepared and Edited By

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The Port Authority of New York, which built the towers and leased them to a private company earlier this year, denied the reports, insisting in a statement that its insurance was sufficient to cover the damage.

Costs to insurers

Insurers that believe they will be picking up part of the tab for the human and economic costs caused by Tuesday attacks include Berkshire Hathaway, controlled by US investment guru Warren Buffett.

Insurers claims estimates (in order of magnitude)

Swiss Re: \$1bn

Munich Re: 1bn euros (\$900m)

AIG: \$500m

Allianz: 700m euros (\$636m)

Zurich Financial: \$400m

Axa: \$300m-400m

Scor: \$150m-200m

Chubb: \$100m-200m

CGNU Sterling Pound35m (\$51m)

Berkshire Hathaway: 3-5% of total loss

Lloyd: substantial

Berkshire Hathaway, which owns General Re, the largest US reinsurer, said it expects to incur between 3% and 5% of the industry losses.

Fellow US insurance giant AIG later estimated its losses at \$500m, and Chubb said the attacks will mean a pre-tax cost of \$100m-200m from its exposure to property insurance alone.

International insurers have also been hit.

German group Allianz said that the attacks will (significantly) hurt its full year profits, forecasting claims of 700m euros (\$633m), while France Axa forecast liabilities of \$300m-400m.

UK-based group CGNU said a review of its worldwide liabilities has led to an initial estimate of STG 35m in costs.

The American Council of Life Insurers, said that - while it does not yet know how many policyholders have died - it expects (a large volume of claims) and is preparing to pay them out swiftly.

The council members account for three-quarters of the US insurance market.

Some weaker reinsurance firms may be put out of business by the level of claims following the attacks, analysts told the Financial Times.

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# Art Of Project Finance

## Partner Re

### Introduction

For some time, project finance has been associated with emerging markets and the Asian economic expansion, but this was stalled by the financial crisis in the second half of the nineties and has restricted much of the activity to refinancing and restructuring existing projects rather than new projects. However, the fast growing European markets as well as strong markets in the U. S. and Australia have compensated for this stagnating growth.

The advent of the global economy has brought tighter fiscal policies, creating pressure on governments to limit public infrastructure spending. Consequently there has been a shift to private funds and more innovative means of financing these projects.

### Definition

Project finance technique can be defined as follows:

Financing a particular economic unit in which a lender is satisfied to initially look at the cash flow and earnings of the economic unit as a source of funds from which a loan will be repaid and at the assets of the economic unit as collateral for the loan.

For example, an economic unit can be a project in one of the following sectors:

#### *Energy*

- ◆ Utilities (i. e. combined cycle power plants, etc.)
- ◆ Power transmission lines
- ◆ Oil & gas (i.e. exploration, refinery. petrochemical plants, etc.)

#### *Transport*

- ◆ Highways. tunnels, bridges
- ◆ Harbors

#### *Telecommunication*

- ◆ Telephone installations (i.e. fixed installations, mobile phone nets)
- ◆ Satellites

### Common Characteristics

The majority of these examples are in the infrastructure sector, typically producing a product or rendering a service, which is in high demand, situated in a regulated market with an established and controllable price mechanism. The projects normally reach the investment volume of several hundred million of U.S. Dollars.

The other features are the lack of payment guarantee or product guarantee from third parties. such as governments, multilaterals or banks. In short, the projects have to finance themselves. i.e. the loans have to be repaid by the sales income of the products or the services rendered.

The projects are supported by various Parties under limited or non-recourse amongst each other.

### Main Parties

#### **Sponsor**

Normally, the sponsor is also the initiator of the project. It is from his idea (from an investors' viewpoint) or from a specific need (law material, electricity, etc.) that a project is developed, the feasibility studies launched and the negotiations with governments and other interested parties are driven during the initial stage. The sponsor invests in the project in form of equity and sometimes additionally participates with subordinated debt. The sponsor normally stays with the project for its entire lifetime.

#### *Governments*

Governments provide the necessary licenses, authorizations and/or concession agreements

#### *Project Company*

This is the company established for the single purpose of the project, commonly called Special Purpose Company (SPC). This company is the owner of the project and signs the various contractual agreements as defined hereafter.

#### *Contractor*

Typically, an international public bidding procedure elects the main contractor. Its function is to deliver the project in time, at a given price and at a fixed output or guaranteed service. the contractor acts on a turnkey basis and co-ordinates with the numerous suppliers and sub-suppliers. It is normally the supplier of the key items of the project. During the construction phase it is, in many cases, also an investor in the project.

