



An Annus Horribilis for Aviation Insurance: how has the Aviation Market reacted to the events of 2014?

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22nd April 2015



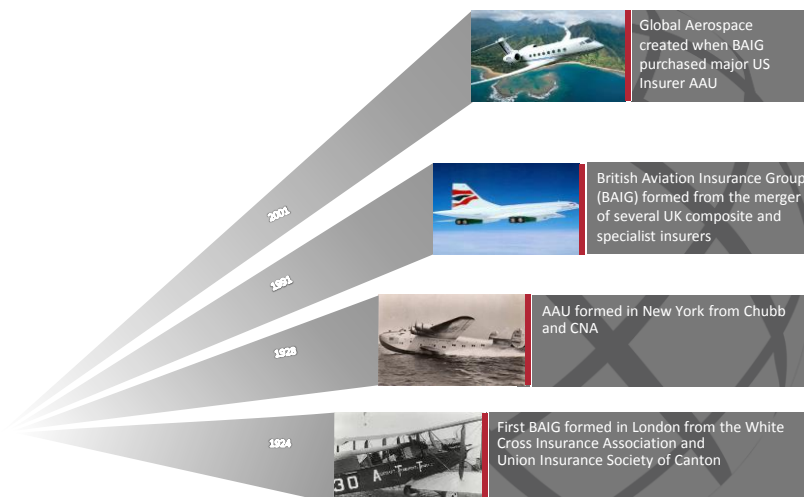
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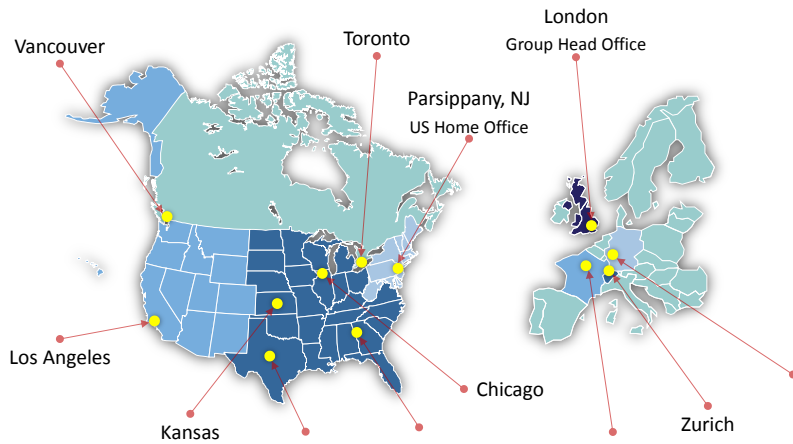
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Market:

- Low Barrier to entry
- Verticalized pricing (Leaders obtain preferential treatment)
- Highly volatile
- Short Tail Claims exposure
- 4 Sub segments



Buyer Characteristics:

- Relatively price sensitive
- Well informed/sophisticated buyers (major carriers)

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Market:

- High Barrier to entry
- Some verticalized pricing
- "Long tail" claims exposure
- 6 sub-classes



Buyer Characteristics:

- Less price sensitive (Major manufacturers)
- Very good security a requirement
- Well informed/sophisticated buyers (major risks).

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Market:

- High Barriers to entry – distribution network
- Price sensitive buyers
- “Short tail” claims exposures
- Risks placed regionally
- Divided into 5 sub-classes



Buyer Characteristics:

- Price sensitive
- Mostly “unsophisticated buyers”

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Market:

- Relatively low barriers to entry.
- “Short tail” claims exposures
- Highly technical
- Highly volatile – around 14/18 major launches per year
- Divided into 2 sub-classes – Launch & In Orbit

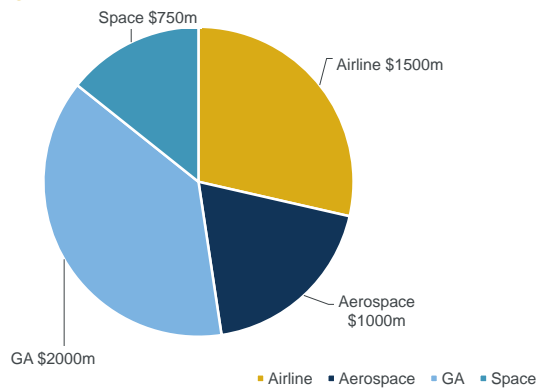


Buyer characteristics:

