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Études et Dossiers

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Layout & Distribution: Valéria Kozakova

Risk Securitization and Insurance: Market Developments and Outlook

Alan Punter

Aon

Agenda

- Chorus - Disclaimer
- Act I - Issuers in search of investors
- Act II - Game on
- Act III - Investors in search of issuers
- Act IV - Stuff happens
- Act V - Happy ever after?

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Act I - Issuers in search of investors

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Early conceptions

- “Bottomry”
- Industry Loss Warrants (ILWs) & Tonners?
- Fathered in the US
 - California Earthquake Authority
 - Hurricane Andrew

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Closing the gap between issuers and investors - 1

- Principal-protected bonds
- Talking high yield bond language
 - Probability of impairment and expected loss
 - Finding the “sweet spot”
- Enter the:
 - Catastrophe loss modelling companies
 - Credit rating agencies

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Closing the gap between issuers and investors - 2

- Developing the triggers
 - Indemnity
 - Modelled loss notional portfolio
 - Parametric
 - Index
- Meanwhile what's happening to basis risk?

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Act II - Game on

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Late 1990s

- Technology proven
 - Plus secondary trading
- Advantages of cat bonds
 - Contract certainty
 - Multi-year - fixed price, fixed limit
 - Fully collateralised
- Disadvantages
 - Transaction time & cost
 - No reinstatement(s)

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Act III - Investors in search of issuers

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Post 2001 hard market

- Investors searching for yield
 - Cat bond spreads narrow
 - Traditional reinsurance credit quality reduces
- But where are the issuers?
 - The club gets smaller
 - Some serial issuers
 - But more non-renewers

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Act IV - Stuff happens

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Basis risk happens

- Earthquake in Japan
 - Phoenix Wind / Earthquake II parametric bond
 - Low insured losses
 - But peak ground acceleration triggers second event cover
- Hurricanes Charley, Frances, Ivan & Jeanne
 - High insured losses
 - But no cat bonds impaired
- Hurricanes Katrina, Rita & Wilma
 - Very high insured losses
 - Only one cat bond impaired?

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Act V - Happy ever after?

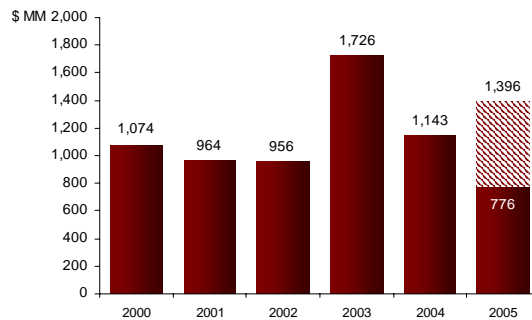
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Where are we now? Capacity

- Capital market capacity for property risk continues to grow
 - Increasing interest from cat fund managers and hedge funds

Six-Year Issuance Summary



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Where are we now? Efficiency

- Risk premium paid by issuers continues to decline

Calendar Year	Issues	Sharpe Ratio	
		Margin / Std Deviation	
		Median	Average
2000 / 2001	23	60.2%	66.5%
2002	20	44.4%	44.4%
2003	29	44.4%	48.4%
2004 / 2005 YTD	23	37.8%	36.7%

- Improved liquidity via secondary market trading has contributed to lower risk premium

RLS Sector	Issues Since 2002	Sharpe Ratio at Issuance		Sharpe Ratio as of July 31, 2005*	
		Median	Average	Median	Average
Asia	11	32.46%	37.50%	20.72%	32.44%
European Wind	11	34.97%	44.48%	23.58%	25.74%
Multi-peril	23	45.15%	49.56%	38.83%	41.90%
US Earthquake	18	42.18%	39.19%	29.02%	31.06%
US Hurricane	9	39.97%	40.57%	39.89%	41.27%
Total	72	42.18%	44.05%	30.30%	35.99%

* Source: Aon Capital Markets

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Where are we going?

- If we do have the first catastrophe bond default
 - Will it validate the concept for issuers?
 - Issue pipeline still low
 - Will it frighten the investors?
 - Secondary market pricing steady
- Queries over catastrophe loss models
- Is post-event capital raising the new ART?
- Will securitisation of non-cat risk take off?