### *Export Credit Agencies*

Export credit agencies (ECA) support the contractor with the respective supply countries by granting special covers against political risks (war, expropriation, transfer risks, etc.) and in certain countries also participate in the financing schemes.

### *Lenders*

Lenders, mainly banks, lend to the Special Purpose Company on the merit of the financial diagnostics (cash flow projections), by granting medium- to long-term credits.

### *Insurers and Reinsurers*

Insurers establish insurance policies for a variety of risks, which normally exceed normal project needs as shown below. Depending on the size of a single project, a number of reinsurers will participate in the risk.

### *Operator*

Once the construction is completed, the operation and maintenance of the project is carried out by the operator for a given period of time or even until the end of lifetime of the project.

### *Purchasers*

Purchasers will buy the products either on long-term basis (i.e. electricity) or by utilizing the project infrastructure like roads, tunnels etc. (i.e. by paying a toll).

### **Methods of Financing**

Depending on the size of the project, its location, length of construction period and expected lifetime, various methods of financing can apply. The initial payment! Investment is normally carried out by the sponsor, who has to contribute up to 30% of the total project value. The remaining amounts might come from multilateral investment banks.

The terms and conditions of the financing institutes rely heavily on the projected cash flow and earnings of the future project. The higher the risk and the longer the commitment period, the more the overall costs of the loans will increase. The credit duration embraces the total period of construction plus a repayment period of up to 10 years. Occasionally, the multilateral credit agencies go beyond this duration for certain projects. During construction, the interest will be capitalized until hand-over of the project to the Special Purpose Company. Reimbursement of the principal, together with interest, starts normally thereafter on a half-yearly basis. For certain projects, a grace period of 12 up to 24 months can be agreed to allow the Special Purpose Company to generate sufficient reserves and funds for spares, maintenance and start-up costs.

In view of the sponsor assuming high risks, particularly in the initial phase of the project, remuneration in form of dividends etc. is high and the return on equity can reach 15 to 25% or more per annum.

### **Insurance and Reinsurance Developments**

Various feasibility studies are drawn up by sponsor, banks, contractors, etc. in order to check the viability of the project. The project will only start if all parties agree on an acceptable final version.

At this stage only, the contractor will start the design phase involving all the sub-contractors. As in project-financed business, only proven technology can be accepted and therefore, this phase is relatively short. The design has to be approved by the Project Company and manufacturing then starts lasting 12 or more months according to the project size. Transport, storage to the site is effected with the appropriate means of transportation. During the construction/erection phase the various parts are assembled

agreed output, capacity etc. The testing is the most critical phase as all the various components for the first time work together and has to prove efficacy. After successful testing the Provisional Acceptance Certificate (PAC) will be signed by the contractor and the Special Purpose Company. At this moment only, the SPC takes over the project for the operation phase.

Each of the project cycles has its specific risks for which the insurance companies, with support from their reinsurers, offer single policies for the specific purpose and duration for traditional projects.

In the past, Special Purpose Companies and lenders faced numerous problems arising from the variety of covers/policy wordings and different underwriting philosophies of the numerous insurance companies involved. Many of the projects have overlapping periods, suffer delays in start-up etc. which could suddenly mean that the project is deprived of cover. A more flexible and reliable instrument was in high demand and this was heavily advocated by lenders in particular to safeguard their interests.

It was at this time that the Advanced Project Insurance Policy was developed, covering the project during its entire phase from design to construction/testing up to operation under a single project policy, thus avoiding loopholes in the cover and the cover periods and moreover, granting reliable and long-standing insurance cover for up to five years as from inception date. Since the premium is fixed at the issuance of the policy, a fixed calculation of the cost involved is another advantage. After the initial period of five years, the policy conditions are renegotiated. It is the aim of the insurance/reinsurance companies to stay with the project at least until all the loans are reimbursed.

## Changing Onshore energy Market

By: - GE Frankona

The onshore energy market has suffered a soft cycle over the last three years that is unprecedented in its severity. On a worldwide basis premium income levels for onshore energy are approximately 40% of the overall losses, verified by recent underwriting results. The current participants are in the majority

Embracing the hardening market as the lost messiah. A dramatic statement, maybe, but the number of underwriters looking for another challenge verifies the traumas many companies and Lloyd syndicates have experienced.