- Relatively price sensitive
- Most buyers are relatively well informed

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Market Premiums

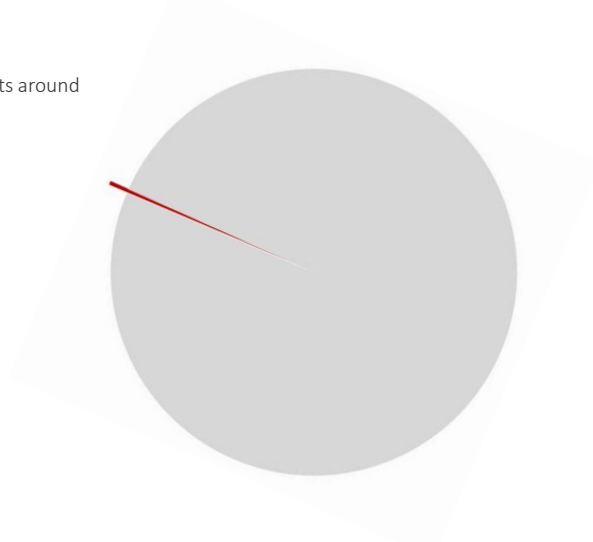


.... A very crude estimate puts total premium at \$5.25bn

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Putting things into perspective...

... The Airline/Aerospace sector represents around 0.3%* of total non life premiums



**Based on OECD estimate of worldwide non life direct premium*

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Put things into perspective....

.....but there is significant exposure...

At this very moment		
13,800 aircraft are in flight	\$1.25bn as a typical limit, implies total limits of \$17.25 trillion	Even at a \$375m PML, \$5.2 trillion exposed
Over the last 15 minutes		
750 take offs	\$281bn at risk	\$40,000

.....Very high limits are given in the airline market

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Features of Airline policies

- Big liability limits – typical policies can have \$2bn of cover which applies separately to each aircraft operated by the airline.
- Large Aircraft Hull “All Risks” Agreed Values & Total Loss Only amounts.
- Annual policies
- Policy can cover a placement of a group of Airlines
- Perils covered:
 - Hull & Spares “All Risks” – physical damage to the asset, theft, disappearance.
 - Liability – all liability for Bodily Injury & Property Damage to passengers and third parties arising out of the airline’s aviation operations.
- Typical exclusions:
 - Hull & Spares: wear and tear, deterioration, mechanical breakdown, loss of use, war & terrorism, nuclear risks.
 - Liability: pollution, noise, nuclear risks, war & terrorism, asbestos, compulsory insurance (employer’s liability, motor), hotels, tour operators, pure financial losses, delay.
- Hull/Liability and Hull War and Third Party War & Terrorism Liability coverage are separate.

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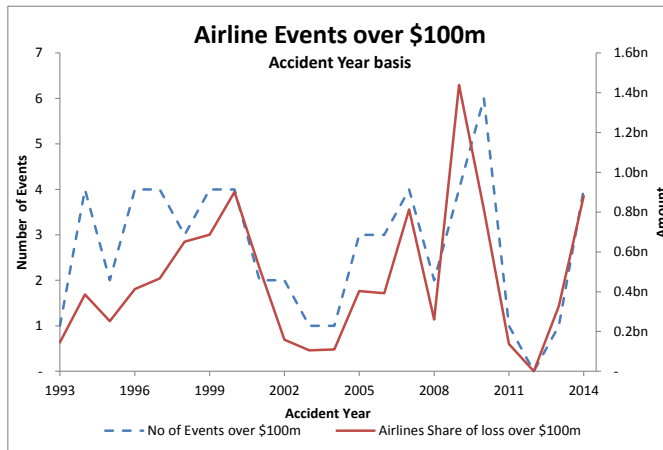


