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WILLIS AEROSPACE

AVIATION PRODUCTS MARKET REVIEW 2010

Willis



WILLIS AEROSPACE

AVIATION PRODUCTS MARKET REVIEW 2010

Executive Summary	3
Introduction	7
Aviation Industry Review	9
Aviation Market Analysis and Capacity	13
Underwriting Aviation Manufacturers Risks	13
Market Segment Analysis	17
Index Premium and Loss Development	27
Forecast for 2010	31
Managing Natural Catastrophes	33

**"AVIATION IS PROOF THAT GIVEN,
THE WILL, WE HAVE THE CAPACITY
TO ACHIEVE THE IMPOSSIBLE. "**

EDDIE RICKENBACKER (1890-1973)



EXECUTIVE SUMMARY

**“CHALLENGING TIMES REQUIRE
A BOLD, DYNAMIC AND
DIFFERENT RESPONSE”**

We are privileged to present you with our 7th Aviation Products Market Review and are confident you will find the various subjects and supporting commentary of great interest.

Andre Clerc
Chairman, Willis Aerospace
Direct Tel: +44 20 3124 8579
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CHALLENGING TIMES REQUIRE A BOLD, DYNAMIC AND DIFFERENT RESPONSE.

Do we dare to be different?

At Willis Aerospace, we feel it is extremely important to continue offering to clients the only review dedicated 100% to the issues and concerns of the aviation manufacturers community.

Consequently, we are honoured to present to you our 7th Aviation Products Market Review.

During the last 12 months, we have witnessed some very difficult circumstances. Over 20 airline operators ceased operations plus a number of others have sought financial support from their governments. Compounding these challenges, passenger revenues fell and airline insurance premium increased.

Aircraft manufacturer clients also saw the impact of the global economic climate with reduced/deferred aircraft deliveries and postponed/cancelled aircraft orders.

“Stabilisation” and “flexibility” are two words we heard often from aircraft manufacturers.

EFFECTS OF DELAYED RECESSION ON MANUFACTURERS

But, how were things for aviation insurers during 2009?

Regrettably, 2009 produced over USD 2.3 billion of airline losses which (excluding 9/11) was the worst year on record. Notwithstanding this difficult position, airline insurers were only able to achieve a 20% increase in premium volume which was largely due to the availability of competitive capacity.

However, even with the increased premium levels, there still remains a negative premium credit balance of USD 400 million for the year end 2009.

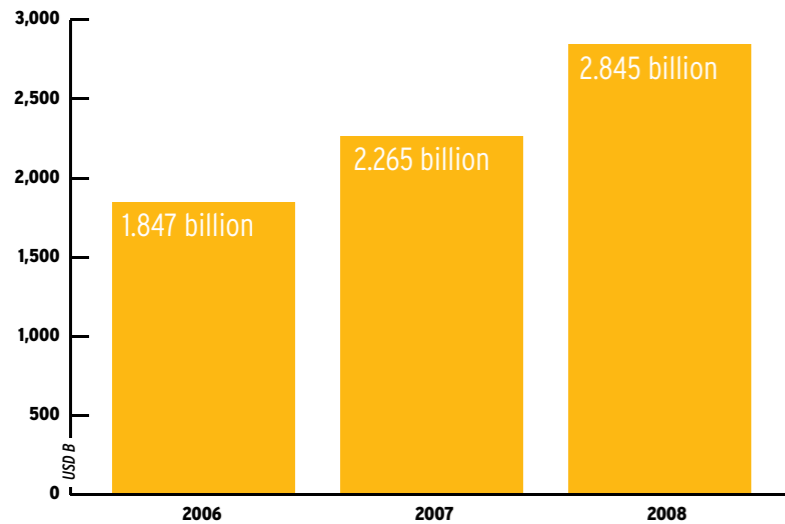
From an aerospace or more specifically, an aviation manufacturers point of view, 2009 was quite different for insurers.

There were some good reasons to be optimistic for insurers of aviation products policies:

- 2009 was one of the safest years on record with a fatal accident rate of one per 1.5 million flights compared to the 1990's average of one per 700,000 flights.
- Total number of reported deaths for 2009 was 732 compared to the 1990's average of 1,128 or in percentage terms, a 35% reduction.

MOST IMPORTANTLY, THE AVIATION MANUFACTURERS PREMIUM CREDIT BALANCE CONTINUED TO INCREASE AND NOW EQUATES TO USD 2.8 BILLION IN FAVOUR OF INSURERS.

GREEN YR PLUS DEVELOPING SEVEN YEAR INCURRED PREMIUM CREDIT BALANCE TO MARKET



Its interesting to note that in calculating this positive balance, we used estimated nett premiums against incurred claims, when **in reality there is a further USD 1.2 billion of credit being held by insurers** for outstanding loss reserves.

Some aviation insurers will however argue that 2009 is immature/green with two 'notable' incidents still a long way to achieving final resolution from a product liability standpoint.

This may be a valid comment, however, when we consider the positive premium credit balance insurers have of USD 2.8 billion, Willis Aerospace is of the firm opinion that unless these notable losses ultimately exceed record breaking amounts against the manufacturers, they will have little or no impact on the profitability of manufacturers sector.

HOW WILL THE 2009 NEGATIVE PREMIUM CREDIT BALANCE OF THE 'AIRLINE' SECTOR EFFECT 2010 BUSINESS PLANS AND ACTUARIAL RATING MODELS OF AVIATION INSURERS?

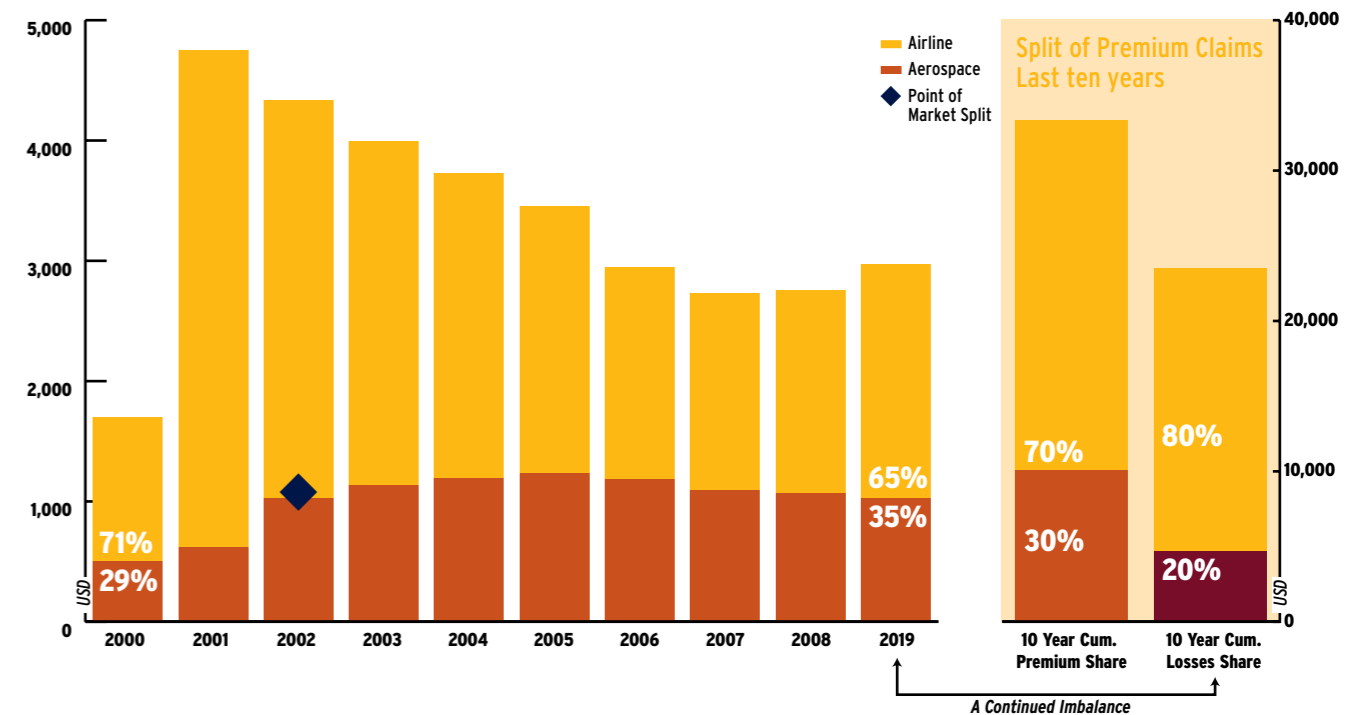
We all hear insurers tell us that they are becoming more advanced each year in their analysis of the aviation insurance sector. This superior analysis is coupled with a firm desire to achieve a better and quicker return on the investment made by their capital providers.

Historically, the aviation manufacturers sector has been seen as a long term business considering the nature of the risks involved and the length of time claims can take to finalise. So how are aviation underwriters allocating (between the various aviation sectors) their responsibility of a quicker return on their capital providers investment within their rating models?

It is our collective duty, you as the clients who ultimately "pay everyone's bills" supported in partnership by the Products Practice Specialism of Willis Aerospace, to remind insurers of the following:

- The aviation manufacturers sector has made a significant contribution to the financial viability of the overall aviation insurance market.
- The exceptional quality of products and services the aviation manufacturers client base provide to the aviation industry continues to drive the safety record of the industry as a whole and this contribution needs continuous recognition and reward within the actuarial rating models of aviation insurers.
- Aviation insurers must not forget 'their' conscious decision at the end of 2002 when they split the historical rating structure of aviation risks continued to apply premium increases to manufacturers business whilst proceeding to offer reductions to other aviation sectors.
- The clear fact remains that the manufacturers/aerospace client base has generated only 20% of the total aviation market losses BUT in 2009, the manufacturers/aerospace clients are still paying 35% of the total market premium!
- Finally, Willis Aerospace has publically written about the "surplus" of A rated insurer capacity and we would urge all manufacturers/aerospace clients to utilise this benefit in the same way as your airline operators partners – **you do have a choice!**

AVIATION MARKET PREMIUM DISTRIBUTION



Airline premiums exclude Xs AVN52 premiums



INTRODUCTION

“WE WELCOME COMMENTARY FROM MUNICH RE ON THEIR UNDERWRITING METHODOLOGY OF MANUFACTURERS RISKS.”

Willis Aerospace is delighted to continue our core theme of providing a comprehensive review, from 2000 onwards, of the individual business sectors within the aviation manufacturers portfolio as held within our market leading analysis tool, the Index.

Supplementing the Index analysis, we have also incorporated some subjects matters which we felt would be of interest and benefit to the aviation manufacturers client base reading this review.

To summarise, our subjects in this years review are:

AN AVIATION INDUSTRY REVIEW

Our continued analysis of aircraft deliveries, number of incidents/fatalities ‘vs.’ passenger/fleet growth and the effect of the global recession on the aircraft manufacturing industry during 2009.

AVIATION MARKET ANALYSIS & CAPACITY

An aviation insurance market update together with an review of available capacity for aviation products liability risks from 2003 to 2010.

UNDERWRITING AVIATION MANUFACTURERS RISKS

We welcome commentary from Munich Re regarding the methodology behind their rating of aviation manufacturers risks.

MARKET SEGMENT ANALYSIS

Our annual review of how the individual manufacturing sectors have performed since 2000 along with an overall conclusion.

INDEX PREMIUM AND LOSS DEVELOPMENT

Continued assessment of major products liability loss development during the past year and the limited impact incidents of 2009 have had on the premium credit balance which continues to grow.

2010 FORECAST

Our views of what the 2010 aviation products insurance market may hold in store for clients.

MANAGING NATURAL CATASTROPHES

An introduction to the market leading natural catastrophe modelling and risk engineering services available from Willis.



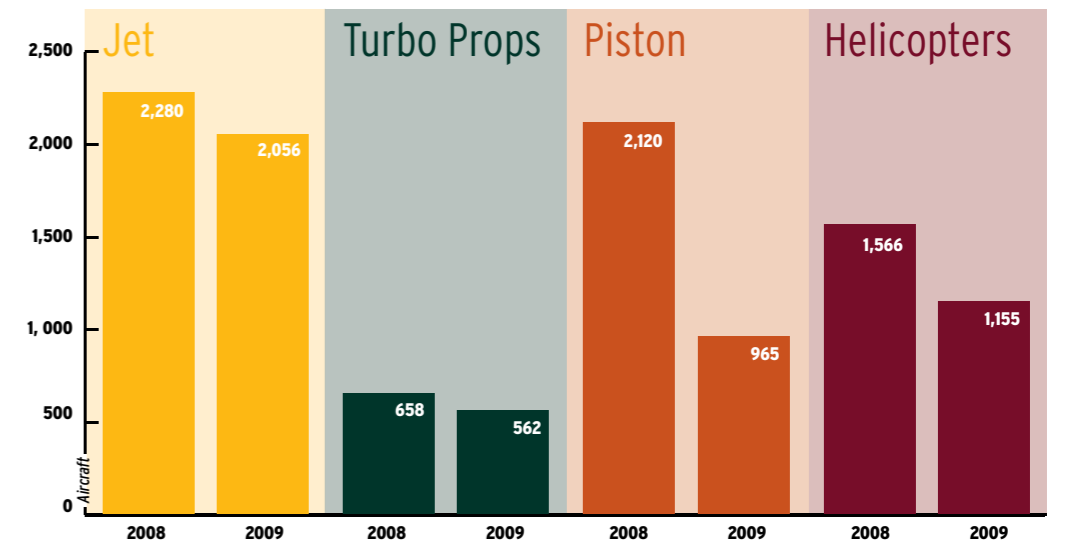
AVIATION INDUSTRY REVIEW

**"DESPITE THE ECONOMIC CLIMATE
THAT DEVELOPED DURING 2008,
COMMERCIAL AIRLINES OPERATIONS
CONTINUED TO RECORD GROWTH"**

2009 Estimated revenue sales (based on 2009 Willis Index insurance placements) of USD 438 billion, is a reduction of 3.2% or USD 14.3 billion compared with estimated sales for 2008. The physical reality of the recession is far worse.