<b>Losses</b>	<b>US\$ Mio</b>
Flixborough (1974)	161.0 (pd)
Pasadena (1989)	1200 (pd/bi)
La Mede (1992)	400 (pd/bi)
Pemex (1996)	156.0 (pd)
Pascagoula(1998)	275.0 (pd/bi)
Tupras (1999)	75.0 (pd)
Tosco (1999)	100.0 (pd/bi)
Richmond (1999)	240.0 (pd/bi)
Kuwait (2000)	400 (pd)

The above losses include only those above US\$ 100 mio and specifically oil and gas/petrochemical accounts. Current energy portfolios underwritten may have a much wider spread than this and can include oil & gas, petrochemical, chemical, utilities, construction, mining and other associated accounts requiring underwriting and engineering expertise.

## Key dates in the developing Energy Market

### 1970

In the early days of the 1970 the belief that to underwrite onshore energy successfully required investment in specific underwriting skills and often supporting engineering capability, initially restricted the available insurance capacity. As experience grew in the calculation of Estimated Maximum Losses (EML) from top events such as Vapour Cloud Explosions (VCE) there was an increasing confidence in the quantitative exposures of energy accounts and companies were prepared to put capacity behind this growing market. Further, the assessment of the management systems such as maintenance, inspection, operations, safety together with the more traditional fixed fire protections provided a more accurate qualitative assessment of the risks being insured.

Inevitably as the onshore energy market developed in providing risk transfer to clients it became more evident that the premiums being charged were higher than in many other non-marine property classes, attracting additional underwriting capacity to trade in energy business.

In 1971 an alternative capacity to the subscription market was provided by OIL, Oil Insurance Ltd. This mutual market with its initial membership of 16 oil and gas companies, now has 48 members. The product provides coverage for property, including machinery breakdown, but currently excludes any business interruption coverage.

As of December 2000 the maximum per occurrence limit has risen to US\$ 250 mio, with the catastrophic aggregation limit increasing to US\$1.0 bio. The latter represents the maximum amount of funds OIL will pay out in a common occurrence involving multiple policyholders.

### 1979-1989

During this period there were some fundamental changes in the structure of the oil and gas industry which would inevitably expose the insurance markets to greater risks.

The economics involved in refining, the petrochemical industry and the fluctuation in crude oil prices, demanded a re-engineering of the scale of the plants being constructed. Larger single-stream plants were built to replace the smaller unprofitable plants. The concentration of property values rose proportionately with the increased capacity of the plants. The savings made in the layout of these plants were later identified as a poor risk feature.

Congestion and confinement increased the damage resulting from a VCE.

The business interruption exposures also increased as plant profit margins grew. The loss of a critical unit or machine in a single stream plant could have resulted in a disproportionately higher business interruption loss compared with the property loss.

1989 saw the largest combined energy loss of US\$ 1.2 bio. Experienced in the onshore energy market to-date, as a result of a VCE in a polypropylene plant in Texas reemphasizing the catastrophic nature of the class.

The La Mede loss of 1992, as a result of a VCE on a refinery in France, produced a loss of US\$ 400 mio and exposed a number of marine portfolios to a major onshore loss.

Subsequent to this loss there was a dramatic withdrawal of capacity as reinsurers excluded refineries from their treaties. A direct result of this was a hardening cycle, which lasted from 1993 to 1996. The high profitability from this cycle and lack of major losses attracted capital back into the market.

In the early 1990 the whole onshore energy capacity was approximately US \$ 1.0 bio. Currently the capacity stands at a nameplate (i.e. capacity theoretically available rather than that actually utilized) basis of approximately US\$ 4.0 bio.

Coverage traditionally provided on a named peril basis widened to include machinery breakdown, business interruption on an All risks basis. Tailoring the insurance product to the client became the buzzword.

Mergers and acquisitions in both the insurance world and the energy markets provided a stronger capital base able to withstand greater losses and more focused buyers.

Inevitably this resulted in increased competition and an overall reduction in premium. From 1995 onwards, a major investment by the assured in improving risk quality, was made as a direct result of implementation of requirements such as Process Safety Management, resulting in further reduction in premiums.

During 1998 -1999, the market place was providing the most competitive terms to their clients with wider coverage and also on a long-term basis. The merger of brokers in the markets provided the client with less choice of who to use as their intermediary and encouraged broking houses to use their leverage particularly with the major underwriting capacity in the market.