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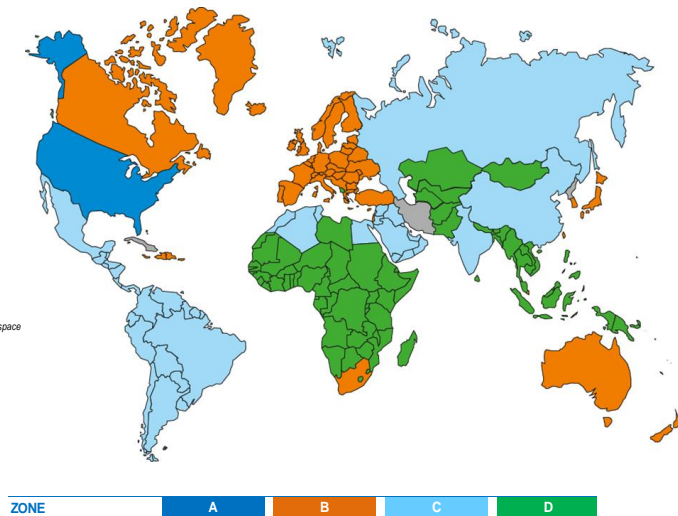
- Awards for compensation vary by jurisdiction
- Forum 'shopping' exists where lawyers for the claimants will attempt to get the case held in the jurisdiction where the awards will be most favourable
- In general US Passenger fatality awards are the highest
- There can be significant uncertainty around settlement inflation
- Awards for severe injuries can be higher than fatality awards
- Claims can take many years to settle in court and legal costs can also be significant
- Airline Insurers can pursue other parties – Manufacturer, Airport when the cause of the claim is not down to the Airline
- Other costs unrelated to passenger liability can be significant e.g. clean up costs, search costs.

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Accident Year	Number of Events Over \$100M	Airlines Share of Loss Over \$100M
1993	1	144.9M
1994	4	386.4M
1995	2	251.7M
1996	4	413.4M
1997	4	466.2M
1998	3	651.7M
1999	4	687.0M
2000	4	901.2M
2001	2	518.5M
2002	2	158.9M
2003	1	105.3M
2004	1	109.5M
2005	3	403.4M
2006	3	391.9M
2007	4	813.2M
2008	2	260.0M
2009	4	1,439.4M
2010	6	813.3M
2011	1	137.3M
2012	-	-
2013	1	327.9M
2014	4	881.3M



Source: Global Aerospace



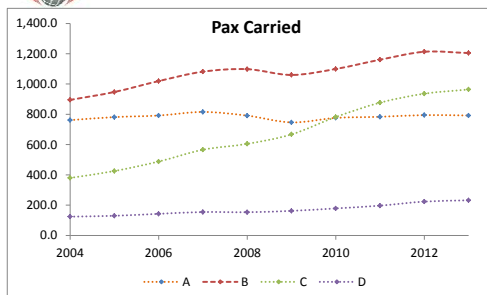
Events with greater than 10 fatalities per 10 million landings

Acc Yr	A	B	C	D	Total
1994	5.8	3.8	8.9	-	5.3
1995	1.4	-	21.4	12.9	4.4
1996	2.8	-	20.3	12.2	4.8
1997	1.4	4.6	7.7	34.2	5.2
1998	-	4.4	10.6	26.0	4.5
1999	-	2.8	10.0	-	2.6
2000	2.4	2.6	6.4	25.4	4.0
2001	2.4	2.6	-	-	2.0
2002	-	4.0	8.8	-	3.0
2003	1.2	1.3	3.0	10.5	1.9
2004	1.1	-	2.7	17.6	1.8
2005	1.0	3.5	4.9	16.9	3.4
2006	1.1	-	6.5	8.0	2.1
2007	-	2.1	1.9	29.8	2.7
2008	-	1.0	3.5	7.5	1.5
2009	1.2	1.1	1.6	-	1.2
2010	-	-	5.9	13.2	2.3
2011	-	-	-	6.3	0.4
2012	-	-	-	16.8	1.1
2013	-	-	1.2	10.0	1.0
2014	-	1.0	3.6	5.0	1.7
All Yrs	1.0	1.7	6.1	12.0	2.7
10 Yr Avg	0.3	0.9	2.9	11.3	1.7
5 yr Avg	-	0.2	2.1	10.3	1.3

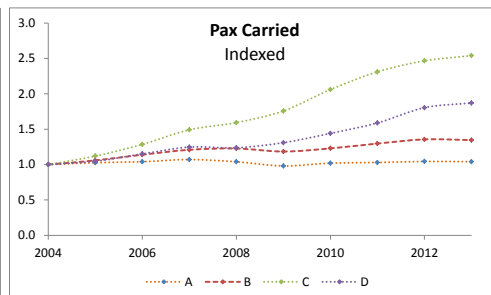
Source: Global Aerospace

- Overall trend for declining frequency – points to a safety improvement
- Frequency varies by region – much better recent experience in A/B

