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2003 REVIEW OF TRENDS IN INSURANCE SECURITIZATION APRIL 2002 TO MARCH 2003

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INTRODUCTION

The year, 2002, was a record for insurance securitization. It's official. According to Marsh and McLennan¹ \$1.22 billion bonds were issued in 2002 versus \$1.136 billion in 2000. Our own readings of history are slightly off calendar, usually measuring the twelve months in between 1st Quarter ends. Nevertheless, like Marsh we believe that the most recent twelve months represent something of an up-tick in activity. Like the margin by which the Marsh record was set, the magnitude of the up-tick is small, tiny in fact, but potentially a significant harbinger of directional change. In truth, these are crumbs of comfort for those toiling in the vineyards of insurance securitization. The

¹ Market Update: The Catastrophe Bond Market at Year -End 2002. Note however that the way one counts, as well as the calendar, can cause different numbers. Cochran Caronia says \$989.5 million cat bonds were issued in calendar 2002. They did not include K3 in their listing.

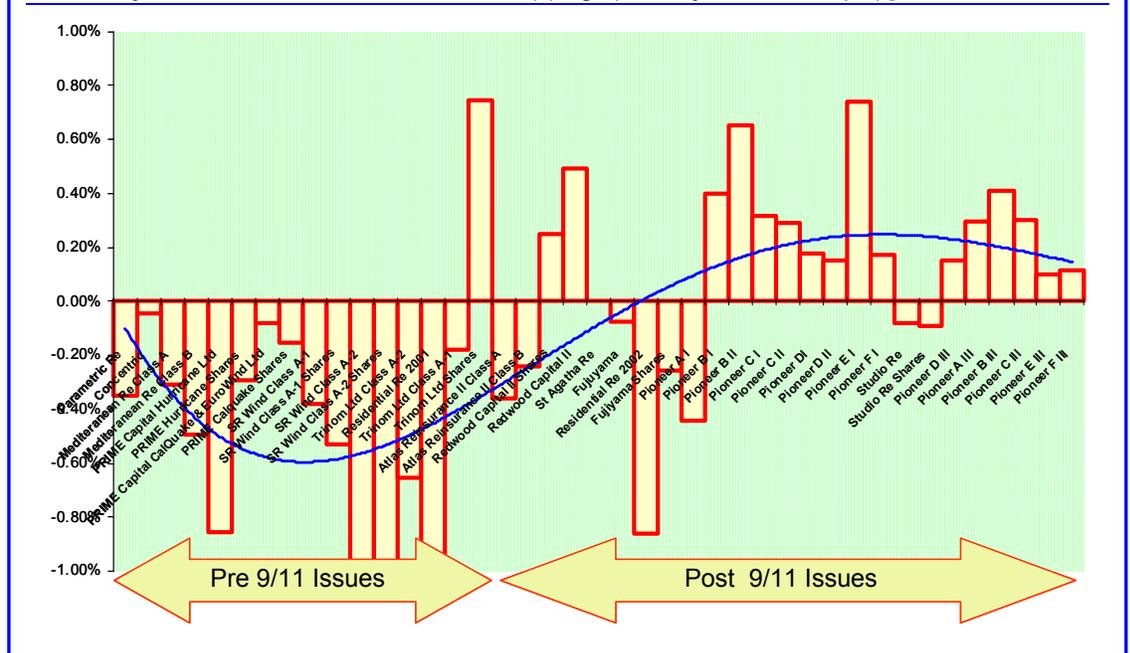
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Figure 1

SHIFT IN MARKET VALUE – Issue Price to 12-31-02 Price.

[Issues with lower yield in the secondary market than the yield at issue are shown with a (-) sign. Conversely, deals less well bid, are shown with a (+) sign (i.e., they became cheaper).]



the insurance market is only the second issuance directly by an insured. The second significant event was the introduction by Swiss Re of a shelf registration that allows open ended issuance of insurance linked securities up to a fixed amount for a fixed period of time. The essential feature of this arrangement is that it saves on issuance costs, which have been one of the bad raps on securitization.

Details of these two transactions and others are described below together with the trends in issuance characteristics for the past five years. The trends in secondary market pricing of all outstanding cat bonds is also presented.

THE NEW SECURITIES

Table 1 lists the issue spread, amount, maturity, rating, expected loss and probability of attachment for each of the securities issued between 4/1/2002 and 3/31/2003. Other descriptive comments follow.

ST AGATHA RE²

The St Agatha Re transaction was novel in two important respects. First, the issuer was a Lloyd's syndicate. Second, it was their maiden issue. Although small (\$33 million) it demonstrates that cat bonds can fit quite usefully in to the sometimes arcane risk-based capital rules of Lloyds of London.

FUJIYAMA

Nissay Dowa General Insurance Company is a first time issuer of cat bonds. It sought earthquake coverage of two adjacent zones in Japan. The first zone covered the metropolitan areas of Tokyo and Yokohama, the second covered the adjacent, largely urban, areas to the east, towards Fuji. The investment banker was Swiss Re Capital Markets (SRCM). Issue price was 400 basis points (bps) over LIBOR and expected loss was 67 bps. The term was for three years.