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Any questions?

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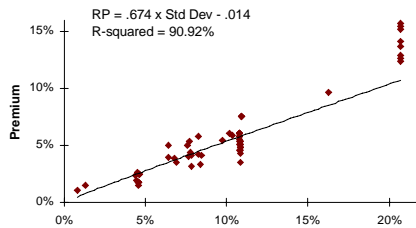
Appendix: Sector issuance and pricing detail

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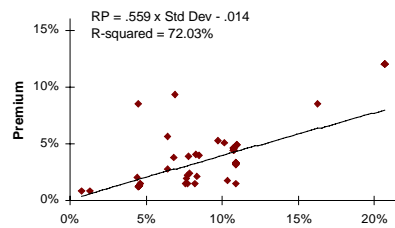
Risk premium and volatility

At Issuance



RLS Sector	# Issues	Sharpe Ratio	
		Median	Average
Asia	10	32.46%	38.12%
European Wind	10	36.14%	46.05%
Multi-peril	19	47.55%	52.62%
US Earthquake	17	42.18%	39.72%
US Hurricane	9	42.24%	44.69%
Total	66	42.46%	44.80%

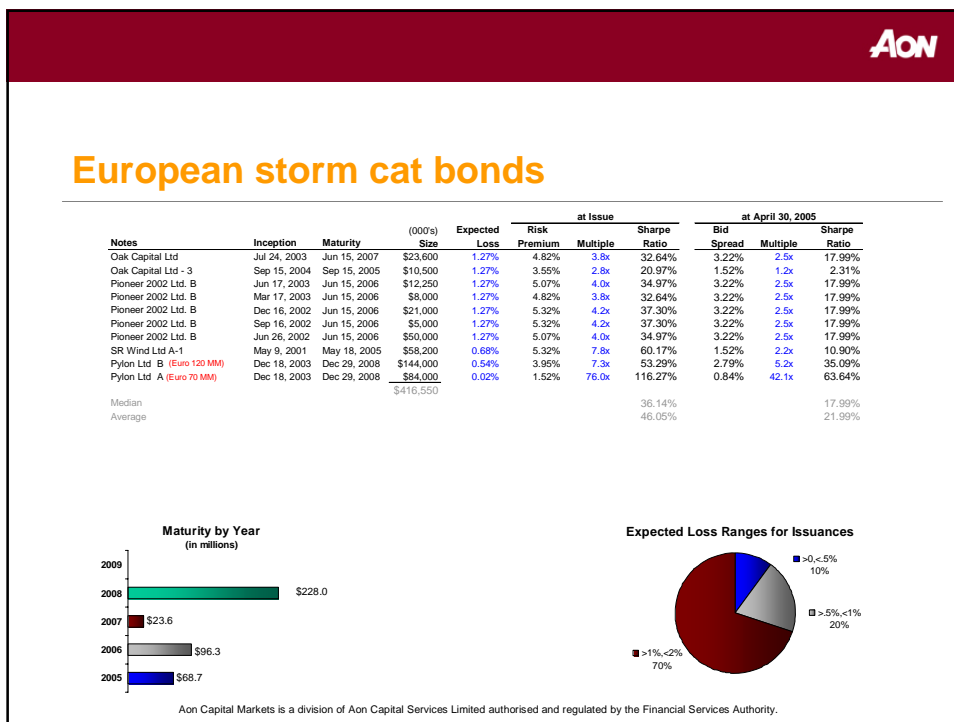
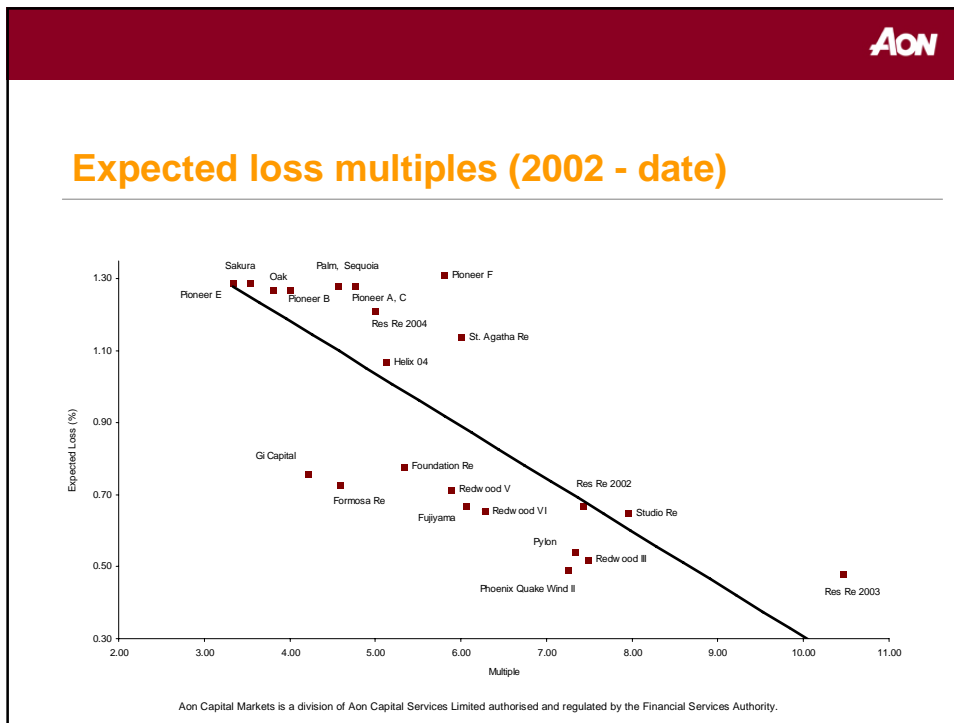
As of April 30, 2005*