A total of 4,738 western built aircraft (excluding military type/military use) were delivered during 2009. This is a reduction of 28.47% when compared with the 2008 total deliveries of 6,624.

AIRCRAFT DELIVERIES	2008 TOTALS	2009 TOTALS	% CHANGE
Jets	2,280	2,056	-9.82%
Turbo Props	658	562	-14.60%
Piston	2,120	965	-54.48%
Helicopters	1,566	1,155	-25.68%
Total	6,624	4,738	-28.47%



The recession has obviously hit manufacturers hard, however, deliveries to airlines of jet and turbo prop types remained fairly static reflecting airlines decision to accept, rather than to cancel or defer, ordered aircraft.

The market sectors that have felt the full force of the recession are the Executive/Industrial aid and the general aviation/recreational.

The Executive/Industrial aid market saw Jet aircraft deliveries decline by 25%, turbo- prop deliveries by over 27% and a massive 40% decline in helicopters deliveries. In total 550 fewer aircraft were delivered to this market sector during 2009 compared with 2008.

Manufacturers to the general aviation/recreational market base have suffered to an even greater degree. The number of fixed wing aircraft delivered during 2009 is fewer by 1,155 compared with 2008. Helicopter deliveries to this market base have also fallen by some 300 units.

Helicopter deliveries during 2009 record an overall decline of 411 units, entirely the result of the Executive/Industrial aid and the general aviation/recreational market sectors. The decline would have been greater but for the fact that deliveries to government agencies and other specific industry segments that require the unique operations capability provided by helicopters actually increased.

Despite the economic climate that developed during 2008, commercial airlines operations continued to record growth.

GROWTH	2008	2008	% +/-
Passengers	2.53bn	2.50 bn	-1.25%
Aircraft units	24,326	24,471	+1.71%
Landings	34,425m	34,670m	+0.42%

During 2009 31 Total losses of western built aircraft in airline service (operational and non-operational) recorded. This is a significant reduction compared with 2008 (63).

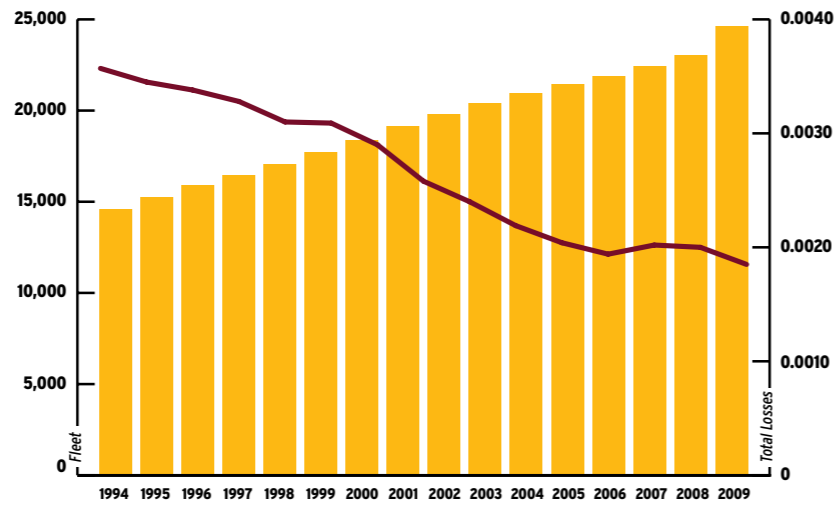
2009's recorded 31 total losses was the lowest number since 1990, our first comparison year, despite growth in both unit numbers and landings.

Sadly, however, 2009 recorded a total of 453 passenger fatalities, a slight rise when compared to 2008. Despite this 2009 continues the trend of reduction in passenger fatalities being 16% and 15% below the average of the past 10 and 5 years respectively.

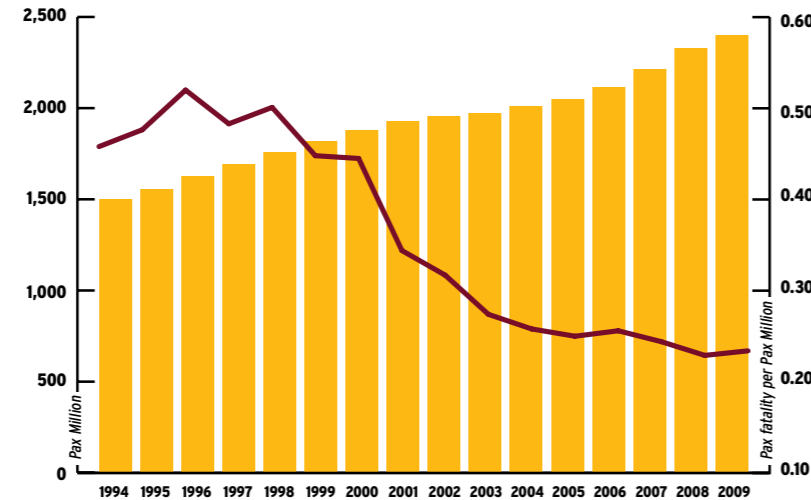
The results of 2009 are evidence of the safety of air travel enjoyed by passengers. It also reflects the successful and ongoing determination and actions of manufacturers, operators and regulatory authorities to improve further this impressive record.

The key for all parties is to maintain and continue to enhance the core disciplines of proper training, communication and safety awareness culture by the airline operators and maintenance sectors.

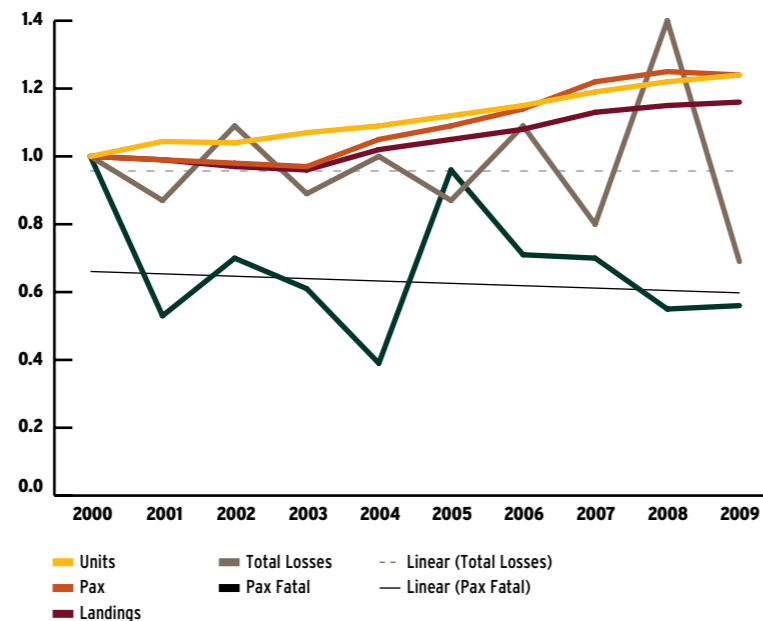
5 YEAR ROLLING AVERAGE VALUES (AS AT YEAR END 2009)



PAX FATALITY PER MILLION PAX



5 YEAR ROLLING AVERAGE VALUES (AS AT YEAR END 2009)



It is interesting to note that total Index projected sales for 2009 were USD 438 billion, a reduction of 3.2% compared with 2008, yet the physical reality of the recession is far worse.

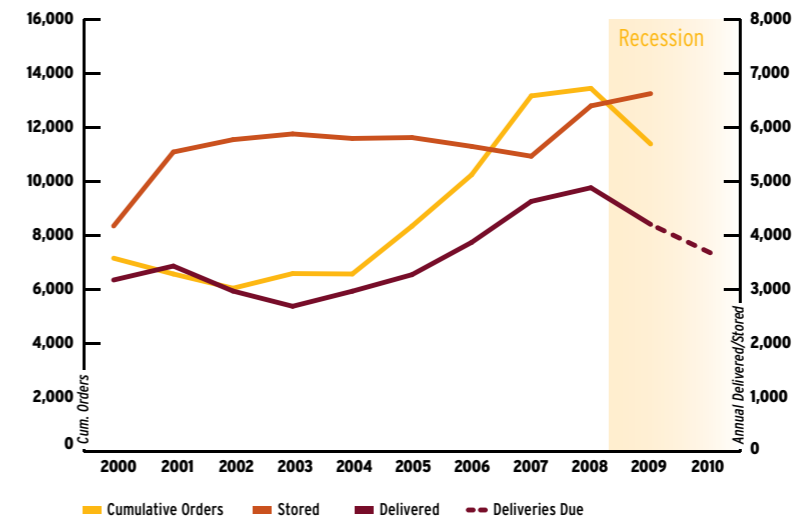
The non-airline/helicopter sectors were the most impacted with total unit deliveries reducing by 42% however in US\$ revenue terms, the decline was considerably less (21%).

Looking forward, the overall position is unclear from within the aviation industry as to whether 2010 see the bottom of the recent decline in terms of aircraft orders/deliveries, or, if the effects of the global recession will continue to be felt into 2011/12 and beyond.

As the major western economies start to emerge from recession, there is little indication these economies will support a quicker recovery of the aviation industry.

However, the economies of the BRIC (Brazil, Russia, India and China) nations remain the focal point for supporting aircraft manufacturer deliveries in the immediate future.

EFFECTS OF DELAYED RECESSION ON MANUFACTURERS



"2009's RECORDED 31 TOTAL LOSSES WAS THE LOWEST NUMBER SINCE 1990, OUR FIRST COMPARISON YEAR, DESPITE GROWTH IN BOTH UNIT NUMBERS AND LANDINGS."



AVIATION MARKET ANALYSIS & CAPACITY

“CONSIDERING THE WORLDWIDE ECONOMIC ENVIRONMENT, AIRLINE EXPOSURES DID NOT SEE THE LEVEL REDUCTIONS THAT WERE EXPECTED”

Overall, the aviation insurance market managed to generate a premium credit balance during 2009. However, accepting that most insurers participate on both products/aerospace risks and also airline placements, 2009 proved to be a year of two halves for aviation insurers.

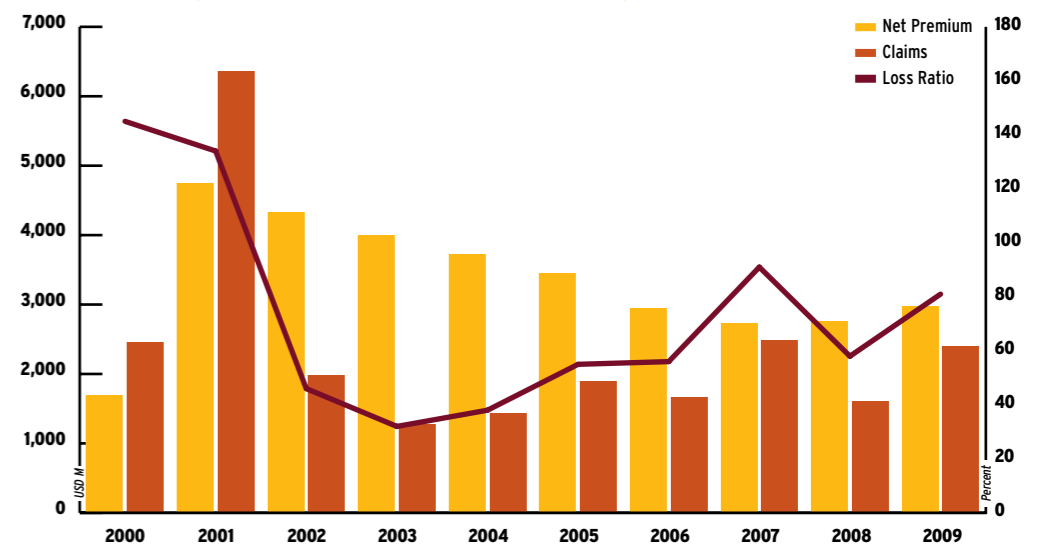
On the one hand, the airline sector generated in 2009 an incurred claims figure in the region of USD 2.3 billion against an estimated net income of USD 1.93 billion. On the other hand, the products/aerospace sector recorded a net premium totalling USD 945 million compared to incurred losses of less than USD 75 million (as recorded at the end of 2009).

In 2009, premium volumes increased by 20% overall for airlines compared to a stable or slightly reduced premium based for the products/aerospace sector.

Considering the worldwide economic environment, airline exposures did not see the level reductions that were expected. Fleet values saw a small increase of 1% and projected passenger numbers only fell by 1% in 2009. For manufacturers, sales forecasted were down by 3% overall in 2009 although it was apparent that risks renewing in the last quarter of 2009 showed a larger level of turnover reduction (9%).

Following two notable losses in 2009, reinsurance programme pricing started to firm, with those layers that had been affected seeing a greater level of increase. In addition, the attachment points of some major risk-exposed primary excess of loss layers limited the amount of increase. Those layers of reinsurance that have not been affected by losses have largely remained unchanged. There was also a greater reluctance from traditional markets to support proportional treaty programmes due to disappointing results and insurers believing that rating levels were insufficient on underlying business.