The other notable feature of the Fujiyama issue is that it may be the maiden solo for SRCM. Previous deals by Swiss Re had been co-managed by Lehman, Merrill or Goldman Sachs.

² St Agatha was inadvertently included in last year's survey. It properly belongs in 2002/3.

PIONEER

Five separate risks can be issued out of the shelf registration of Pioneer 2002 Ltd., a special purpose reinsurer domiciled in the Cayman Islands. They are, respectively; Series A Hurricane, Series B European Windstorm, Series C California Earthquake, Series D Central US Earthquake, and Series E Japanese Earthquake. Finally, there is Series F, which is exposed to all of the above. Interestingly, the exposure in each of the risks is converted to an Index of damage, presumably to standardize exact modeled outputs from EQECAT. All exposures cover multiple occurrences up to the limit; all mature in June 2006, even when issued at different times.

Unusually, Series A covers all North Atlantic hurricanes land-falling in the US or the Caribbean (excluding Cuba and Haiti). The Japanese earthquake risk is for the whole of Japan, in contrast to Fujiyama where specific hazard zones are identified. Similarly, the index for Series C captures the whole of the state of California, again in contrast to zones identified in the PRIME securitization of 1999. European Windstorm covers France, Germany, Denmark, the Benelux countries and the U.K., a different set of countries from Mediterranean Re. All these specifications are important for portfolio managers who will want to know where they are accumulating risks and where they are picking up diversification. Such specifications are also important for comparing prices.

Consider the following table:

	Issue Spread	Expected Loss	Probability of Attaching	Probability of Exhausting
Fujiyama	400 bps	0.67%	0.88%	0.42%
Pioneer Series E	425 bps	1.29%	1.59%	0.98%

Fujiyama was issued in May. Pioneer's first series (quoted above) was issued in June. In other words, they were issued almost contemporaneously. Is the higher risk in Pioneer adequately compensated by the extra 25 basis points? [Remember, if the exposure statistics are equally credible, they should form the basis for price comparison, not the different exposure zones.] Evidently the answer

Table 2
LIST OF INSURANCE-LINKED (Risk-Linked) SECURITIES (April 2002 – March 2003)

SPV	Cedent	Lead Underwriters	Amount (US \$Mil)	S&P Rating	Moody's Rating	Fitch Rating	Issue Date	Maturity	Maturity Term	Exposure Term	Spread Premium to LIBOR (bps)	Adjusted Spread Premium (Annual)	Expected Loss (Annual)	Probability of 1st \$ Loss (Annual)	Probability of Exhaust (Annual)	Expected Excess Return (Annual)	Conditional Expected Loss