RLS Sector	# Issues	Sharpe Ratio	
		Median	Average
Asia	10	19.95%	30.17%
European Wind	10	17.99%	21.99%
Multi-peril	19	34.69%	38.93%
US Earthquake	17	29.21%	30.49%
US Hurricane	9	31.23%	27.28%
Total	66	29.21%	33.36%

* Source: Aon Capital Markets

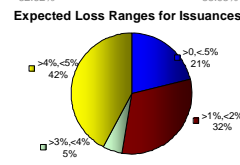
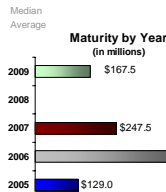
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Multi-peril cat bonds

Notes	Inception	Maturity	(000's) Size	Expected Loss	at Issue			at April 30, 2005		
					Risk Premium	Multiple	Sharpe Ratio	Bid Spread	Multiple	Sharpe Ratio
Arbor I Ltd - 1	Jul 24, 2003	Jun 15, 2006	\$95,000	4.86%	15.72%	3.2x	52.41%	12.05%	2.5x	34.69%
Arbor I Ltd - 2	Sep 15, 2003	Jun 15, 2006	\$60,000	4.86%	15.46%	3.2x	51.18%	12.05%	2.5x	34.69%
Arbor I Ltd 2003 - 3	Dec 15, 2003	Dec 15, 2006	\$8,850	4.86%	15.21%	3.1x	49.96%	12.05%	2.5x	34.69%
Arbor I Ltd 2004 - 4	Mar 15, 2004	Mar 15, 2006	\$21,000	4.86%	14.19%	2.9x	45.06%	12.05%	2.5x	34.69%
Arbor I Ltd 2004 - 5	Jun 15, 2004	Jun 15, 2006	\$18,000	4.86%	13.69%	2.8x	42.62%	12.05%	2.5x	34.69%
Arbor I Ltd 2004 - 6	Sep 28, 2004	Sep 15, 2006	\$31,800	4.86%	12.93%	2.7x	38.95%	12.05%	2.5x	34.69%
Arbor I Ltd 2004 - 7	Dec 15, 2004	Dec 15, 2006	\$15,000	4.86%	12.67%	2.6x	37.72%	12.05%	2.5x	34.69%
Arbor I Ltd 2004 - 8	Dec 15, 2004	Mar 15, 2007	\$20,000	4.86%	12.42%	2.6x	36.50%	12.05%	2.5x	34.69%
Residential Re 2004 B	May 27, 2004	Jun 8, 2007	\$100,000	3.16%	9.63%	3.0x	39.83%	8.48%	2.7x	32.72%
Pioneer 2002 Ltd. F	Jun 26, 2002	Jun 15, 2006	\$25,000	1.31%	7.60%	5.8x	57.55%	4.95%	3.8x	33.26%
Pioneer 2002 Ltd. F	Dec 16, 2002	Jun 15, 2006	\$3,000	1.31%	7.60%	5.8x	57.55%	4.95%	3.8x	33.26%
Pioneer 2002 Ltd. F	Mar 17, 2003	Jun 15, 2006	\$8,140	1.31%	7.60%	5.8x	57.55%	4.95%	3.8x	33.26%
Residential Re 2004 A	May 27, 2004	Jun 8, 2007	\$127,500	1.21%	6.03%	5.0x	47.55%	5.07%	4.2x	38.05%
Mediterranean Re B	Nov 21, 2000	Nov 18, 2005	\$88,000	1.16%	5.93%	5.1x	46.13%	1.77%	1.5x	5.94%
Helix 04 Limited	Jun 10, 2004	Jun 30, 2009	\$100,000	1.07%	5.48%	5.1x	45.19%	5.26%	4.9x	42.97%
Residential Re 2003	May 30, 2003	Jun 8, 2006	\$160,000	0.46%	5.02%	10.5x	70.79%	5.65%	11.8x	80.60%
Mediterranean Re A	Nov 21, 2000	Nov 18, 2005	\$41,000	0.22%	2.64%	12.0x	53.65%	1.24%	5.6x	22.58%