2000 - 2009 (NET LEADERS TERMS USD MILLION)



10 Year Totals (2000-2009)

Premium: USD 33,362m
 Claims (inc attritional): USD 23,533m
 Profit to the market: USD 9,829m
 Loss Ratio: 70%

On the whole, the level of capacity available throughout 2009 remained in excess of that required. It was however the deployment of this capacity rather than the level of capacity available that was important in 2009.

This varied on a risk by risk basis with insurers adjusting their involvement dependent on a number of factors including limits purchased, loss history, exposure development, and most importantly, price. If insurers perceived a programme price to be insufficient then the level of capacity quickly became restricted.

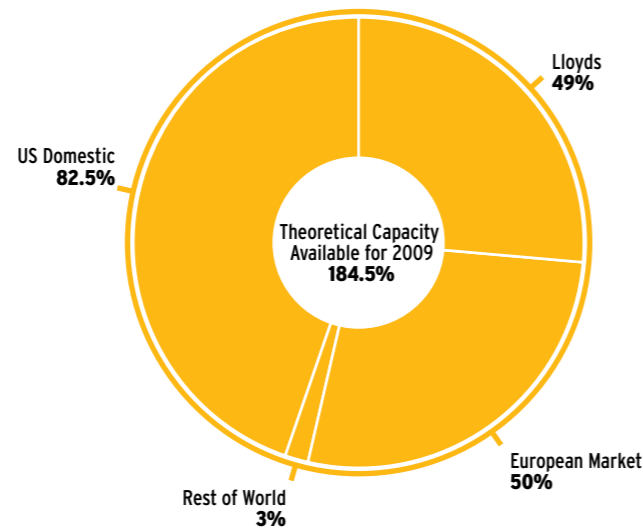
The capacity and appetite for aviation manufacturers risks remained strong throughout 2009 and was increased by the commencement of aviation underwriting by Talbot Syndicate (who employed most of the former London XL Aerospace team members). The North American offices of various European insurers continued to make their presence felt, especially on selected risks.

In addition, it was evident that a number of the “new” underwriting entities since 2000 had developed their portfolio and premium incomes sufficiently in order to be able to offer more mature participations on manufacturers risks, thus generating extra capacity.

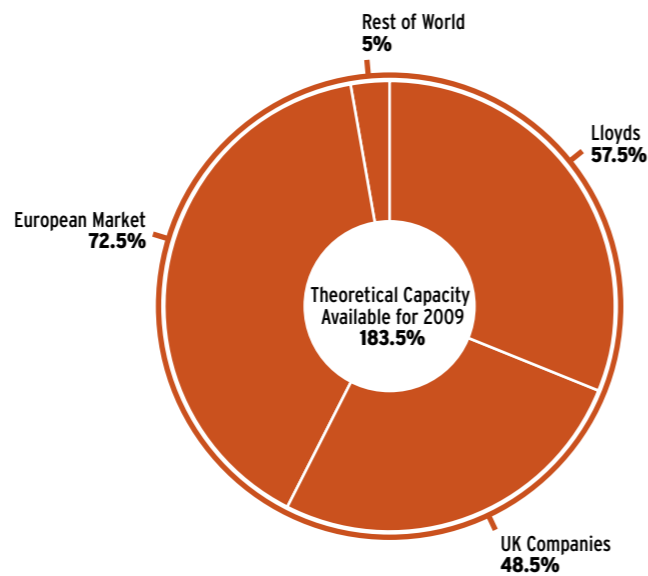
We understand there were due to be some new insurers entering the aviation insurance market during 2009/2010 but none of these potential new entrants reached fruition, likely as result of the global economy and high airline losses levels in 2009.

We believe the overcapacity in 2010 will continue to drive pricing levels for clients.

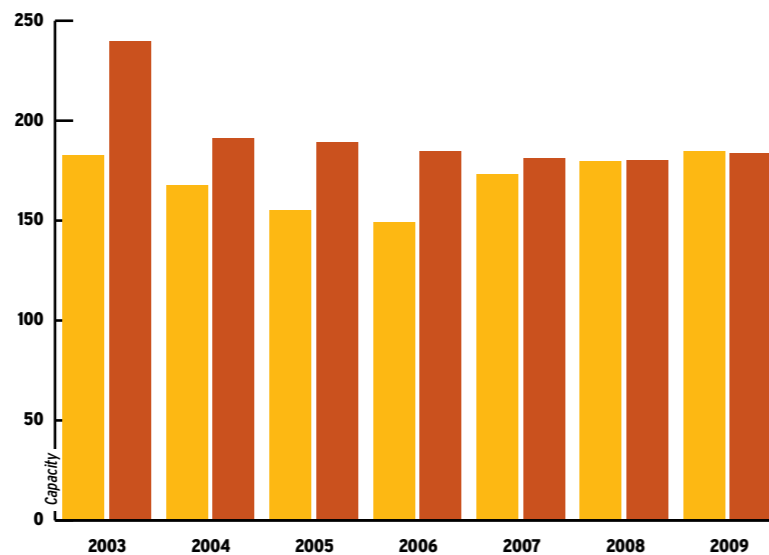
CAPACITY US/CAN BASED RISKS



CAPACITY EUROPE/ROW BASED RISKS



COMBINED CAPACITY US/CAN AND EUROPE/ROW BASED RISKS



“FOLLOWING TWO NOTABLE LOSSES IN 2009, REINSURANCE PROGRAMME PRICING STARTED TO FIRM, WITH THOSE LAYERS THAT HAD BEEN AFFECTED SEEING A GREATER LEVEL OF INCREASE”



UNDERWRITING AVIATION MANUFACTURERS RISKS

**"THE FUTURE, ACCORDING TO SOME SCIENTISTS,
WILL BE EXACTLY LIKE THE PAST, ONLY FAR
MORE EXPENSIVE."**

JOHN SLADEK, US AUTHOR (1937-2000)

EXPOSURE VS. EXPERIENCED BASED PRICING

Willis Aerospace is very pleased to welcome commentary from Munich Re regarding their methodology behind their rating of aviation manufacturers risks.

GENERAL

We often get asked by clients and brokers how we calculate our premiums and what we do with all the information we ask for. Information is key in assessing a risk. It is required to make a risk transparent before it can be transferred to an insurer's balance sheet.

While the insurance premium can be seen as a substitute for risk, it is not enough solely to rely on past loss experience for its calculation. It is crucial that changes in the underlying exposure are taken into account. To borrow from daily life: it would be unwise to drive your car by only using the rear-view mirror.

In the following commentary we would like to describe the approach we take at Munich Re Aviation when underwriting a products risk.

An insurer has to pay for claims, cover his expenses and the cost of capital and post a profit to remain attractive for investors. Only insurance premium comprising these elements can be the basis for continuous and dependable supply of capacity to clients. And as investment income for everyone has shrunk drastically and will no longer help to cover for inadequate technical prices, technically sound underwriting has become all the more important.

RISK PROFILE

Certainly no one can guarantee that the expected loss will be the actual loss. This uncertainty will always form part of life, especially so in something as volatile and dynamic as aviation insurance. It is the risk profile that will determine the expected loss to a great deal. When constructing such a risk profile it is truly worthwhile to understand where past losses come from. But there is also the need to unsparingly validate if patterns have changed or are broken altogether. E.g. a fundamentally changed litigation strategy will diminish or even invalidate the value of reported loss statistics.

In order to better understand such changes in the risk profile, we would typically ask: what can we expect from the operations of a client? In other words, where is stability and where is change in the operations? What kind of risk management is in place? Have lessons been learned from past losses, making similar losses less likely in the future? Has the scope of coverage changed and if so, how does this affect the premium? Has exposure gone up or come down organically, i.e. more or less of the same? Has exposure changed through acquisitions or divestitures? If so, is it unambiguously clear where the tail rests? Has the production of certain critical products stopped, and how fast is the product actually disappearing from the market (depending on the product life cycle)? Are new products coming on line and how critical are they? Could the insured loss become bigger when a product that is designed to improve aviation safety unfortunately fails, such as TCAS? Can we expect the observed historical loss allocation pattern between operator, OEMs, MROs, et. al. to continue? Is inflation accounted for? How has the legal climate changed? Are plaintiff lawyers training their sights on the client? And as indemnity levels are rising worldwide, how should this be reflected in the expected loss?

LOSSES/RESERVING

Next to the risk profile we will look at the loss history of a risk. In addition to attritional and large losses we have to calculate a premium for losses of a magnitude that have not occurred (yet), but for which a high limit is purchased. As it is not wise in the long-term to cover exposure and not charge for it, this price will be modeled on certain assumptions. Modeling will always give ground to debate but there are not many alternatives.

For expected loss based pricing the strength of reserving is key. Development in losses is a common feature in the products book. More often deterioration than improvement can be observed. Too often these deteriorations materialize very late and substantially increase the reported loss. So there is the need to assess whether the past (initial) reserving was accurate enough. Will we need additional reserves, IBNR? Or does the client set reserves very conservatively and a favourable development can be expected? If step reserving is the modus operandi we will examine the need for additional reserves. To be fair to clients the success rate of additional reserves versus the final settlement has to be monitored and constantly adjusted.

**"I HAVE MADE GOOD JUDGEMENTS
IN THE PAST. I HAVE MADE GOOD
JUDGEMENTS IN THE FUTURE."**

DAN QUAYLE, US REPUBLICAN POLITICIAN (1947 -)

EXPOSURE

To link above considerations about the risk profile and losses/reserving with the expected future loss an important task is finding the right currency for calculating the exposure going forward. In airline insurance the average fleet value, number of departures and number of passengers are what will always be looked at as these parameters genuinely reflect exposure.

The aerospace book is more heterogeneous and it is more difficult to find a common unit of exposure. While aircraft and engine manufacturers can establish quite accurately how many passengers are transported on their products this is less achievable for suppliers or service providers.

Often sales figures are provided as an approximation of exposure. We see this as very critical. The very weak spot of sales is that they may fluctuate or even completely disappear whilst the underlying exposure is uncoupled (e.g. not selling a product any more does not mean it is not still being used). Or revenues may increase drastically even though the product responsible for this is in no way critical and therefore does not represent an exposure increase.

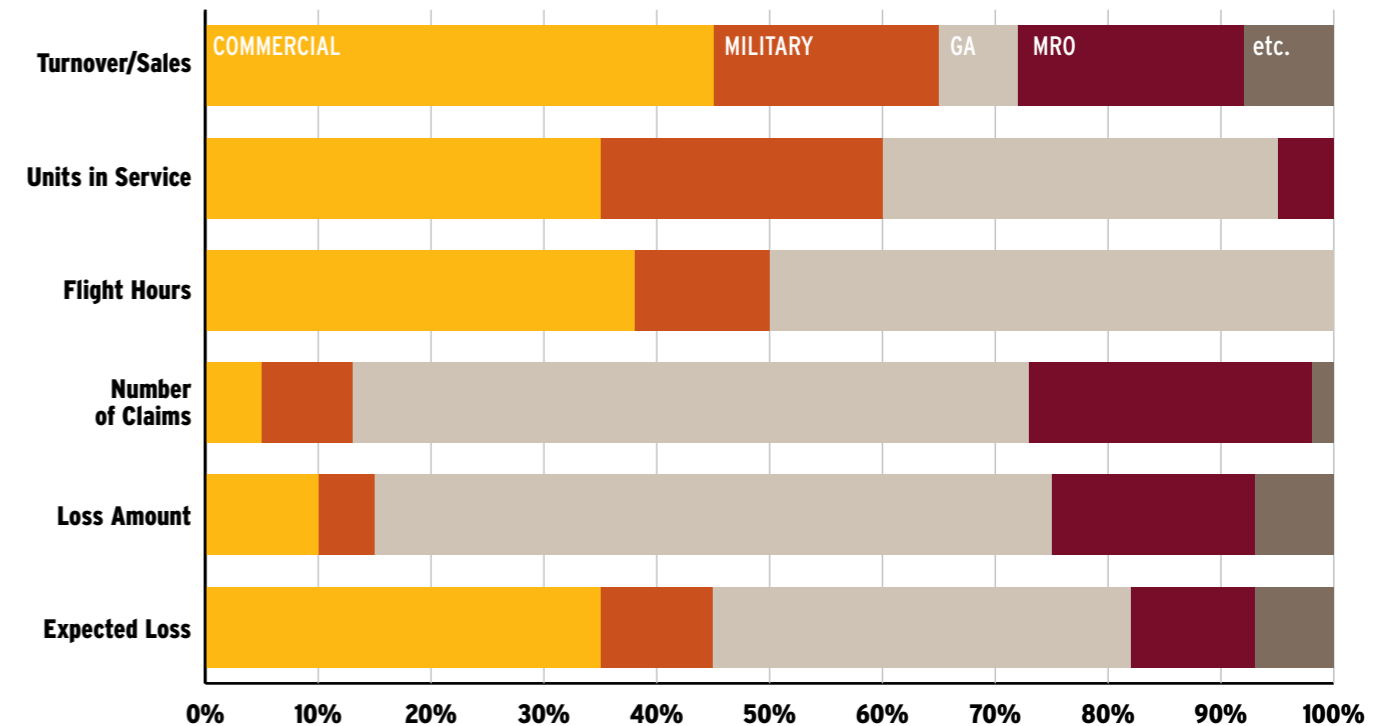
CLOSING REMARKS

We hope these comments give you some insight into how our underwriters work and what drives some of our questions. At Munich Re Aviation we are always happy to demonstrate how we put information from the client to work.