1. Analyzed Securities																	
Fujiyama	Nissay Dowa	Swiss Re Cap. Mkts.	67.9	BB+	--	--	May-02	May-05	36	36	400	406	0.67%	0.8800	0.4200	339	0.76%
Pioneer 2000 Ltd. A	Swiss Re	Swiss Re Cap. Mkts.	85.0	BB+	Ba3		Jun-02	Jun-06	48	48	600	608	1.28%	1.5900	0.9700	480	0.81%
			8.5	BB+	Ba3		Dec-02	Jun-06	42	42	525	532	1.28%	1.5900	0.9700	404	0.81%
			6.5	BB+	Ba3		Mar-03	Jun-06	42	42	550	558	1.28%	1.5900	0.9700	430	0.81%
Pioneer 2000 Ltd. B	Swiss Re	Swiss Re Cap. Mkts.	50.0	BB+	Ba3		Jun-02	Jun-06	48	48	500	507	1.27%	1.5900	1.0500	380	0.80%
			5.0	BB+	Ba3		Sep-02	Jun-06	48	48	525	532	1.27%	1.5900	1.0500	405	0.80%
			21.0	BB+	Ba3		Dec-02	Jun-06	42	42	525	532	1.27%	1.5900	1.0500	405	0.80%
			8.0	BB+	Ba3		Mar-03	Jun-06	42	42	475	482	1.27%	1.5900	1.0500	355	0.80%
			30.0	BB+	Ba3		Jun-02	Jun-06	48	48	600	608	1.28%	1.5900	0.9800	480	0.81%
Pioneer 2000 Ltd. C	Swiss Re	Swiss Re Cap. Mkts.	20.5	BB+	Ba3		Sep-02	Jun-06	48	48	600	608	1.28%	1.5900	0.9800	480	0.81%
			15.7	BB+	Ba3		Dec-02	Jun-06	42	42	600	608	1.28%	1.5900	0.9800	480	0.81%
			6.5	BB+	Ba3		Mar-03	Jun-06	42	42	600	608	1.28%	1.5900	0.9800	480	0.81%
Pioneer 2000 Ltd. D	Swiss Re	Swiss Re Cap. Mkts.	40.0	BBB-	Baa3		Jun-02	Jun-06	48	48	175	177	0.22%	0.2700	1.8600	155	0.81%
			1.8	BBB-	Baa3		Sep-02	Jun-06	48	48	175	177	0.22%	0.2700	1.8600	155	0.81%
			25.5	BBB-	Baa3		Dec-02	Jun-06	42	42	175	177	0.22%	0.2700	1.8600	155	0.81%
			5.5	BBB-	Baa3		Mar-03	Jun-06	42	42	175	177	0.22%	0.2700	1.8600	155	0.81%
Pioneer 2000 Ltd. E	Swiss Re	Swiss Re Cap. Mkts.	25.0	BB+	Ba3		Jun-02	Jun-06	48	48	425	431	1.29%	1.5900	1.0100	302	0.81%
			30.6	BB+	Ba3		Dec-02	Jun-06	42	42	475	482	1.29%	1.5900	1.0100	353	0.81%
			8.0	BB+	Ba3		Mar-03	Jun-06	42	42	475	482	1.29%	1.5900	1.0100	353	0.81%
Pioneer 2000 Ltd. F	Swiss Re	Swiss Re Cap. Mkts.	25.0	BB+	Ba3		Jun-02	Jun-06	48	48	750	760	1.31%	1.6000	1.0200	629	0.82%
			3.0	BB+	Ba3		Dec-02	Jun-06	42	42	750	760	1.31%	1.6000	1.0200	629	0.82%
			8.1	BB+	Ba3		Mar-03	Jun-06	42	42	750	760	1.31%	1.6000	1.0200	629	0.82%
Residential Re 2002	USAA	Goldman Sachs Merrill Lynch/ Lehman Brothers	125.0	BB+	Ba2	--	May-02	Jun-05	37	36	490	497	0.67%	1.1200	0.4000	430	0.60%
St. Agatha Re	Hiscox Syndicate	Aon Capital Markets	33.0	BB+			Apr-02	Apr-05	36	36	675	684	1.14%	1.5500	0.8700	570	0.74%
Studio Re Ltd.	Gulfstream Ins.	Goldman Sachs	150.0	BB+	Ba3		Dec-02	Jul-06	43	42	510	517	0.65%	1.3800	0.2200	452	0.47%
Studio Re Ltd. Shares	(for Vivendi)	Swiss Re Cap. Mkts.	25.0	BB	B1		Dec-02	Jul-06	43	42	800	811	1.71%	2.1300	1.3800	640	0.80%
2. Equity Tranches of SPV - less than \$10 million																	
Fujiyama	Nissay Dowa	Swiss Re Cap. Mkts.	2.1	BB	--	--	May-02	May-05	36	36	700	710	2.06%	2.0600	2.0600	504	1.00%