Foundation Re Ltd B	Nov 17, 2004	Jan 6, 2009	\$67,500	0.21%	1.98%	9.4x	39.56%	1.87%	8.9x	37.06%
Arbor II Ltd	Jul 24, 2003	Jun 15, 2006	\$26,500	0.007%	1.01%	144.8x	129.99%	0.80%	114.4x	102.51%
Median			\$1,016,290					47.55%		34.69%
Average								52.62%		38.93%

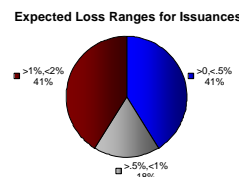
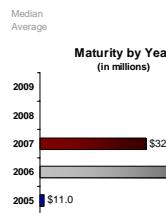


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US earthquake cat bonds

Notes	Inception	Maturity	(000's) Size	Expected Loss	at Issue			at April 30, 2005		
					Risk Premium	Multiple	Sharpe Ratio	Bid Spread	Multiple	Sharpe Ratio
Pioneer 2002 Ltd. C	Jun 26, 2002	Jun 15, 2006	\$30,000	1.28%	6.08%	4.8x	44.53%	4.43%	3.5x	29.21%
Pioneer 2002 Ltd. C	Sep 16, 2002	Jun 15, 2006	\$20,500	1.28%	6.08%	4.8x	44.53%	4.43%	3.5x	29.21%
Pioneer 2002 Ltd. C	Dec 16, 2002	Jun 15, 2006	\$15,700	1.28%	6.08%	4.8x	44.53%	4.43%	3.5x	29.21%
Pioneer 2002 Ltd. C	Mar 17, 2003	Jun 15, 2006	\$6,500	1.28%	6.08%	4.8x	44.53%	4.43%	3.5x	29.21%
Pioneer 2002 Ltd. C	Jun 17, 2003	Jun 15, 2006	\$7,250	1.28%	5.83%	4.8x	42.18%	4.43%	3.5x	29.21%
Sequoia Capital Ltd	Jul 24, 2003	Jun 15, 2007	\$22,500	1.28%	5.83%	4.8x	42.18%	4.43%	3.5x	29.21%
Sequoia Capital Ltd - 3	Sep 15, 2004	Sep 15, 2005	\$11,000	1.28%	4.56%	3.6x	30.43%	4.43%	3.5x	29.21%
Redwood Capital V, Ltd	Dec 31, 2004	Jan 9, 2007	\$150,000	0.715%	4.21%	5.9x	42.30%	4.08%	5.7x	40.70%
Redwood Capital VI, Ltd	Dec 31, 2004	Jan 9, 2007	\$150,000	0.655%	4.11%	6.3x	44.24%	3.88%	5.9x	41.38%
Redwood Capital III, Ltd	Dec 31, 2003	Jan 9, 2006	\$150,000	0.522%	3.90%	7.5x	49.70%	3.80%	7.3x	48.21%
Pioneer 2002 Ltd. D	Jun 26, 2002	Jun 15, 2006	\$40,000	0.22%	1.77%	8.0x	33.91%	1.31%	5.9x	23.72%
Pioneer 2002 Ltd. D	Sep 16, 2002	Jun 15, 2006	\$1,750	0.22%	1.77%	8.0x	33.91%	1.31%	5.9x	23.72%
Pioneer 2002 Ltd. D	Dec 16, 2002	Jun 15, 2006	\$25,500	0.22%	1.77%	8.0x	33.91%	1.31%	5.9x	23.72%
Pioneer 2002 Ltd. D	Mar 17, 2003	Jun 15, 2006	\$5,500	0.22%	1.77%	8.0x	33.91%	1.31%	5.9x	23.72%
Pioneer 2002 Ltd. D	Jun 17, 2003	Jun 15, 2006	\$2,600	0.22%	1.77%	8.0x	33.91%	1.31%	5.9x	23.72%
Pioneer 2002 Ltd. D	Dec 15, 2003	Jun 15, 2006	\$51,000	0.22%	1.52%	6.9x	28.38%	1.31%	5.9x	23.72%
Redwood Capital IV, Ltd	Dec 31, 2003	Jan 9, 2006	\$200,000	0.216%	2.33%	10.8x	48.10%	2.03%	9.4x	41.18%
Median			\$359,900					42.18%		29.21%
Average								39.72%		30.49%