The majority of quota share onshore energy underwriters had traditionally underwritten onshore energy business on a portfolio basis. Predicting a small number of catastrophic losses paid by a large number of premiums. With the mergers in the insurance industry including the broking community, many underwriting houses had at least 40-50% of their main business with one broking house, a difficult position to trade from. It should be emphasized at this point that the drive by management and treaty reinsurers for premium income hardly discouraged the underwriters involved from not writing business on this basis.

The bubble truly burst in 1999. The loss characteristics of the account changed - although the large vertical losses did not occur, attritional losses below US\$ 20 Mio. Increased dramatically. In addition natural catastrophe losses from earthquakes and windstorms were experienced.

The Turkish earthquake of 1999 resulted in a loss of US\$ 75 mio. There had been no significant earthquake losses to energy risks prior to this. By the end of the year an approximate assessment identified a worldwide onshore energy premium of US\$ 900 Mio, losses of US\$ 2.4 bio and capacity of US\$ 5.0 bio. To compound the problem underwriters were also committed by this stage to many long-term contracts. The result being that onshore energy books were left with approximately 30% of the premium they required for an average loss year, too wide coverage and inadequate attachment points.

In April 2000, the largest loss since 1992 occurred at a refinery in Kuwait of US\$ 400 mio (property only). This client had always been considered a good risk in the energy market, highlighting the high inherent hazards associated with this class.

The 2000 underwriting year of account saw an increasing hardening of the market.

Rates/premiums have been increased by approximately 50% over the onshore energy portfolio allowing for the dramatic increases for poor performers of up to 300% of previous rates. Reductions and loss history over the last 3 years indicate that this incremental change will have to double or triple in many cases.

All terms and conditions within any one deal are now being re-addressed including, deductibles, period, discounts, premium payment warranties, Average, claims control & extent of coverage including sub-limits.

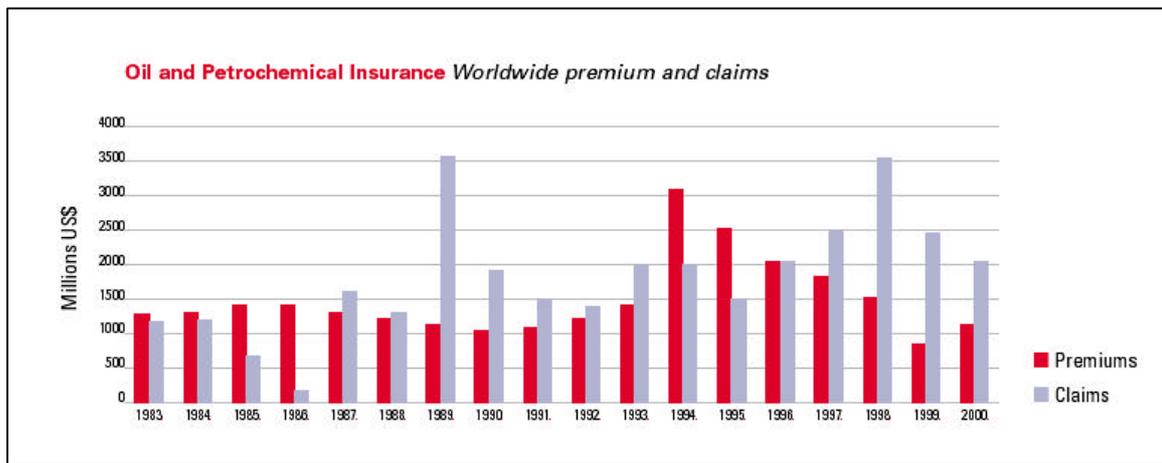
Policy wordings are being re-drafted in the light of poor loss experience and poor underwriting. Period of the contract is vital as now a maximum period of 12 months provides the insurer with the very real opportunity of re-negotiation on the back of poor loss experience.

Deductibles are an area that needed specific attention. Typically during a soft cycle one of the main features which allows carriers to reduce their prices and attachment points is the reinsurance they are able to buy. Primary reinsurance markets available in the period 1996-1999 have all but vanished. Attritional losses need to be eradicated from this book of business. Deductible levels of US\$ 250 -500,000 and 30 days are now commonplace whereas less than 12 months ago the same account would have US\$ 50K

and 10 (or less) days as their main programme deductibles.

Partial losses have been addressed, where a waiting period on an actual loss sustained form will not reduce the loss, a minimum US\$ amount is being stipulated.