Notes to Table 1

- The table displays securities/tranches that were issued or announced between April 2002 and March 2003. Section 1 shows 10 issues/tranches that are analyzed in this paper. Section 2 records 1 equity tranche.
- Shaded columns show the data that is used in a related paper on price analysis.
- All deals are converted to a 365-day year as LIBOR convention uses a 360-day year but CAT risk is a 365-day year. Adjusted spreads are therefore comparable to reinsurance pricing.
- Expected Excess Return is defined as Adjusted Spread Premium less Expected Loss. Conditional Expected Loss is defined as Expected Loss divided by the Probability of First Dollar Loss.
- Pioneer is a shelf offering allowing quarterly offerings in each Class; they issued a total of 21 times within the six Classes.

Table 3 / Figure 2

PIONEER TRANSACTION

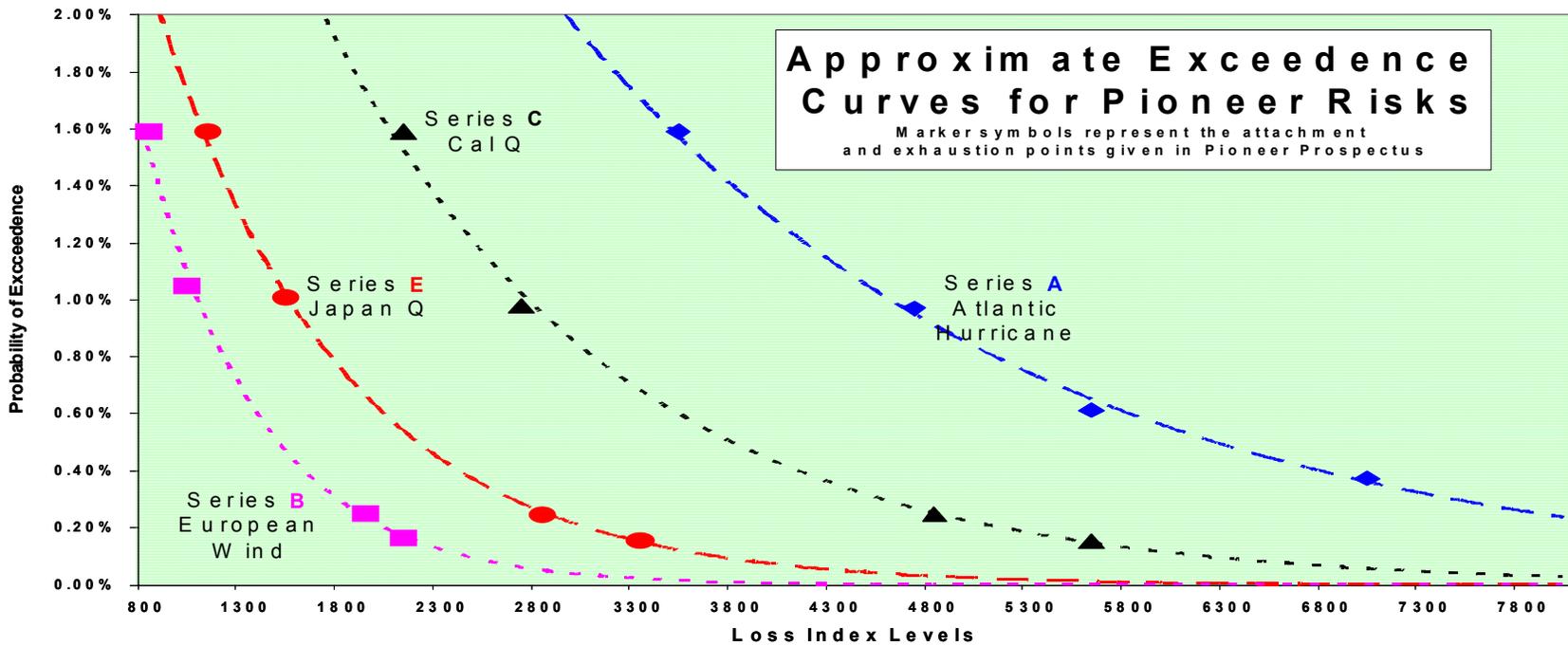
PIONEER SPECIFICATIONS

	Issue Date	6/26/2002	9/16/2002	12/16/2002	3/17/2003	Attach	Exhaust	Expected
A Series	N.Atlantic Hurricane	BB+	6.00%	5.25%	5.50%	A	1.59%	1.28%
B Series	European Windstorm	BB+	5.00%	5.25%	4.75%	B	1.59%	1.27%
C Series	California Earthquake	BB+	6.00%	6.00%	6.00%	C	1.59%	0.98%
D Series	Central US Earthquake	BBB-	1.75%	1.75%	1.75%	D	0.27%	0.22%
E Series	Japan Earthquake	BB+	4.25%	4.75%	4.75%	E	1.59%	1.29%
F Series	Multi-Peril, Any of Above	BB+	7.50%	7.50%	7.50%	F	1.60%	1.31%

Swiss Re Index Values

	Index	Single Peril		Multi-peril		Components of Multi-peril Series F		
		Attach	Exhaust	Attach	Exhaust	PFL	PLL	EL
A Index	N.Atlantic Hurricane	3546	4671	5609	7094	0.612%	0.374%	0.493%
B Index	European Windstorm	810	955	1880	2093	0.253%	0.167%	0.202%
C Index	California Earthquake	2098	2678	4853	5594	0.247%	0.152%	0.199%
D Index	Central US Earthquake	-	-	-	-	0.270%	0.190%	0.218%
E Index	Japan Earthquake	1084	1451	2803	3274	0.248%	0.157%	0.201%
F	Multi-Peril, Any of Above	-	-	-	-	1.600%	1.020%	1.31%

Note: Figures in blue are a "best estimates" by LFC. They are not figures provided in the Pioneer Prospectus



was no. On subsequent issuance of Series E in December and again last March the issue price had to be raised to 475 basis points. Even that may not be enough, see comparative issue prices for other series displayed in Table 2.

Another way to look at this is as follows. What if Swiss Re had bought a chunk of the Fujiyama bond and then issued a comparable amount of Series E at the prices in the above Table 2. Smart move! Swiss Re would have obtained coverage for the whole of Japan outside of the two Fujiyama zones for 25 bps. Judging by the numbers they may have also picked up a part of the zonal cover as well, but exact insights of this latter kind are beyond the capabilities of the numbers at our disposal. The point is not that Swiss Re did the arbitrage (we don't think they did), the point is that in comparing prices, arbitrages of this kind are essential to extracting the full "message of the markets".

Complete details of Pioneer risks (as reported) and prices of all issues to date are contained in Table 3. It is also possible to infer certain details about the meaning of the Index levels by cross-referencing prices in other markets. This is done in Figure 2. Here the prices for Industry Loss Warranties (ILWs), courtesy of Access Re, are displayed graphically against various levels of industry loss. Superimposing the prices of the Pioneer tranche it

appears that Japanese risks attach around \$16 billion (Index = 1084), California Quake attaches around \$20 billion (Index = 2098) and Hurricane risks attach around \$40 billion (Index = 3546). A warning is in order. This is a crude comparison. Quoted ILW prices involve reinstatements; Atlantic Hurricane is not identical with US Wind, and Japan All Perils is not the same as Japanese Quake. But investors should nevertheless want to force the questions of which is the better risk, or which risk provides the better reward before plunging into either Pioneer or ILWs.