As an underwriter, if you look only at past experience you are likely to charge too little and will put your job on the line. Simply looking at the average amount of past losses is not adequate. Instead a proper understanding of the multiple changes of the insured risk is required, particularly changes in the underlying exposure. Exposure based pricing therefore plays an important role in our underwriting process.

We are looking forward to discuss this at renewals with our clients and their brokers.

RISK PROFILE DEPENDING ON CHOSEN PARAMETER



An exemplary picture of how the expected loss can be different from what seems to be a good exposure measure at first glance. It is the underwriters job to assess which risk profile is most likely to reflect the loss expectancy and adjust the respective premium, either up or down.



MARKET SEGMENT ANALYSIS

**"FOR 2009, THE INDEX
REVIEWS THE RENEWAL
EXPERIENCE OF 114 CORE
AEROSPACE MANUFACTURERS
AND MRO INSURED'S"**

THE WILLIS MANUFACTURERS INDEX

The portfolio of aerospace manufacturers utilised in this review is based upon those companies that are listed within *Flight International* magazine's 'Top 100 Aerospace Companies'¹ who insure and have insured in the London marketplace for at least the past five consecutive years. We have added other selected manufacturers/aerospace companies to produce an analysis tool that, we, consider reflects the London markets position regarding manufacturers liability insurance. This tool is referred to as the 'The Index'.

For 2009, The Index reviews the renewal experience of 114 core Aerospace manufacturers and MRO insured's, (part of a total 209 insured's for whom we are able to review London market renewal experience information).

All premiums are based on lead net terms (as far as known) and all premium and estimated sales figures shown are US dollars². Analysis and results based on The Index are subjective wherein many insured's are able to fall within more than one sector due to the diverse nature of their aviation activities.

The Index is subdivided into six specific sectors, as listed below, and we believe provides a good indication of developments in the manufacturers' arena.

- Prime Airframe Manufacturers
- Major Engine Manufacturers
- Sub-Airframe Manufacturers/
Non-major Engine Component Manufacturers
- Component Manufacturers
- Electronic/Avionic
- Maintenance/Repair and Overhaul.

¹ Sept 2009 Report. Based on sales for the year 2008

² All currencies converted to US Dollars as at applicable ROE at January 2009

THE INDEX 2009

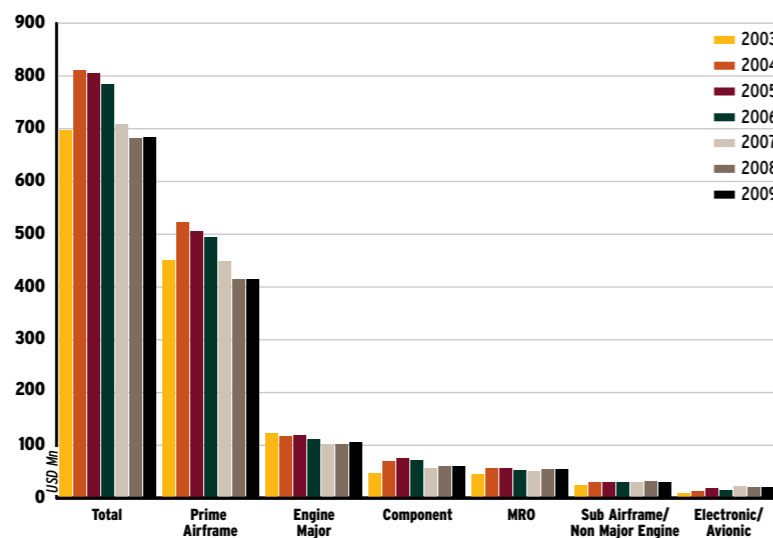
Whilst we seek to review the renewal experience of a consistent group of insured's, using *Flight International* magazine's 'Top 100 Aerospace Companies' as our base, mergers and acquisitions within the aerospace industry have resulted in new entrants to that list. Some of these new entrants have been introduced into The Index for the first time in 2009. We have, however, maintained our requirement that those insured's contained within The Index have renewed in the London marketplace for the past five consecutive years. Consequently, 2008 has been adjusted to reflect "new insured's" to The Index and allow for accurate comparison with 2008.

The charts on this page highlight the proportion of premium contributed by each of the main sectors within our review and also illustrates premium development and amount within each sector analysed.

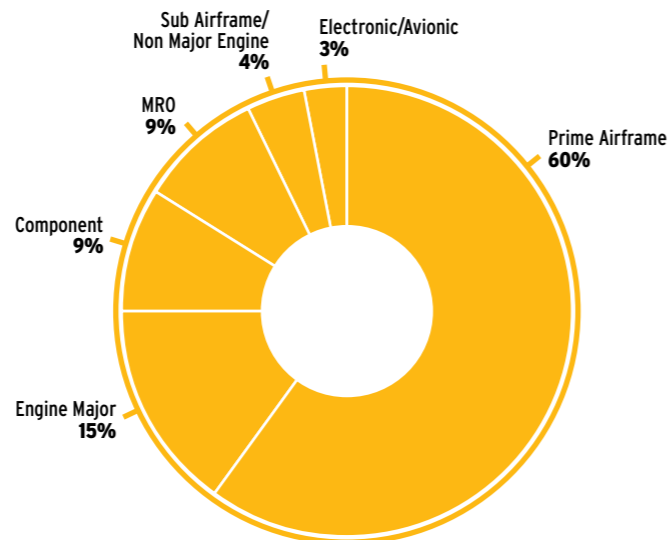
Companies within each sector are very much rated, by insurers, on an individual basis making benchmarking and comparisons difficult due to variations in the product manufactured, product end use, claims history and risk profile.

The following charts focus on each of our sectors since 2000 and highlight events that have affected the way premiums and risk portfolios have developed over the past few years.

WILLIS INDEX RENEWAL NET PREMIUM



WILLIS INDEX RENEWAL 2009 NET PREMIUM SECTOR SHARE



PRIME AIRFRAME MANUFACTURERS

Total Premium for this sector was effectively static recording a reduction of just 0.3%.

Projected sales declined by 3.8% to approximately USD 236 billion ending five consecutive years of growth.

A static premium base and reduced projected sales produce a derived rate on sales increase of 3.6%.

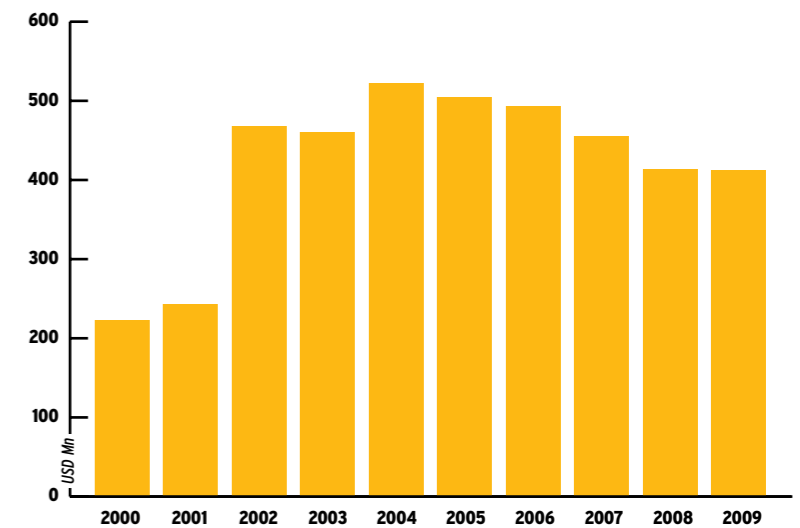
As in previous reviews we again note that certain Insured's have successfully limited or avoided altogether likely premium increases by increasing the level of their Self Insured Retentions (SIRs). The attraction, to insurers, remains the removal of attritional losses from this sector. Had this tactic not been used, the 2009 premium base would likely to have recorded an increase.

The sector's loss ratio continues to improve, growing the already considerable credit balance to the benefit of Insurer's.

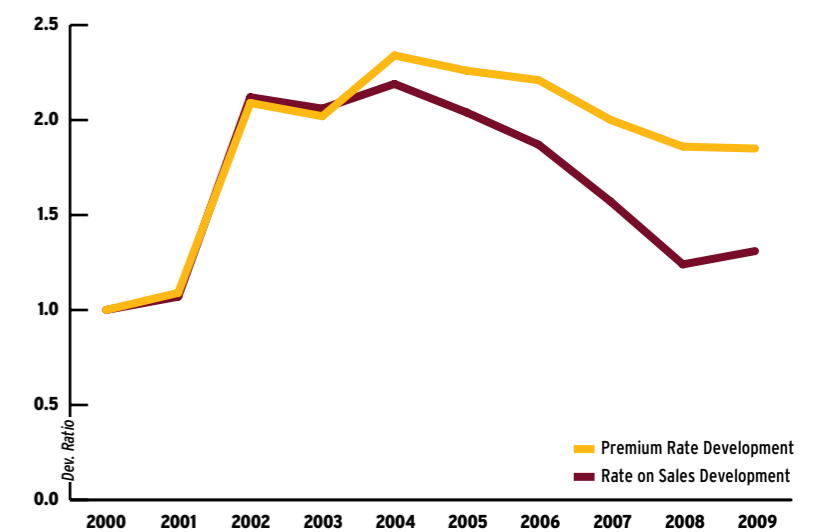
Unit deliveries of our the prime manufacturers within our Index total 5,283* for 2009 representing a decline of XX

*Ascend Air claims and GAMA

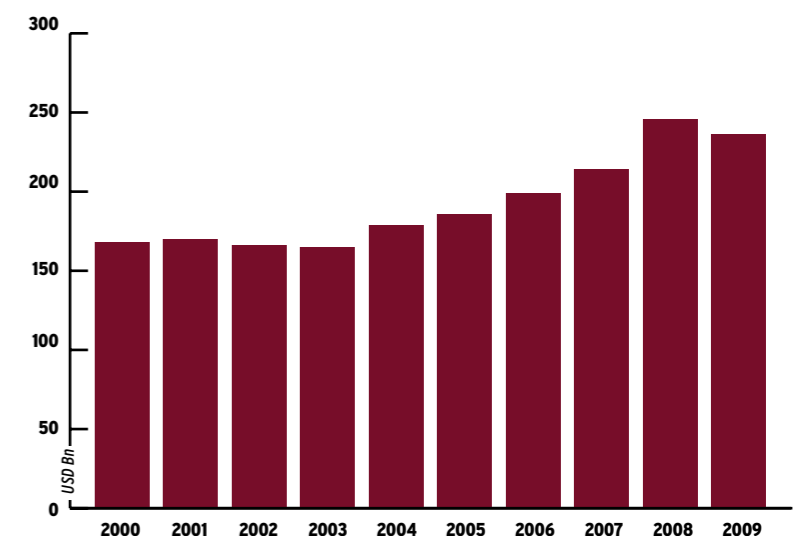
ANNUAL PREMIUM



PREMIUM AND RATE ON SALES DEVELOPMENT RATIOS



ANNUAL SALES



MAJOR ENGINE MANUFACTURERS

Reflecting the aircraft prime manufacturers, the major engine manufacturers also recorded a decline in projected sales of 5.31% equating to a fall of USD 4.8 billion.

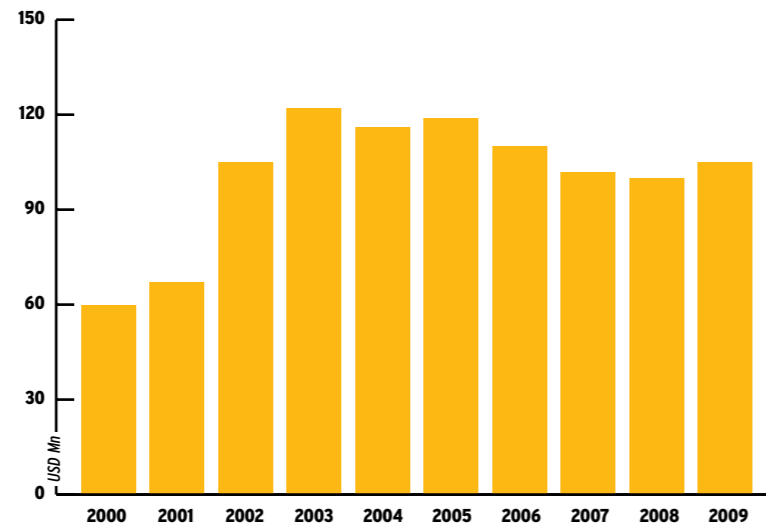
However, total premium increased by 4.78%. The derived premium rate on sales consequently recorded a significant increase of 10.65%, by far the largest of any sector within the Index.

Self Insured Retentions (SIRs) and deductibles continued to be a key feature in this sector. In common with the Prime Airframe sector introduced/increased SIR's mitigated likely premium increases.