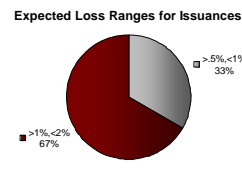
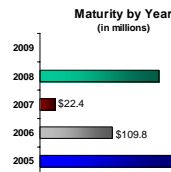


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US wind cat bonds

Notes	Inception	Maturity	(000's) Size	Expected Loss	at Issue			at April 30, 2005		
					Risk Premium	Multiple	Sharpe Ratio	Bid Spread	Multiple	Sharpe Ratio
Palm Capital Ltd	Jul 24, 2003	Jun 15, 2007	\$22,350	1.28%	5.83%	4.6x	42.24%	4.64%	3.6x	31.23%
Palm Capital Ltd - 2	Dec 15, 2003	Dec 15, 2005	\$19,000	1.28%	5.07%	4.0x	35.18%	4.64%	3.6x	31.23%
Pioneer 2002 Ltd. A	Jun 26, 2002	Jun 15, 2006	\$85,000	1.28%	6.08%	4.8x	44.59%	4.64%	3.6x	31.23%
Pioneer 2002 Ltd. A	Dec 16, 2002	Jun 15, 2006	\$8,500	1.28%	5.32%	4.2x	37.53%	4.64%	3.6x	31.23%
Pioneer 2002 Ltd. A	Mar 17, 2003	Jun 15, 2006	\$6,500	1.28%	5.58%	4.4x	39.89%	4.64%	3.6x	31.23%
Pioneer 2002 Ltd. A	Jun 17, 2003	Jun 15, 2006	\$9,750	1.28%	6.08%	4.8x	44.59%	4.64%	3.6x	31.23%
Foundation Re Ltd A	Nov 17, 2004	Nov 24, 2008	\$180,000	0.78%	4.16%	5.3x	39.97%	3.96%	5.1x	37.69%
SR Wind Ltd A-2	May 9, 2001	May 18, 2005	\$58,200	0.76%	5.83%	7.7x	61.59%	1.52%	2.0x	9.24%
Residential Re 2002	May 31, 2002	Jun 1, 2005	\$125,000	0.67%	4.97%	7.4x	56.66%	1.52%	2.3x	11.22%
Median			\$514,300				42.24%			31.23%
Average							44.69%			27.28%

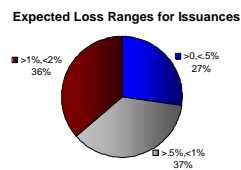
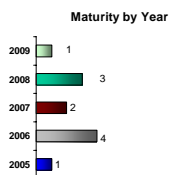