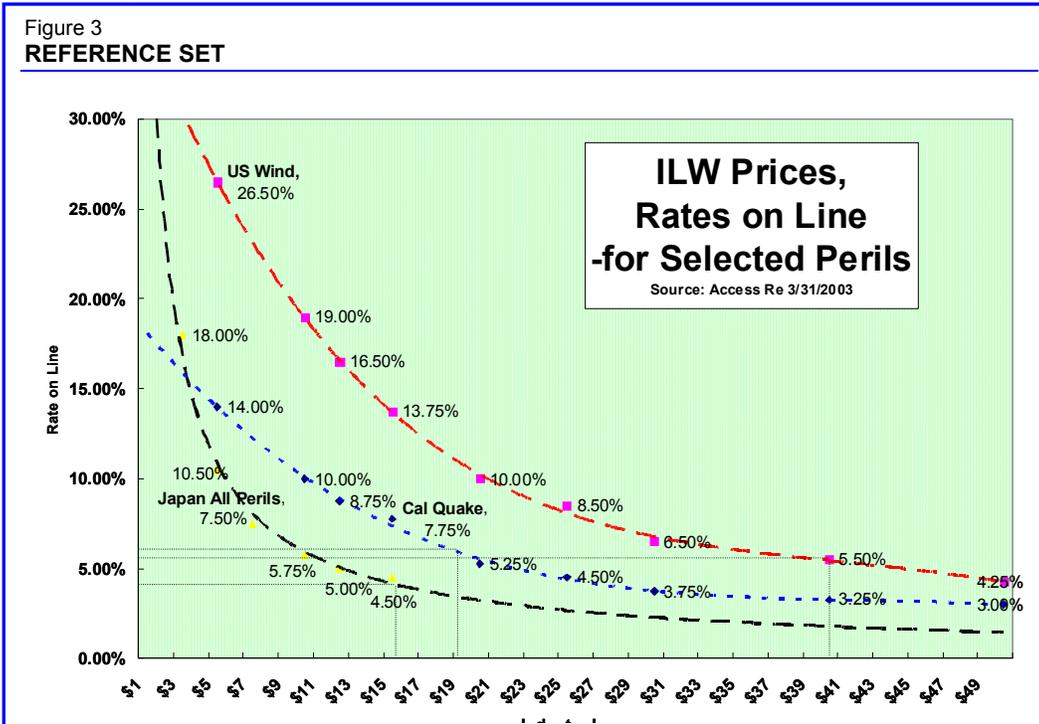
Series F of Pioneer is a multi-peril bond. It accumulates with the risks in the first five series since it can be exhausted by any one of the underlying five risks. It attaches, however, at a much more remote layer than the basic series. (Actually series C is the exception, it attaches at the same level). So, for example, as is shown in Table 2 an investor in the F series would attach a California earthquake with a probability of 0.247% compared with the probability of 1.59% of series C attaching. The chance that series F attaches is one minus the probability that none of the five attaches. That number is 1.60%. That probability of the individual lines attaching series F is low, but since *any* of them can attach, the probability of F attaching is almost equal to the underlying series. It is the accumulation feature, not the risk features

of the bond that causes F to be priced at 7.50% - some 150-250 bps above the other risks. On pure risk terms F is cheap.

RESIDENTIAL RE

USAA deserves the lifetime achievement award (a Laney?) from the insurance linked securities academy. For the sixth year in a row Residential Re has issued a cat bond covering part or all of the risks that USAA is exposed to on the East Coast of the US.

Table 4 displays the record. Some would



view the record as one of decline; however notice that USAA has been on a new "laddered" strategy of issuance. In 2002 Residential Re issued only \$125 million bonds, down from the \$150 million of 2001. Both those bonds had a three year maturity, therefore the coverage that USAA has for 2003 is actually \$275 million. This is their highest cat coverage from the securities market since 1998 when \$500 million was outstanding. Presuming they issue at least \$125 million in 2003 they will have \$400 million of coverage for the 2003 hurricane season. Not bad for a declining issuer!

Furthermore, the cost of coverage has stabilized averaging 495 basis points. In the four years 1997-2000 the price of annual protection fluctuated from a high of 576 to a low of 366, back to 410. (All of this was done at a more remote attachment than the present issuance).

risk and embedded it formulaically in a bond issued by Studio Re, the special purpose Cayman Islands reinsurer.

Studio Re is a second example of disintermediation of the insurance markets. The first was in 1999 by Oriental Land, operators of Tokyo Disneyland. Two deals, Concentric Re and Circle Maihama, were issued. Obviously, the exposure profiles are similar. Do two deals betoken a trend? Probably not, but it is a phenomenon that will be keenly watched by all participants. Not only do these transactions get the insured away from the friendly confines of insurance practice, but they allow for coverage of "economic loss" as opposed to "indemnity loss". Corporate insureds may feel this is a quite valuable feature in the future, for any hazard where risk can be satisfactorily articulated by an Index.

Table 4
USAA ISSUANCE HISTORY

USAA - RESIDENTIAL RE	1997/8	1998/9	1999/00	2000/01	"2001/02/03"	"2002/03/04"
AMOUNT	\$477 mm*	\$500 mm	\$200 mm	\$200 mm	\$150 mm	\$125 mm
RETENTION	20%	10%	10%	10%	10%	10%
REINSURANCE	0	0	50%	50%	60%	69%
SECURITIZATION	80%	90%	40%	40%	30%	21%
TERM	12 months	12 months	12 months	12 months	36 months	36 months
COUPON or PREMIUM	A1:L1+250 A2:L1+576	L3 + 416	L3 + 366	L3 + 410	L3 + 499	L3+490
EXP LOSS	-na-	-na-	.44%	.54%	.68%	0.67%
PFL	1.00%	.87%	.87%	.76%	1.12%	1.12%

By laddering their cat bond issues USAA has achieved a) more coverage, b) stable cost and, arguably, c) cheaper investment banking costs. Quite a quiet achievement!