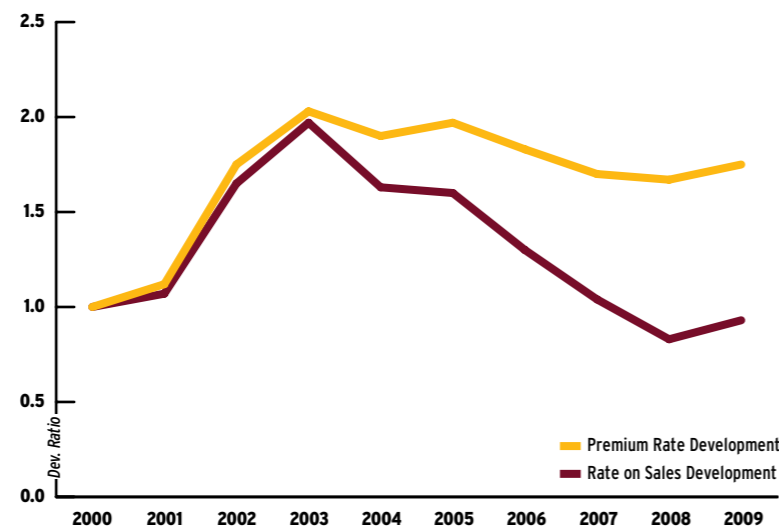
The sector continues to grow its credit balance with insurers.

It is interesting to note that over 55% of the exposed sales revenue of the Insureds within this sector are subject to programme structures inclusive of SIR's.

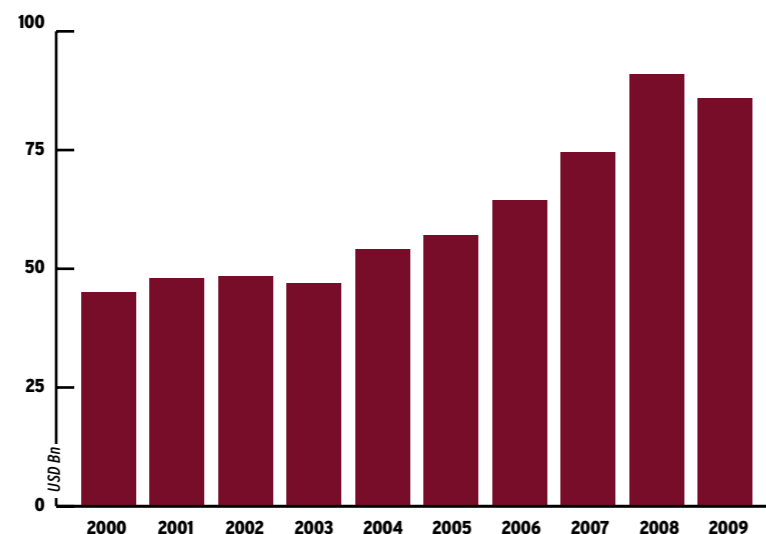
ANNUAL PREMIUM



PREMIUM AND RATE ON SALES DEVELOPMENT RATIOS



ANNUAL SALES



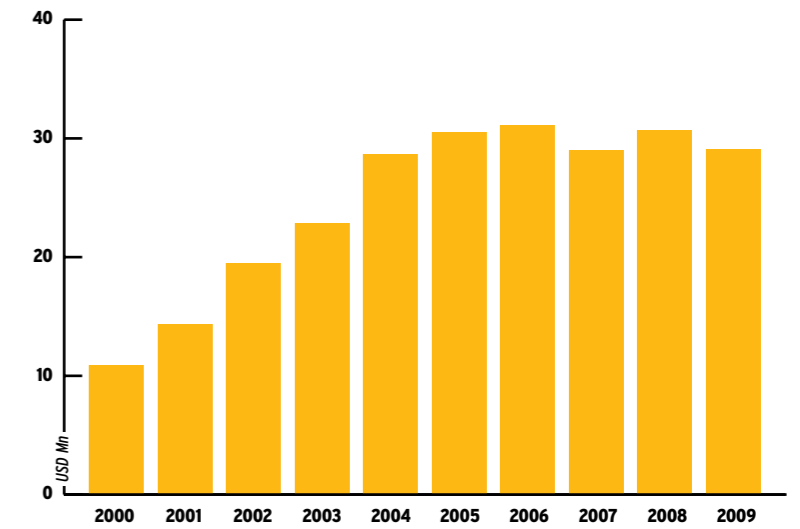
SUB-AIRFRAME AND NON MAJOR ENGINE MANUFACTURERS

This sector recorded the largest projected sales decline within the Index, being 8.4%, again reflecting the knock-on effect of the Prime Airframe and Engine sectors reduced/delayed order book.

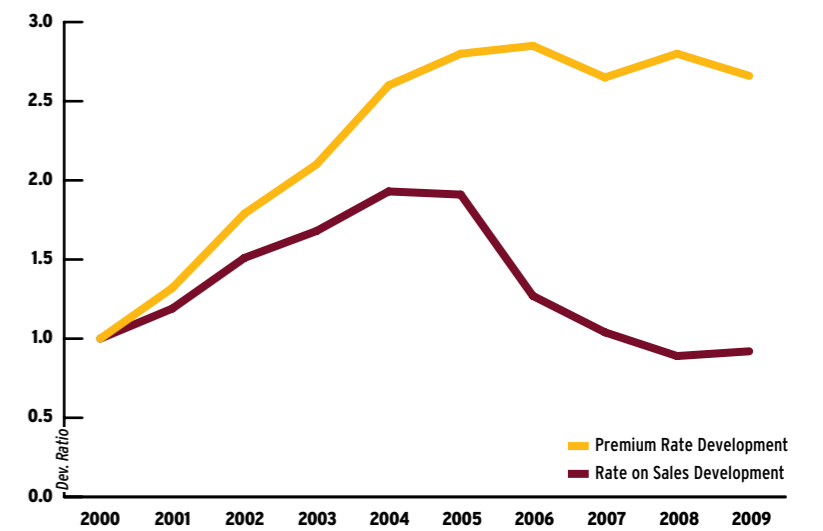
Premium recorded a fall of 5.20%. Influenced by declining sales and very good loss profile.

Despite the fall in premium, the derived rate on sales rose by 3.52%.

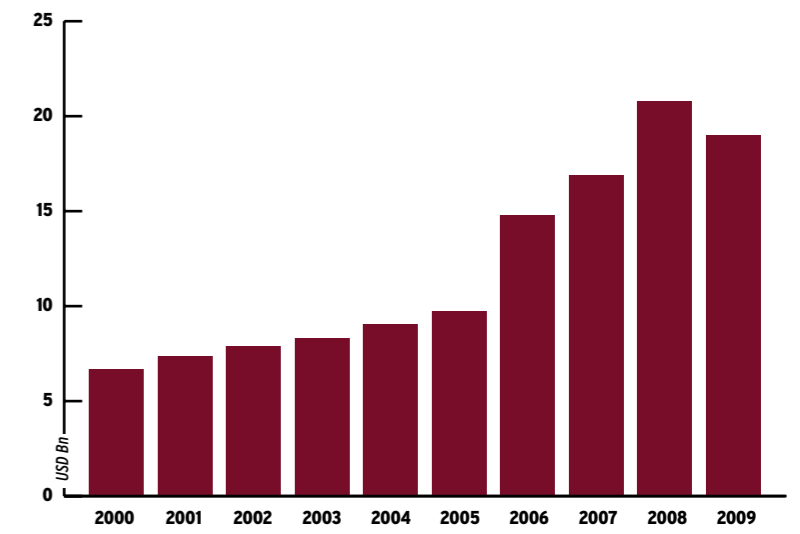
ANNUAL PREMIUM



PREMIUM AND RATE ON SALES DEVELOPMENT RATIOS



ANNUAL SALES



COMPONENT MANUFACTURERS

Due to its varied product base, the Component Manufacturers sector continues to be the most difficult sector to analyse.

Within the Index, we have reviewed the renewal experience of 36 component manufacturers that represent 8.7% of the total 2009 Index net premium, (unchanged compared to 2008).

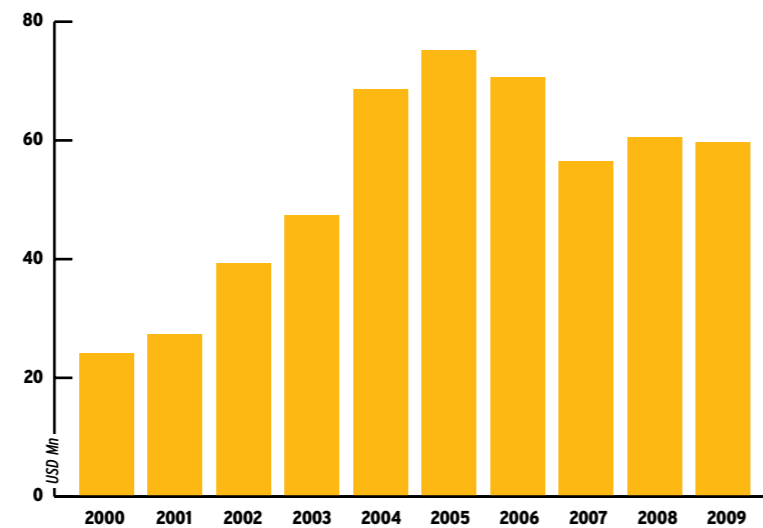
The sector recorded a net premium reduction for 2009 of 1.3% when compared to 2008.

In line with other sectors, estimated sales also recorded a decline of 2.64%, thus generating a derived premium rate on sales increase of 1.4%.

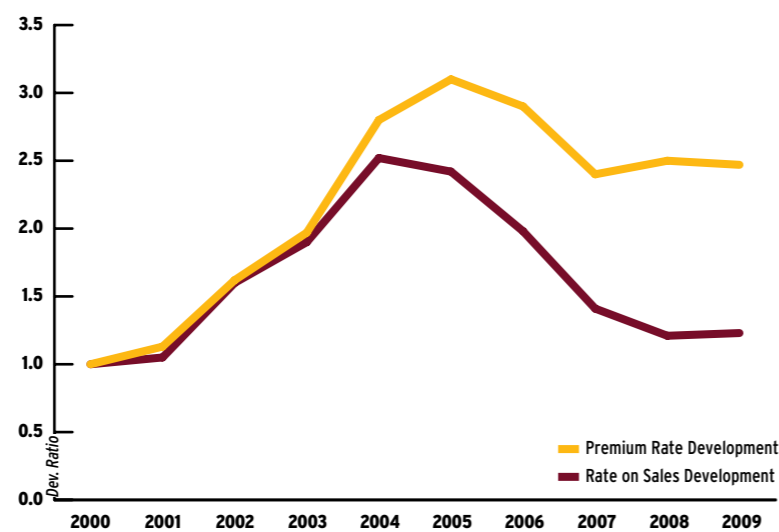
The overall results of this sector mask a range of renewal experiences. If the few programmes with projected sales increases and those that have suffered recent losses were excluded the sector would have recorded a renewal net premium reduction of 12.50%.

In addition, there was a large diversity of sale projections within this Sector.

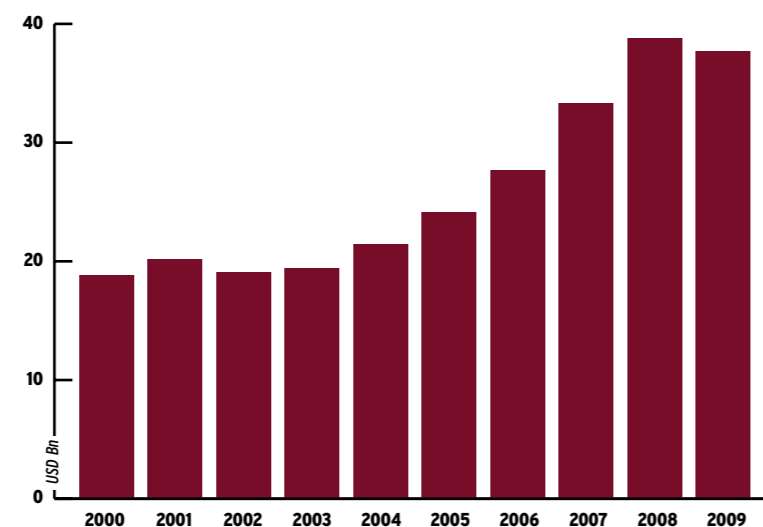
ANNUAL PREMIUM



PREMIUM AND RATE ON SALES DEVELOPMENT RATIOS



ANNUAL SALES



ELECTRONIC/AVIONIC MANUFACTURERS

The Electronic/Avionic Manufacturers remains the smallest sector by premium volume of the Index.

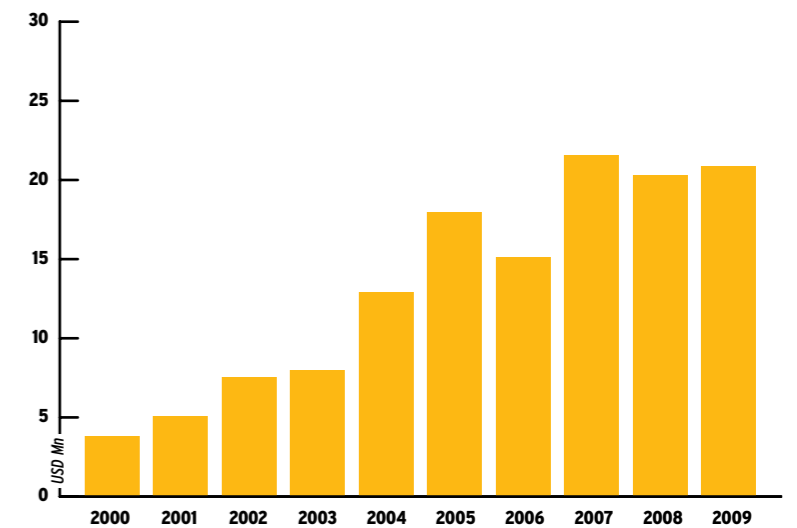
In 2009 it represented 2% of the total Index premium base similar to that of 2008, however the sectors projected sales have continued to grow and now represents approximately 9% of the Index' total sales volume.