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Asia wind and earthquake cat bonds

Notes	Inception	Maturity	Size	Expected Loss	at Issue			at April 30, 2005		
					Risk Premium	Multiple	Sharpe Ratio	Bid Spread	Multiple	Sharpe Ratio
Pioneer 2002 Ltd. E	Mar 17, 2003	Jun 15, 2006	\$8,000	1.29%	4.82%	3.7x	32.46%	3.46%	2.7x	19.95%
Pioneer 2002 Ltd. E	Dec 16, 2002	Jun 15, 2006	\$30,550	1.29%	4.82%	3.7x	32.46%	3.46%	2.7x	19.95%
Pioneer 2002 Ltd. E	Jun 26, 2002	Jun 15, 2006	\$25,000	1.29%	4.31%	3.3x	27.79%	3.46%	2.7x	19.95%
Sakura Capital Ltd	Jul 24, 2003	Jun 15, 2007	\$14,700	1.29%	4.56%	3.5x	30.13%	3.46%	2.7x	19.95%
GI Capital Ltd	Jun 30, 2004	Apr 8, 2009	\$125,000	0.76%	3.19%	4.2x	31.05%	2.33%	3.1x	20.06%
Farmosa Re Ltd	Aug 25, 2003	Jul 1, 2006	\$100,000	0.73%	3.35%	4.6x	31.24%	1.83%	2.5x	14.29%
Parametric Re	Nov 19, 1997	Nov 19, 2007	\$70,000	0.70%	4.36%	6.2x	47.31%	2.31%	3.3x	20.83%
Fujiyama Ltd.	May 22, 2002	May 16, 2005	\$67,900	0.67%	4.06%	6.1x	44.37%	1.81%	2.8x	16.20%
Phoenix Quake Wind II (2nd Event)	Jun 25, 2003	Jun 1, 2008	\$85,000	0.49%	3.55%	7.2x	44.41%	9.56%	19.5x	131.72%
Phoenix Quake (2nd Event)	Jun 25, 2003	Jun 1, 2008	\$192,500	0.22%	2.48%	11.3x	49.07%	1.35%	6.1x	24.46%
Phoenix Quake Wind (2nd Event)	Jun 25, 2003	Jun 1, 2008	\$192,500	0.22%	2.48%	11.3x	49.07%	1.35%	6.1x	24.46%
Median							32.46%			19.95%
Average							38.12%			30.17%



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




Aon Capital Markets

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- Aon Capital Markets specializes in raising debt and equity capital for insurance and corporate clients. Innovations include:
 - First modeled loss transaction – Namazu Re
 - First modeled loss for windstorm – NeHi
 - First embedded frequency option – Pacific Re
 - First and only on-shore securitizations – Domestic, NeHi
 - First Lloyd's securitization – St. Agatha
 - First contingent equity transactions – CatEPut®

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Selected cat bond offerings

 \$100,000,000 Helix 04 Limited Floating Rate Notes Lead Manager June 2004	 \$100,000,000 Formosa Re Floating Rate Notes Co-Manager August 2003	 \$33,000,000 St. Agatha Re Floating Rate Notes Lead Manager January 2002	 \$161,856,000 Trinom Ltd. Floating Rate Notes Preference Shares Co-Manager June 2001	Sorema SA \$17,000,000 Halyard Re BV Variable Rate Notes Lead Manager April 2001
 \$50,000,000 NeHi, Inc. Variable Rate Notes Lead Manager April 2001	Sorema SA \$17,000,000 Halyard Re BV Variable Rate Notes Lead Manager April 2000	 \$100,000,000 Namazu Re Floating Rate Notes Lead Manager November 1999	 \$80,000,000 Juno Re Floating Rate Notes Co-Manager June 1999	Sorema SA \$17,000,000 Halyard Re BV Variable Rate Notes Lead Manager April 1999
 \$100,000,000 Domestic Inc. Floating Rate Notes Lead Manager March 1999	 \$80,000,000 XL Re Cat XL Co-Manager July 1998	 Yasuda \$80,000,000 Pacific Re Floating Rate Notes Lead Manager June 1998		

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