STUDIO RE

Vivendi is the owner and operator of Universal Studios in the Los Angeles area. As such they face considerable risk of earthquake, both to property and continuing operations. There is probably also a concentration risk to their workers compensation program. Given all of this Universal issued a three and a half year cat bond through Gulfstream Inc, an Irish captive of Vivendi's, to cover their quake exposure. EQECAT designed a model index of the

know about it is its size - \$230 million. Although it is known that it is a quota share of Hannover's property cat book. This includes several risks such as aviation and risk excess not commonly part of other cat bonds. It is reported that investors in K2, Hannover's previous deal had been "burned" by World Trade Center losses. The exact amount of K2's loss is unknown, but it was not trivial. The subsequent issue of K3 at least gives lie to the idea that investors in "cat bonds" would swoon after a loss. They came right back.

One other feature of K3 that is atypical of cat bonds is that the annual coupon is not fixed. It is a pro-rata share of underwriting profits, similar in

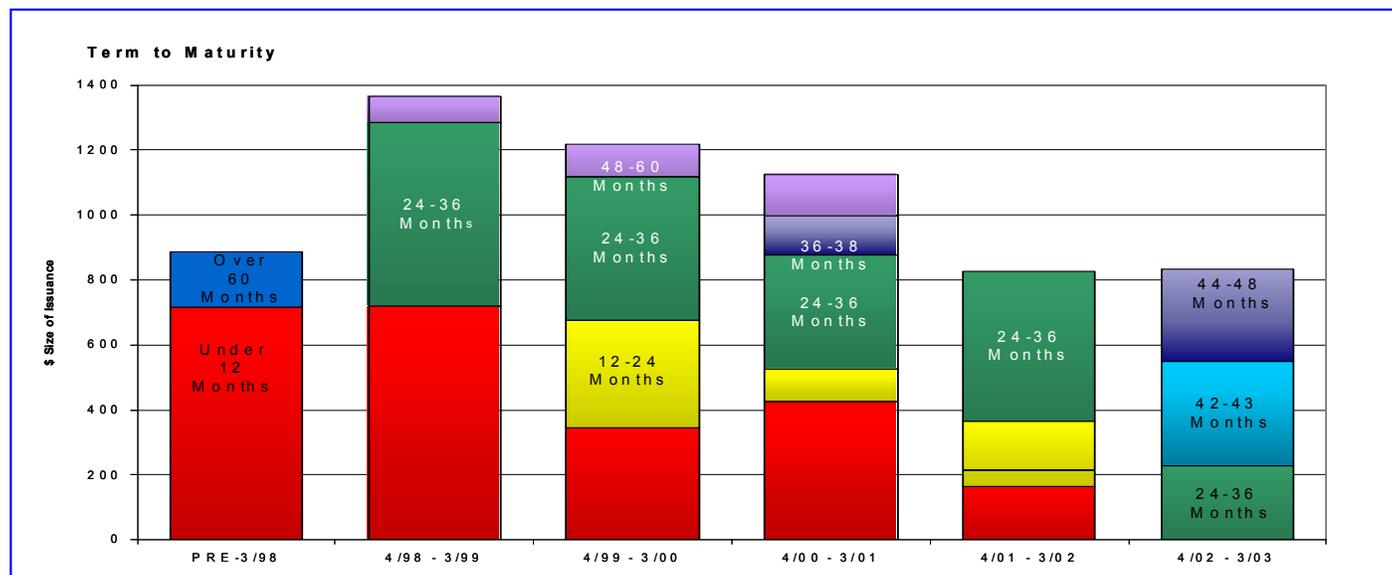
THE TRENDS

TERM AND AMOUNT

As already noted there was a slight up-tick in issuance in the last 12 months. Eight hundred and thirty million dollars of cat bonds were issued between 4/1/2002 and 3/31/2003. This figure does not include the Hannover Re K3 deal, which is included in the Marsh numbers. We exclude it because all we

Figure 4 / Table 5

TERM TO MATURITY AND AMOUNT OF ISSUANCE



TERM TO MATURITY

Maturity (in Months)	Amount in \$ Millions						TOTAL	Number of Deals						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
12	717.6	720.6	345.7	427	165	0	2375.9	5	5	3	4	2	0	19
24	0	0	332.1	100	200	0	632.1	0	0	2	1	1	0	4
36	0	566.3	441.6	350	461.9	228	2047.8	0	1	5	3	3	3	15
42	0	0	0	0	0	321.9	321.9	0	0	0	0	0	13	13
48	0	0	0	120	0	282.3	402.3	0	0	0	1	0	9	10
60	0	80	100	129	0	0	309	0	1	1	1	0	0	3
OVER 60	168.5	0	0	0	0	0	168.5	2	0	0	0	0	0	2
TOTAL	886.1	1366.9	1219.4	1126	826.9	832.2	6257.5	7	7	11	10	6	25	66
AVERAGE DEAL SIZE:	127	195	111	113	138	33								
% LONGER THAN 12 MONTHS:	19%	47%	72%	62%	80%	100%		29%	29%	73%	60%	67%	100%	

structure to St Paul Re’s path breaking Georgetown Re. That being the case, other private transactions of a quota-share character should be included in the annual numbers. Da Vinci Re and Irish Re, respectively privately offered quota-shares of Renaissance Re and Scor Re should be added to the totals.