The net premium change for 2009 was an increase of 2.9% compared to 2008, while estimated sales increased by 7.3% resulting in a reduction in the derived rate on sales of 4.1%.

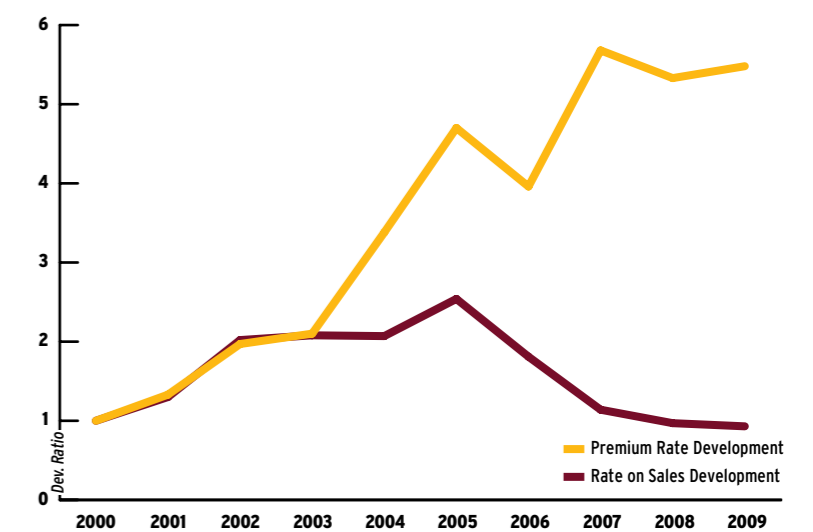
The continued growth, of sales, in this sector is as a result of a number of Index programmes that are generating increased revenue due to their role as design and system integration providers, particularly in the government/military area, while actual manufacture of products remains flat or has declined.

It should also be noted that this sector within our Index reviews only "pure" electronic/avionic manufacturers.

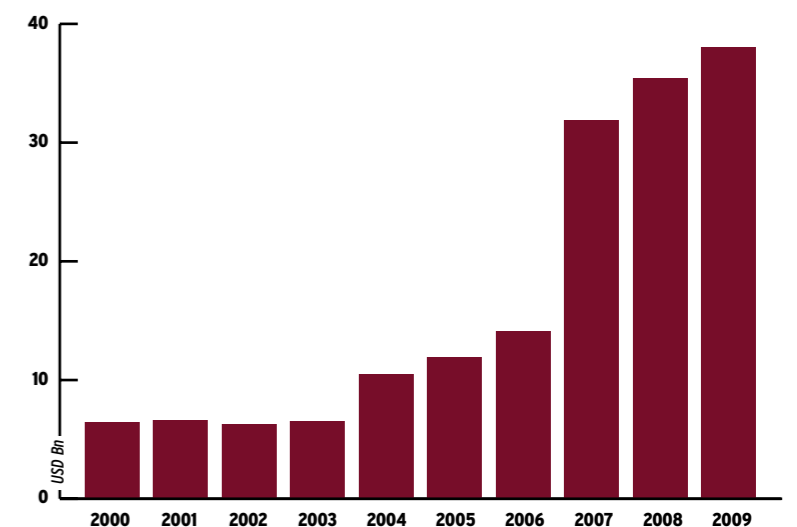
ANNUAL PREMIUM



PREMIUM AND RATE ON SALES DEVELOPMENT RATIOS



ANNUAL SALES



AIRCRAFT AND ENGINE MRO

This sector continues to be reviewed within the manufacturers portfolio by Insurers due to the specialist technical services provided which often includes component part manufacturing.

A premium increase of 2.3% for the Maintenance, Repair and Overhaul (MRO) sector was recorded for 2009.

Recent losses in this sector have led it to be considered as “loss-driven” with underwriters reacting swiftly, post loss, by applying significant premium increases.

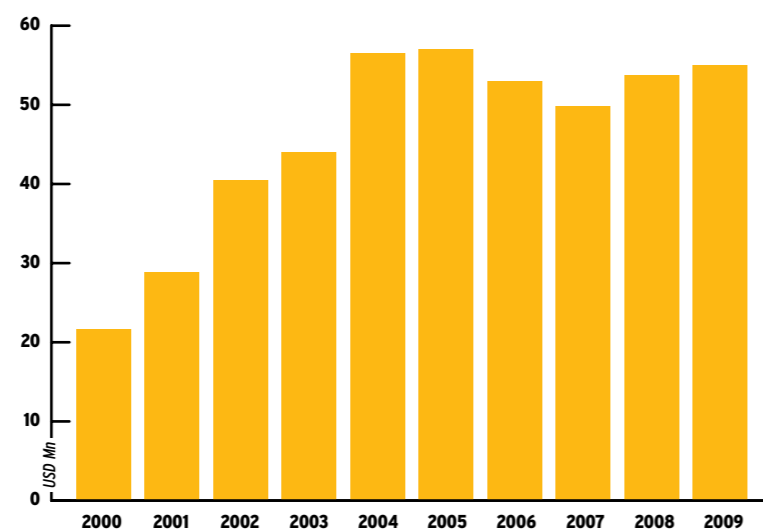
Consequently comparable Insured’s can pay significantly different premium levels. Renewal results therefore reflect, more than any other sector, the insureds’ loss histories.

In addition the projected risk profile of aircraft/engines/systems to be worked upon, and not, the projected sales values, that is the major influence on the part of insurers when price levels are determined.

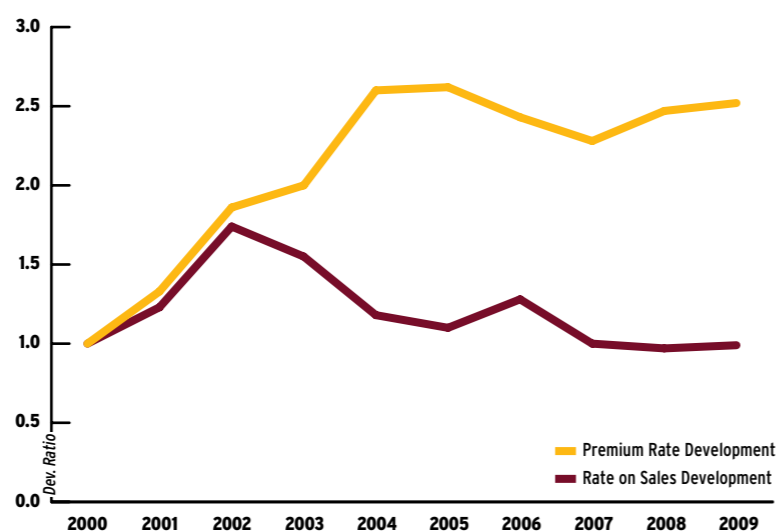
Estimated sales in this sector have risen by just 0.25% compared to 2008 consequently this sector’s derived rate on sales increased by 2%.

The MRO sector represents 8% of total 2009 Index.

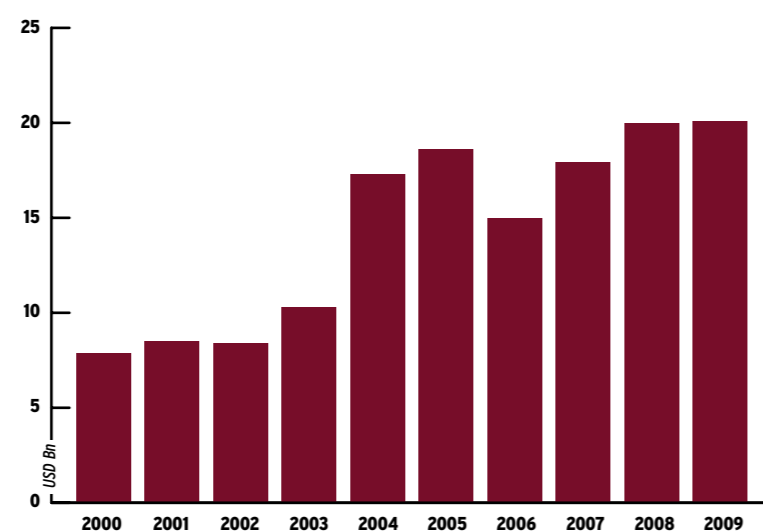
ANNUAL PREMIUM



PREMIUM AND RATE ON SALES DEVELOPMENT RATIOS



ANNUAL SALES



OVERALL SUMMARY

Our review of the 2009 renewal experience of the Willis Manufacturers Index leads us to conclude that the market has generally taken a firm approach towards all renewals.

The market was extremely reluctant to reduce premium levels as a result of excellence of record but has preferred to give, in percentage terms, small reductions in response to larger projected sales declines, while generally increasing premium where growth in projected sales occurred.

The increased utilisation of actuarial risk modelling is underpinning the efforts of many insurers to re-evaluate their portfolio and push for higher prices.

This is an interesting position given that cumulatively the 114 manufacturers of the Willis Manufacturers Index (on programmes incepting during the eight years 2002-2009) have generated a significant net premium credit balance to the market.

2009 recorded a marginal (0.4%) premium increase, the first year to do so since 2005.

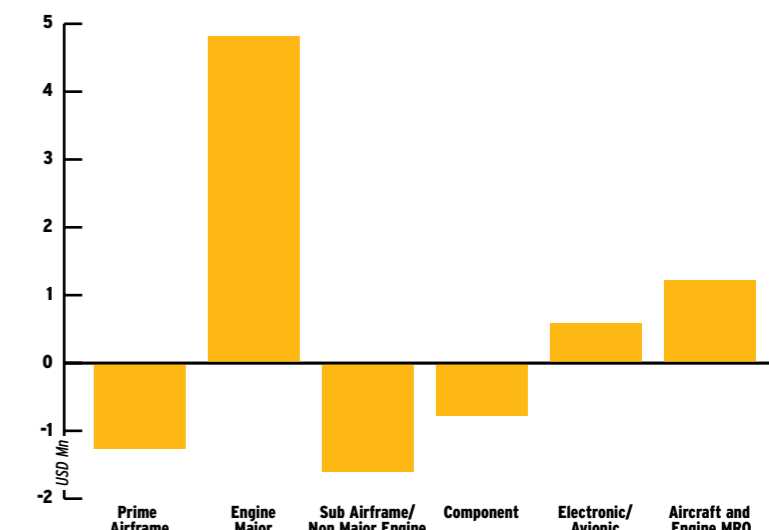
Overall, the total aerospace liability market (including airports/ATC/service providers) generated approximately USD 945 million of net premiums during the course of 2009 based on 432 renewals that we have monitored.

The 190 manufacturers reviewed accounted for approximately USD 747 million of net premium which represented an overall renewal premium reduction of 0.5% compared to 2008.

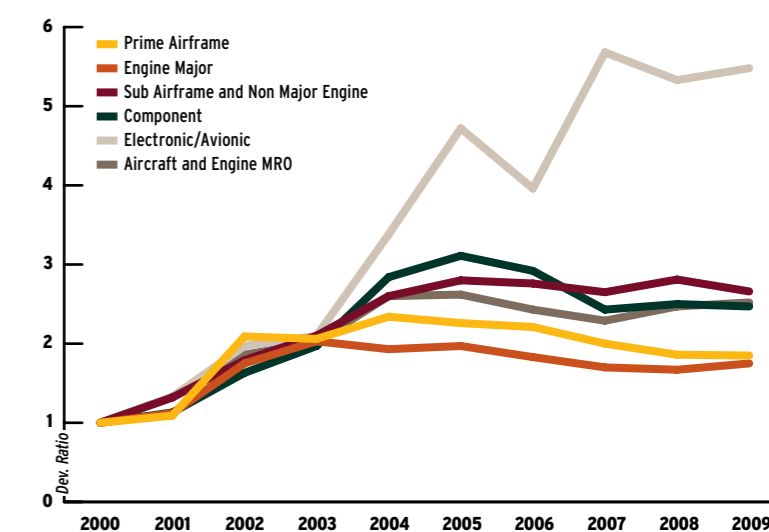
The Index total net premium for 2009 is USD 684 million compared to USD 681 million for 2008.

This corresponds to approximately 92.5% of the total net renewal premium we have monitored to the London market.

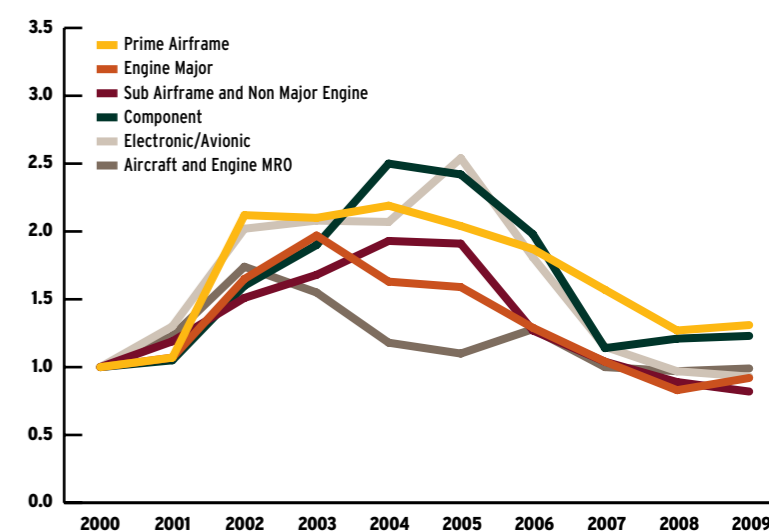
RENEWAL PREMIUM CHANGE 2009 vs 2008



PREMIUM DEVELOPMENT RATIO



USD RATE ON USD SALES DEVELOPMENT RATIO



INDEX PREMIUM AND LOSS DEVELOPMENT

**"THE PREMIUM AND CLAIMS 'LOSS RATIO'
REMAINS AT ITS LOWEST FOR MORE THAT
20 YEARS"**

IT WAS RECENTLY REPORTED THAT 2009 WAS ONE OF THE SAFEST YEARS ON RECORD NOTWITHSTANDING TWO NOTABLE INCIDENTS.