The other variables that have had a major impact include availability of cheaper reinsurance both treaty and facultative. This has provided the leverage for underwriters to widen their portfolios to accommodate vertically integrated energy companies who have diversified to increase their margins particularly when oil prices were low and when the refining and petrochemical industries were experiencing hard times. The inclusion of the utility industry into the energy book has been a natural progression, as more clients require coverage either for co-gen units ancillary to their main occupancy or as an addition to their programme as they see an opportunity to expand in this area. The deregulation of the services industries in most western countries has encouraged this move.



**Conclusion**

The basic economics of supply and demand are controlling the market place at the present time. It is a difficult time for both the insurance carriers and their clients who have in many cases had long relationships. The risk transfer process is obviously under scrutiny as the sharp swing in prices pressurises the client to analyze whether insurance is their best opportunity, budgets and profit being the same for clients and insurers. There are alternative markets, such as OIL who are intending to include utilities as part of their membership and other alternative risk transfer products currently available or being developed. The reunderwriting process required may inevitably force some clients to look elsewhere for their risk transfer product and there is a definite risk of throwing the baby out with the bath water.

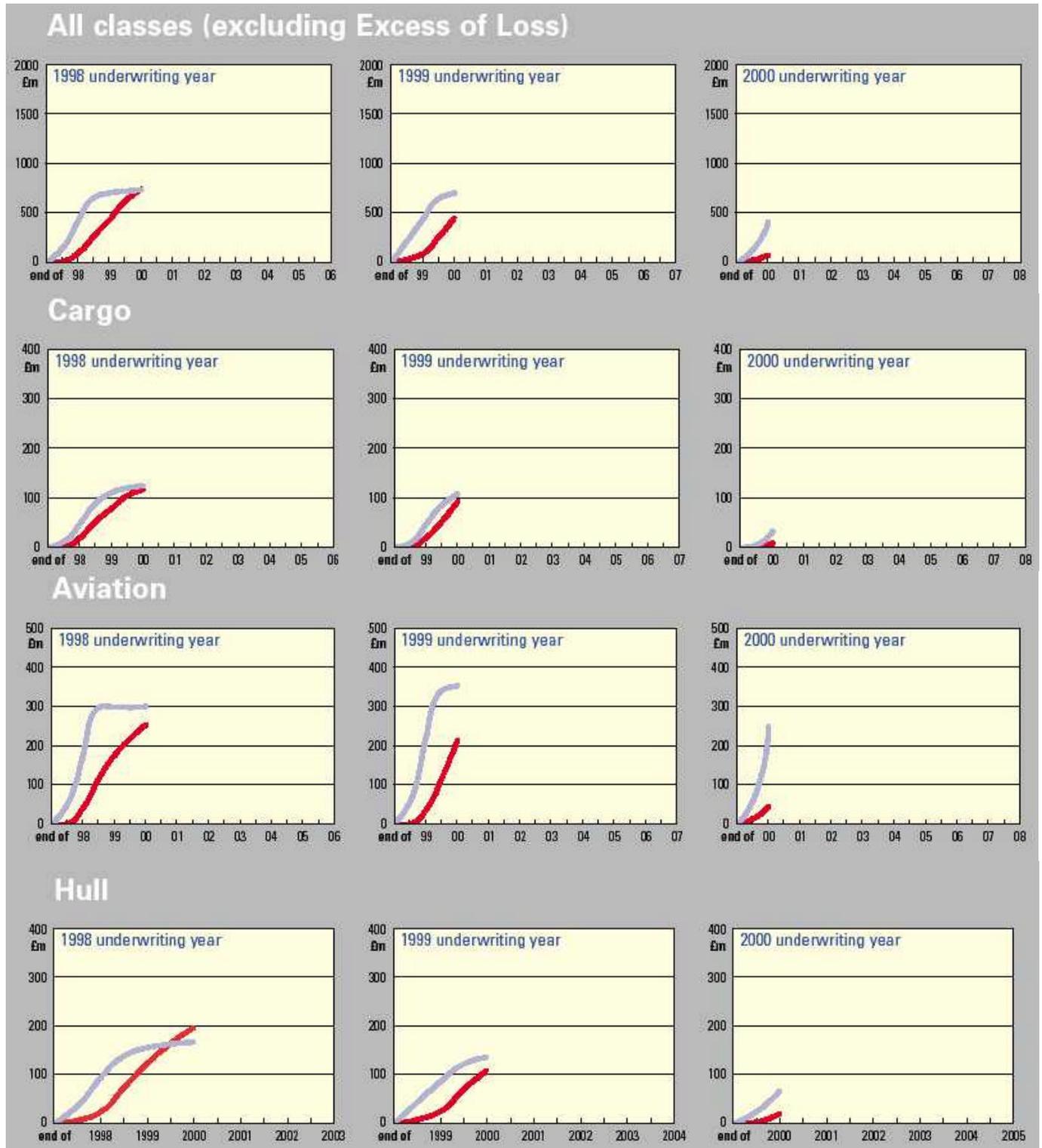
Security of the insurance carrier should be emphasised within the process as the inevitable defaults increase. Expertise in both broking and underwriting this class of business is a necessity as the market hardens. The cyclical nature of the energy market is difficult to justify but easy to identify in hindsight.