As long as the temptation is to be broad minded, another candidate for inclusion in the annual numbers is the ILW market. ILWs may well be seen as the descendents of the catastrophe derivatives market, initiated some time ago, sadly now defunct, in Chicago. Access Re suggests that volume of transactions in the whole ILW market last year was of the order of \$2 billion. Seen in this light, the volume of non-traditional (alternative?) reinsurance solutions involving non-insurance market participants is surely growing.

Figure 4 reveals several other important facts. No 2002 deal was issued on an annual basis. By hearsay nearly all traditional excess of loss catastrophe covers are annual. Furthermore, a glance at Table 5 shows that the average size of deal has dropped dramatically (to \$33 million from \$138 million) and the term of the deals is now over 3 1/2 years. This is quite an extension from 2001 (when all deals had a maturity less than three years) and quite counterintuitive given the hardening of market terms.

CREDIT RATING

All the issues of 2002 were rated. Twenty-one of the 26 tranches issued were rated BB+. Only the four issues of the mid west quake tranche (Series C) of Pioneer was rated higher than BB+. The C series was rated BBB-, a marginal investment grade rating. As Fig 5 shows, two trends have taken

place over the past 6 years. First, all tranches are now rated -- including share or equity pieces. Second, nearly all deals are moving to the "sweet spot" of the highest expected loss consistent with a BB+ rating.

LEADERSHIP

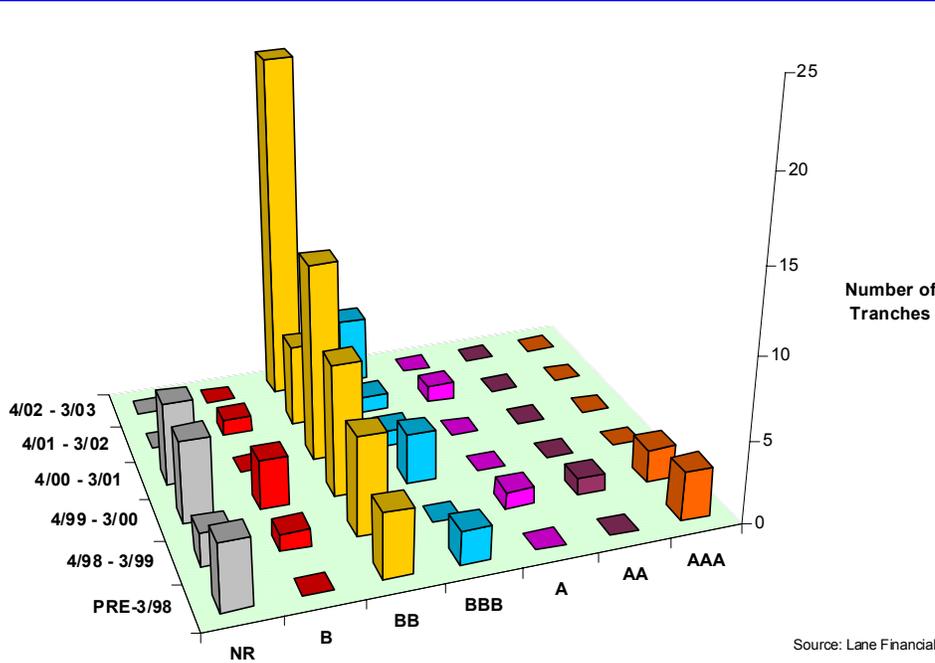
Regular readers of these surveys will know one of the perennially intriguing questions about the market has been whether the investment banking community will "eat the lunch" of the insurance brokers. Who will command this small market? This year's answer is neither. The recipient of this

years' Blue Ribbon (and second Laney?) goes to Swiss Re.

"neither a banker nor a broker be, stand in the middle for an underwriting fee...?" Hmmm.

We can see in Table 7 (on the next page) that some market participants have not issued since 1999, other large names have only been listed as co-manager once in the last year. Insurance brokers have not done very well at all, but neither have the investment bankers. Instead the leadership has fallen to a reinsurer who has found it useful to set up its own capital markets entity. Surely the message must be that the market is not a big fee generator, but is still useful as a risk transfer mechanism.