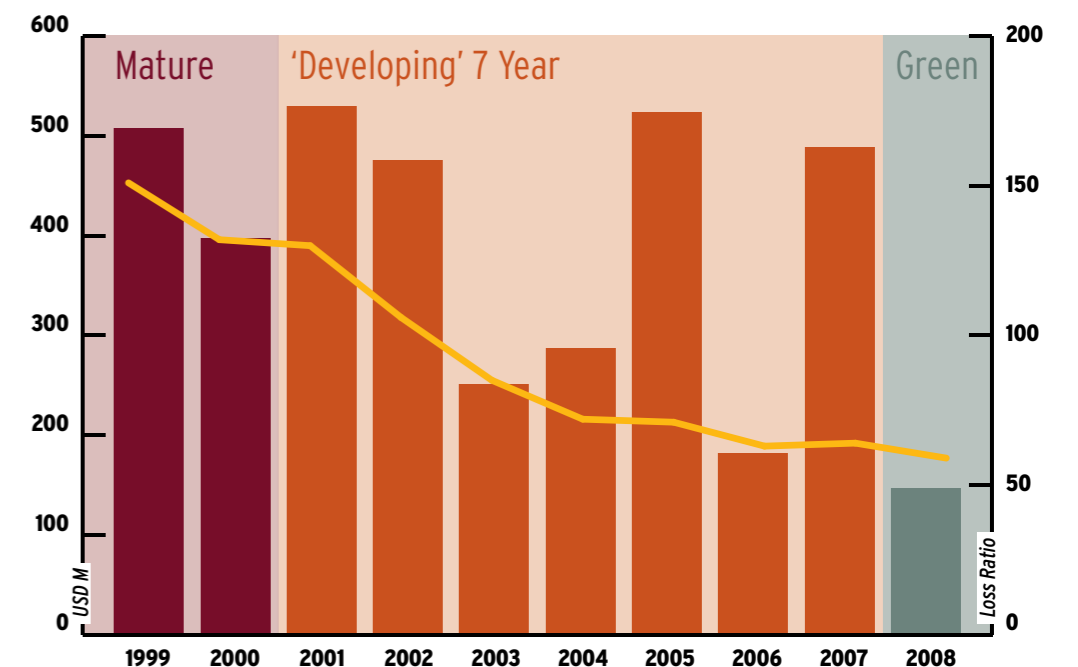
In their Year End 2009 Special Bulletin, Ascend concluded that:

1. 2009 was one of the safest years on record with a fatal accident rate of one per 1.5 million flights compared to the 1990's average of one per 700,000 flights.
2. Total number of reported deaths for 2009 was 732 compared to the 1990's average of 1,128 or in percentage terms, a 35% reduction.

This is an astonishing statistic when you consider that passenger numbers having grown noticeably over recent years (excepting the slightly reduced numbers in 2009).

In order to have a better understanding of insurers premium and loss patterns, we have examined annual loss developments and this has lead us to conclude that manufacturers losses peak in year seven out of a ten year cycle.

ANNUAL INCURRED CLAIMS (ANNUAL/CUMULATIVE LOSS RATIO)



Using this seven year basis plus including the most recently expired (green) year, we have been able to demonstrate/conclude the following:

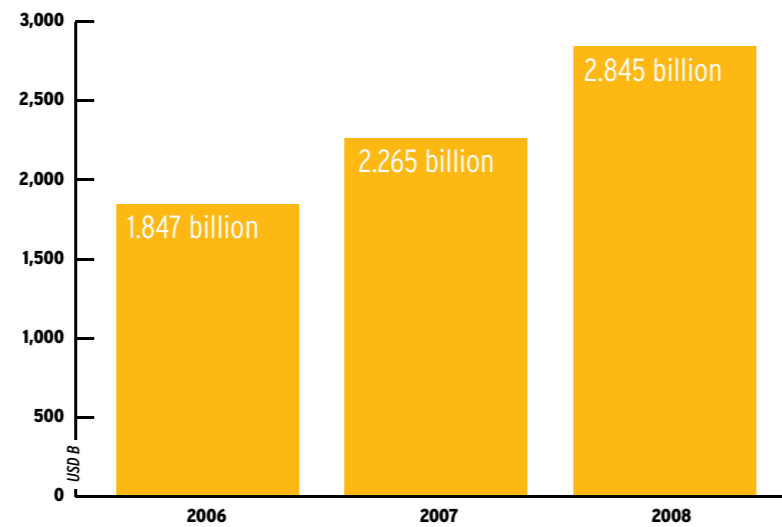
1. The premium credit balance has again increased and stands at USD 2.84 billion to the benefit of insurers
2. The cumulative comparison based between incurred claims as at 'year end 2008' vs 'year end 2009' shows that claims had improved/reduced by USD 87 million in insurers favour

In addition, when we analysed the mature years of 1999 and 2000, again 'year end 2008' vs 'year end 2009', claims had also improved/reduced by USD 17.50 million to insurers credit.

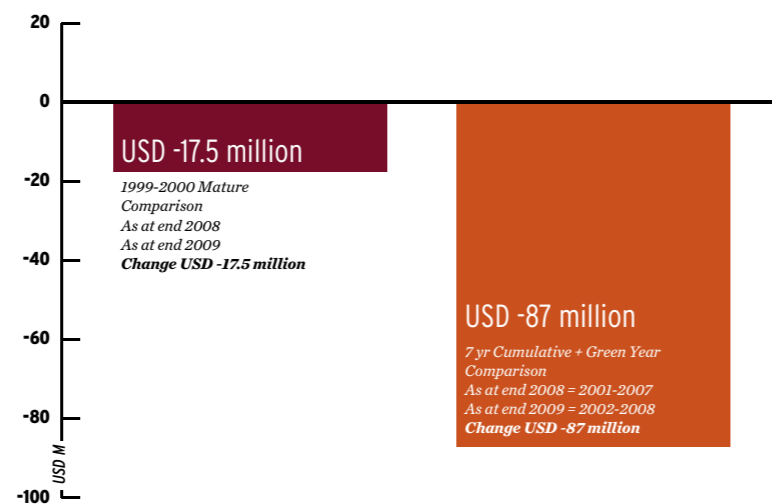
In conclusion, our analysis demonstrates that:

1. Using our eight year analysis, the accumulated premium credit balance in insurers favour now stands at a very healthy figure of USD 2.84 billion. This figure has been calculated using net premium Vs incurred (not paid) claims values, outstanding claims represent around USD 1.2 billion.
2. The premium and claims "loss ratio" remains at its lowest for more that 20 years
3. It is difficult for us to analyse the potential impact of legacy claims from environmental (in particular asbestosis) related events that have been presented to insurers in recent years. However, is there a real effect from legacy claims on the underwriters participating on manufacturer's policies of today, when many of these claims are being reserved/paid under policies that were effective in previous decades?

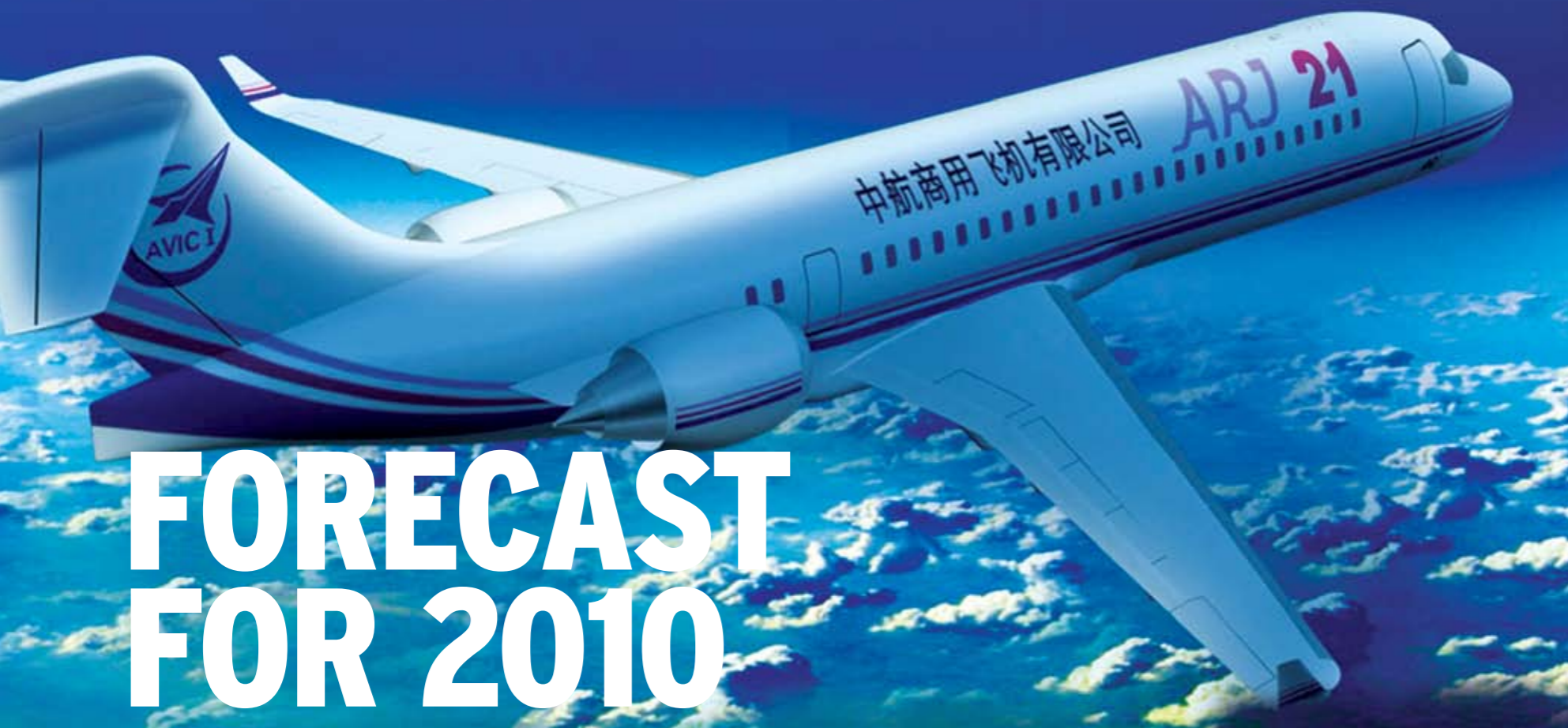
GREEN YR PLUS DEVELOPING SEVEN YEAR INCURRED PREMIUM CREDIT BALANCE TO MARKET



INCURRED CLAIMS DEVELOPMENT



“USING OUR EIGHT YEAR ANALYSIS, THE ACCUMULATED PREMIUM CREDIT BALANCE IN INSURERS FAVOUR NOW STANDS AT A VERY HEALTHY FIGURE OF USD 2.84 BILLION”



FORECAST FOR 2010

“WE REMAIN CONFIDENT THAT CLIENTS CAN USE OUR 2010 FORECAST AS A BENCHMARK FOR THEIR RISK FINANCING STRATEGIES DURING THESE DIFFICULT ECONOMIC TIMES”

In our forecast for 2009, we anticipated Insurers would seek to maintain existing premium levels and/or look for premium increases where there is sales growth or claims deterioration. We also advised that some Insurers were stating their intentions of ‘no reductions’ for 2009, something Willis Aerospace strongly refuted.

Completing our 2009 analysis, the 2009 Index renewal net premiums totalled US\$683m which is an increase of 0.4% compared with the expiring 2008 premium total based on 114 programmes. This leads us to conclude that our 2009 forecast was accurate in that the market had generally taken a firmer approach towards all 2009 renewals.

Insurers were reluctant to reduce premium levels as a result of a good claims record but preferred to give small reductions (in percentage terms) in response to large sales reductions, while increasing premium where growth in projected sales occurred and/or claims records deteriorated. The distribution of 2009 Index renewal premiums between the sectors again showed the aircraft prime manufacturers generated the largest share (61%) of income and therefore continued to have the largest influence on the manufacturers portfolio.

Aircraft prime manufacturers sector premium remained virtually unchanged in 2009. However this conceals the fact that the renewal outcome of individual programmes was varied.

Most renewing programmes in fact obtained as-before or slight reductions in premium. These ‘as-before’ premium renewals generally resulted from long term policy (or memorandum of understandings) re-signings, while those programmes that obtained premium reductions generally did so due to projected sales decreases and/or where self-insured retention levels were increased.