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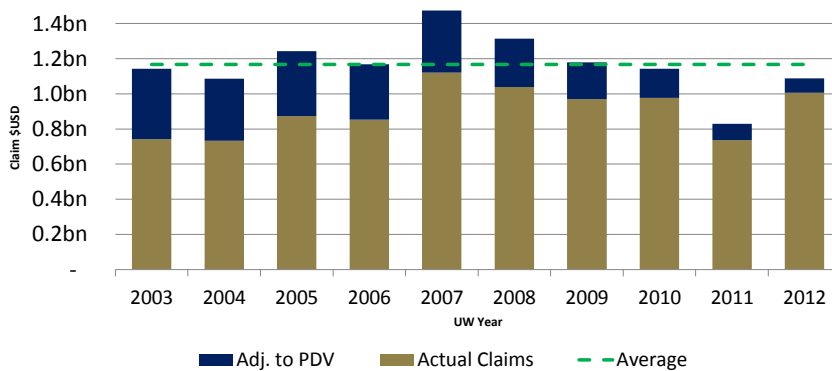
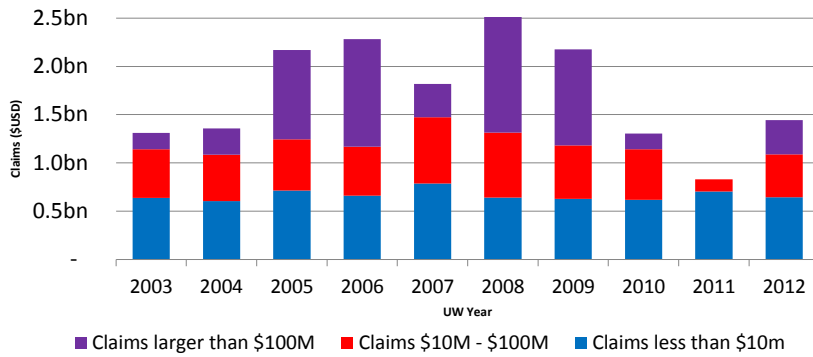


Source: Global Aerospace



- Exposures (in terms of passengers carried) have grown significantly in the last few years
- Overall around 3bn passengers carried worldwide in 2014. In 2004 it was just over 2bn
- Growth in number of flights annually and larger planes with more capacity
- Most of the growth is coming from Asia and the Middle East

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Insurers are expected to hike war risk premiums by up to 300% following the recent spate of flight disasters triggered by conflicts around the world, a senior aviation insurance executive has told *The Actuary*.

04 AUGUST 2014 | BY JUDITH UGWUMADU



Malaysia Airlines Flight MH17 crashed in Ukraine on July 17 after it was shot down. Photo: Shutterstock

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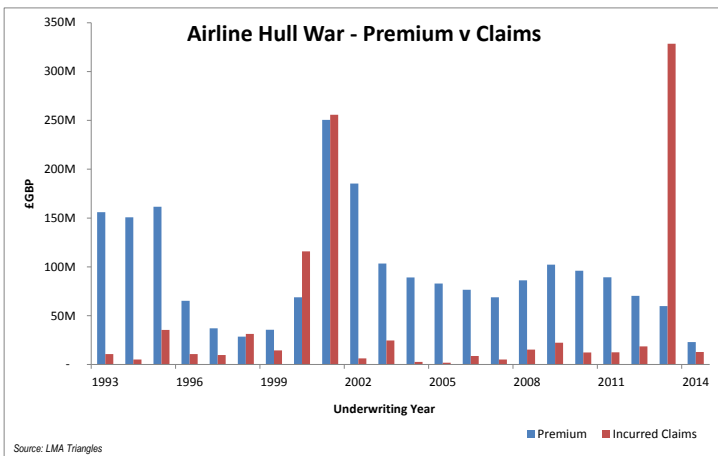
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- Problem generating sufficient return on capital in other markets
- Massive influx of “third party” capital into (re)insurance markets – e.g. ILS funds
- Ease of access
- Oversupply of capacity has led to its commoditization
- Market is highly competitive

- Thanks for your time
- Any Questions or comments?