# International Underwriting Association of London (IUA)

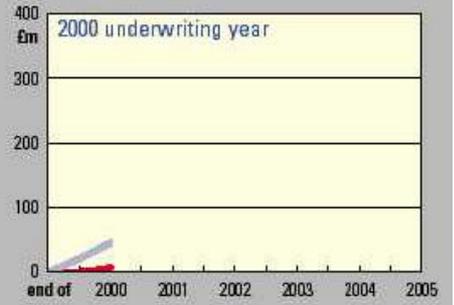
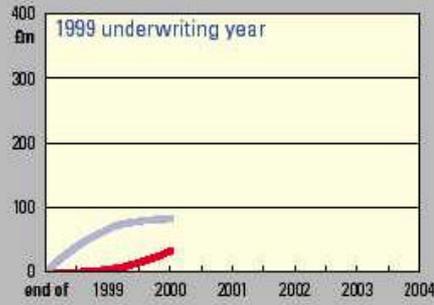
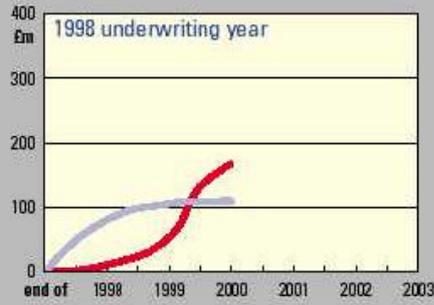
## Underwriting results for the years 1998-2000

The attached underwriting statistics for 1998-2000 produced by the International Underwriting Association of London (IUA) show premiums received and claims paid, as at 31 December 2000 by members of the IUA using the London Processing Centre (LPC) marine and aviation coding system.

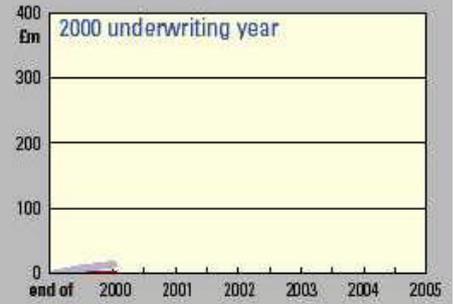
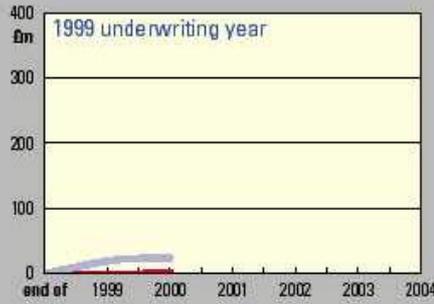
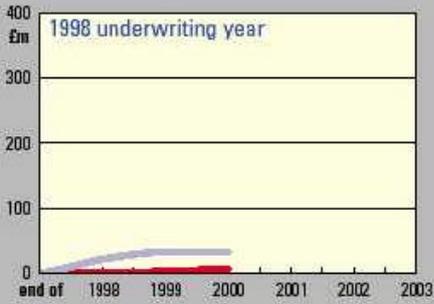
The premiums are net of commission and brokerage. Excess of Loss business is shown in the underwriting year statistics, however, it is not included in the All Classes data as this would represent duplication of the market premium. Excess of loss business is included as usual in revenue data.



## Energy



## Liability



MAT business written by IUA members by underwriting year since 1992.

The charts show how premiums and claims have been generated from each year's insurance contracts.

 premiums  
 claims  
 (figures in £m)