So, how will the 2009 negative premium credit balance of the ‘airline’ sector effect the attitude of insurers towards 2010 manufacturers renewals? For 2010, we forecast as follows:

- Market overcapacity will be the biggest contributory factor towards pricing levels for clients during 2010.
- The aviation manufacturers client base has the fortunate position of being able to utilise to their benefit a “stable and healthy” marketing environment where there is a surplus of ‘A’ graded insurers to write the risks.
- Our information shows that notwithstanding one of the worst years on record, airline insurers were only able to increase premium income in total by 20% in 2009 and even this level of increase is still insufficient to pay for incurred losses.
- We have demonstrated the premium credit balance for manufacturers risk continues to grow and is now at USD 2.6 billion in favour of insurers.
- Some insurers will point out there have been some notable incidents during the last 12 months which have yet to be finalised from an aircraft manufacturers point of view.
- This is a valid comment, however, with a current premium credit balance of over USD 2.6 billion in insurers favours, it is our opinion that unless these notable losses reach record breaking levels for manufacturers, they will have little or no impact on the profitability of the manufacturers sector within the overall aviation insurance market place.
- With ‘risk exposed’ turnover/sales in 2010 unlikely to show any meaningful growth, Insurers will again be under pressure to adjust their pricing levels in clients favour, however, risk profiles showing claims deterioration will be targeted by Insurers for review.
- Programme restructures, actuarial analysis, long term policies and use of Self Insured Retentions/Deductibles will continue be explored/utilised by clients.

We remain confident that clients can use our 2010 forecast as a benchmark for their risk financing strategies during these difficult economic times.

MANAGING NATURAL CATASTROPHES

“WILLIS CAN OFFER A WIDE RANGE OF CATASTROPHE RISK CONSULTING SERVICES TO HELP COMPANIES BETTER IDENTIFY AND QUANTIFY THEIR NATURAL HAZARD RISKS”

Low frequency, high impact events such as natural hazards can cause significant property damage and business interruption to an organisation’s global operations, ultimately impacting on the company’s profits and employees, as well as damaging reputation and market share. As one of the world’s leading risk management and insurance intermediaries Willis can offer a wide range of catastrophe risk consulting services to help companies better identify and quantify their natural hazard risks and assist them in making more informed decisions to support their risk transfer and mitigation requirements.

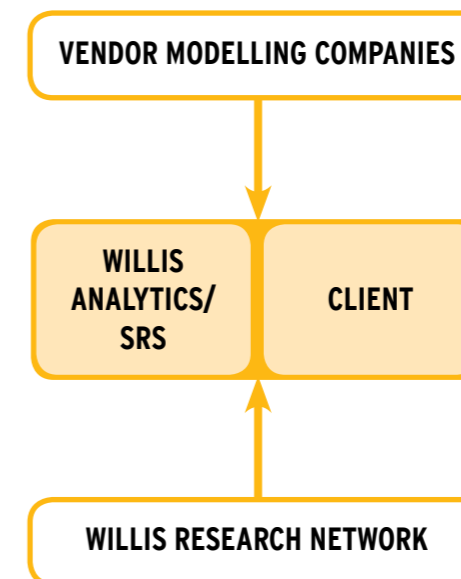
In determining the best approach to evaluate a client’s potential risk due to a major earthquake or windstorm, Willis adopts a case-by-case approach taking into account the type of industry, nature of the assets, size of the portfolio and geographic location. The solution can involve research-supported hazard assessments for specific geographic regions through our link with the Willis Research Network, the use of bespoke catastrophe modelling tools or risk engineering inspections (or indeed any combination of the above).

NAT CAT MODELLING

CAPABILITY

Willis’s natural catastrophe management services are supported through our global network of experts in the fields of seismology, earthquake engineering, hydrology, meteorology, atmospheric science, mathematics, statistics, geographic information systems (GIS), actuarial science and insurance.

Our teams have extensive experience in the use of natural catastrophe models to help clients estimate their portfolio loss expectancies by varying return period or frequency for perils such as earthquake, windstorm (e.g. hurricane, typhoon, cyclone etc), flood and hail. Analyses can be undertaken for both probabilistic and deterministic (single event) ground up loss assessments.



Willis believes that using catastrophe models to make strategic and underwriting decisions needs all-year-round integration of the modelling into the business – not once a year. Willis differentiates itself by:

- Researching the reality of hazard science and engineering.
- Investigating how the models selectively represent reality.
- Using the models as a test about a business, NOT as an “answer” which is imposed on the business.
- Achieving the maximum detail in exposure data.
- Achieving transparency and full understanding of data exposure and model behaviour.

This is done in partnership with our clients, supported by the Willis Research Network and providing independent access to the modelling companies.

NAT CAT MODELS - PERIL & GEOGRAPHIC COVERAGE

Based on the current suite of vendor modeling products the tools currently cover over 50 countries around the globe and a range of natural perils, as listed below. Actual peril coverage for a given location will depend on the country in question and we can advise on this accordingly.

- Earthquake (incl. fire following earthquake)
- Tropical cyclone (hurricanes, typhoons, and cyclones)
- Extra-tropical cyclone (windstorm)
- Storm-surge
- River flooding
- Tornadoes
- Hailstorms

These models can enable organisations to assess their natural hazard risk exposure for individual sites and entire property portfolios located in the following global regions:

Americas

USA, Canada, Mexico, Puerto Rico, Chile, Colombia, Caribbean Islands.

Europe

UK, France, Germany, Netherlands, Belgium, Luxembourg, Italy, Denmark, Sweden, Switzerland, Norway, Portugal, Austria, Ireland, Greece, Turkey.

Asia

Japan, China, Taiwan, Indonesia, India, Philippines.

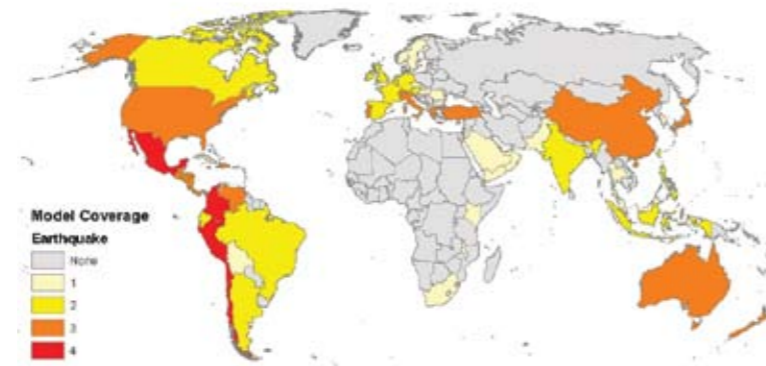
Australasia

Australia, New Zealand, Guam.

Middle East

Israel.

EARTHQUAKE MODEL COVERAGE



WINDSTORM MODEL COVERAGE



CATASTROPHE RISK ENGINEERING

SINGLE SITE ANALYSIS

For organisations that have large, individual facilities which are vulnerable to high levels of localised property damage and business interruption, Willis can assist by undertaking detailed natural hazard risk assessments at selected sites to help determine their potential risk.

This would normally begin with a quantification of the local hazard for the area around the plant, followed by a site visit by our natural hazard risk engineers to determine any seismic, windstorm or flood vulnerabilities of the main physical assets and operations in view of providing an estimate of the loss expectancy along with proposing practical risk improvement measures.

The benefits of this approach include:

- Identification of actual on-site vulnerabilities through the inspection of the major buildings, process equipment, stock and on-site utility infrastructure deemed critical for continued operations. The vulnerability assessment would be supported further through a literature review and comparison against similar assets that suffered damage from past events.
- Provision of reliable loss estimates for Property Damage and Business Interruption to assist in risk transfer decisions and insurance program structuring.
- Recommending, where appropriate, cost-effective improvement measures to help mitigate property, operational and life safety risks at the plant. For earthquake, for example these can include:
 - Building retrofits/ structural strengthening
 - Equipment anchorage/ elevation of critical equipment above predicted water level
 - Flood barriers
 - Introduction of flexible piping
 - Installation of seismic shut off valves for flammable gas and other hazardous distribution systems
 - Sprinkler bracing
- Estimation of the potential impact of a major natural catastrophe such as an earthquake or windstorm on the surrounding business-critical infrastructure and key suppliers where information is available.

“WILLIS CAN ASSIST BY UNDERTAKING DETAILED NATURAL HAZARD RISK ASSESSMENTS AT SELECTED SITES TO HELP DETERMINE THEIR POTENTIAL RISK”

“OUR TEAMS HAVE EXTENSIVE EXPERIENCE IN THE USE OF NATURAL CATASTROPHE MODELS TO HELP CLIENTS ESTIMATE THEIR PORTFOLIO LOSS EXPECTANCIES BY VARYING RETURN PERIOD OR FREQUENCY FOR PERILS”

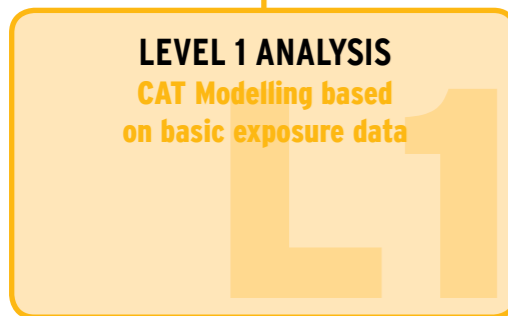
WILLIS ANALYSIS STAGES

At Willis we appreciate that each client's situation is unique, which is why we put an emphasis on discussing and understanding actual exposures and their expectations in terms of the output from a catastrophe analysis.

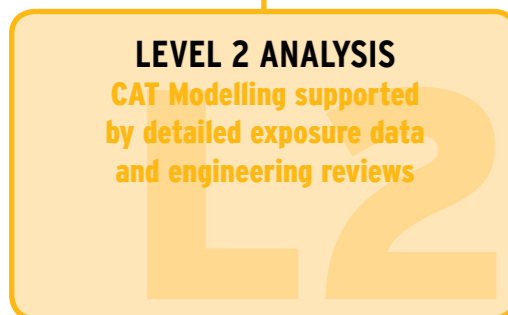
By understanding our client's needs we are better positioned to propose the most appropriate solution that can best meet their objectives. Below is a palette of service offerings ranging from natural catastrophe modelling through to site specific engineering assessments and we would be pleased to discuss any of these with you in more detail.



A natural hazard review of a company's global property portfolio can help to provide a first diagnosis of their natural peril exposure by location and region based on a qualitative and comparative ranking system. Apart from serving to promote general awareness of such exposure, this high-level analysis can also assist companies in making more informed decisions around their future strategic planning, risk management and future acquisition activities. Google Earth animations can also be provided to help visualize certain hazards.



Stage 1 level service corresponds to a catastrophe risk modelling analysis that is based on the assessment of Property Damage losses using general assumptions for average building performance in accordance with the cat model being used. This option is generally adopted when only basic, limited information on the client portfolio is available, such as location data, occupancy type and insured values.



Stage 2 analysis incorporates the use of more detailed exposure data (such as type & quality of construction, year built, equipment anchorage etc) supported, where appropriate, by a brief engineering review of available building plans and site data collected from Rapid Visual Surveys at selected client facilities. As a result, the modelling input data can be refined and adapted to better reflect actual asset characteristics and hence improve the reliability of the modelled loss estimates for PD and BI.



Stage 3 analysis involves a stand-alone PML survey and risk assessment for an individual facility (such as a major manufacturing plant or commercial facility) and is conducted by professional natural hazard risk engineers. The study includes an on-site inspection of a facility's building, equipment and stock assets with the objective of identifying local vulnerabilities that will help in assessing the potential Property Damage and Business Interruption Losses for a given NatCat event (e.g. 475-year period earthquake). The loss estimates are based on professional engineering judgment and experience, derived from a survey-based component by component loss estimate approach and thus representing the most reliable output to support a client's risk transfer and mitigation decisions for a single site. No structural performance analyses are conducted at this stage, however a list of general recommendations can be provided to help a client consider solutions to mitigate risks at the plant.

“BY UNDERSTANDING OUR CLIENT'S NEEDS WE ARE BETTER POSITIONED TO PROPOSE THE MOST APPROPRIATE SOLUTION THAT CAN BEST MEET THEIR OBJECTIVES”



WILLIS AEROSPACE

**“WITHOUT CHANGE, THERE IS
NO GROWTH, NO CHALLENGE,
NO TRIUMPH.” ”**

JOE PLUMERI, 2009

Willis has taken the lead in establishing itself as much more than a transactional broker, offering innovative products and value added services to our clients that are unique to Willis.

The group, together with its subsidiaries and associates, employs 20,000 people represented through a network of 400 offices in 120 countries.

Willis Aerospace is a division of Willis Group Limited, the global insurance broker and is a leading professional risk and insurance advisor to the global aerospace industry.

We employ over 320 aerospace associates based in 28 dedicated offices servicing the requirements of aerospace companies around the world, including aerospace risk management, leasing and financial consultants.

Willis Aerospace has achieved and sustained key market position over the past decade through an unswerving commitment to clients by investing heavily in new skills and resources to ensure that we meet and exceed our clients' expectations.

Our goal is to help clients succeed by reducing and managing the risks they face.

Willis Aerospace develops and delivers professional insurance, reinsurance and risk management advice and solutions for clients in a diverse range of industries with operations across the world.

DATA SOURCES:

- Ascend
- GAMA
- Willis Aerospace Database
- ATI

DISCLAIMER

This market review has been produced for information purposes only. While the information contained has been prepared after consultation with insurance markets and participants, we accept no liability for its accuracy or reproduction.

“WILLIS AEROSPACE DEVELOPS AND DELIVERS PROFESSIONAL INSURANCE, REINSURANCE AND RISK MANAGEMENT ADVICE AND SOLUTIONS FOR CLIENTS IN A DIVERSE RANGE OF INDUSTRIES WITH OPERATIONS ACROSS THE WORLD.”