Figure 5
RATINGS CHANGES OVER TIME (by Number of Rated Tranches)



Source: Lane Financial

Table 6
CREDIT RATINGS BY TRANCHE

	Amount in \$ Millions						TOTAL	Tranches						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
AAA	230.3	23	0	0	0	0	253.3	3	2	0	0	0	0	5
AA	0	60.7	0	0	0	0	60.7	0	1	0	0	0	0	1
A	0	283.1	0	0	50	0	333.1	0	1	0	0	1	0	2
BBB	82	0	173	41	200	72.8	568.8	2	0	3	1	1	4	11
BB	515	869.1	773.4	1057.9	572	759.4	4546.8	4	6	8	12	5	21	56
B	0	21	141.6	0	4.9	0	167.5	0	1	3	0	1	0	5
NR	58.7	110	131.4	27.1	0	0	327.2	4	2	5	5	0	0	16
	886	1366.9	1219.4	1126	826.9	832.2	6257.4	13	13	19	18	8	25	96
AVERAGE TRANCHE SIZE	68.2	105.1	64.2	62.6	103.4	33.3								
% OF ISSUES BELOW INVESTMENT GRADE	65%	73%	86%	96%	70%	91%		62%	69%	84%	94%	75%	84%	
DOWNGRADES OR WATCHES	NONE	NONE	HALYARD RE (SOREMA)	NONE										
LOSSES	NONE	NONE	RELIANCE IV GEORGETOWN RE	NONE										

Table 7

CO-MANAGERS (AS LISTED ON PPM, THERE MAY BE MULTIPLE CO-MANAGERS FOR EACH ISSUE.)
Ranked by \$ Amount of Issue for April 2002 – March 2003

	AMOUNT OF ISSUES AS CO-MGR						TOTAL	NUMBER OF CITATIONS AS CO-MGR						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
SWISS RE*	237	0	0	220	365	674.2	1496.2	2	0	0	2	2	23	29
GOLDMAN SACHS	729.1	1176.9	1052.4	819	300	300	4377.4	4	4	9	6	2	2	27
LEHMAN	477	500	450	740	515	125	2807	1	1	3	5	3	1	14
MERRILL LYNCH	477	500	217	320	150	125	1789	1	1	2	2	1	1	8
AON*	0	80	317	67	194.9	33	691.9	0	1	4	2	2	1	10
MSDW	0	0	0	0	161.9	0	161.9	0	0	0	0	1	0	1
AM RE*	0	0	182.1	420	0	0	602.1	0	0	1	3	0	0	4
MARSH*	0	0	300	0	0	0	300	0	0	2	0	0	0	2
BLANCHE*	0	54	45.7	90	0	0	189.7	0	1	1	1	0	0	3
CENTRE*	83.6	56.6	0	0	0	0	140.2	1	1	0	0	0	0	2
CHASE	83.6	56.6	0	0	0	0	140.2	1	1	0	0	0	0	2
DLJ	83.6	56.6	0	0	0	0	140.2	1	1	0	0	0	0	2
ZURICH*	83.6	56.6	0	0	0	0	140.2	1	1	0	0	0	0	2
CSFB	137	0	0	0	0	0	137	1	0	0	0	0	0	1
LANE FINANCIAL*	20	10	0	0	0	0	30	2	1	0	0	0	0	3
SOC GEN	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2411.5	2547.3	2564.2	2676	1686.8	1257.2	11885.8	15	13	22	21	11	28	110
GOLDMANS														
SACHS SHARE	20%	20%	18%	28%	31%	10%		7%	8%	14%	24%	27%	4%	
LEHMAN BROS.														
SHARE	10%	0%	0%	8%	22%	54%		13%	0%	0%	10%	18%	82%	
REINSURERS AND														
INTERMEDIARIES*	58%	73%	70%	62%	27%	34%		60%	69%	68%	57%	27%	11%	
INVESTMENT														
BANKERS	42%	27%	30%	38%	73%	66%		40%	31%	32%	43%	73%	89%	

OTHER TRENDS

Table 8 contains details on some other observed phenomena. First, 2002/3 is dominated by multiple tranche transactions, see Table 8A and Table 8B. However, the multiple tranches are of a previously un-contemplated sort. In Pioneer the

multiple tranches are mostly single risks which are repeatedly offered over time. They are not tranches that display a senior/junior relationship.

The trend to parametric or index deals continues. Only 15% of deals are now done on an indemnity basis.

Table 8

OTHER TRENDS

CLASS BY STRUCTURE

	Amount in \$ Millions						TOTAL	Number of Deals						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
CAPITAL PROTECTED SINGLE TRANCHE*	267.8	18	0	0	0	0	285.8	4	1	0	0	0	0	5
MULTIPLE TRANCHES	388.2	758.9	465.5	335.4	307	559.2	2814.2	2	4	4	6	2	22	40
"EQUITY" PIECES**	24	0	31.4	30.7	15.9	25	127	1	0	4	7	3	1	16
TOTAL	886	1366.9	1219.4	1126	826.9	832.2	6257.4	12	8	15	20	8	26	89

* May be combined with a capital protected tranche.

**Capital in excess of 3% minimum requirement is considered to be a separate tranche.

CLASS BY UNDERLYING RISK

	Amount in \$ Millions						TOTAL	Number of Deals						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
SINGLE PORTFOLIO	797.6	1200.3	667	390	482	245	3781.9	4	4	6	2	3	3	22
PORTFOLIO (with sub limits by line)	0	0	45.7	616	194.9	158	1014.6	0	0	1	6	2	2	11
PORTFOLIO (with sub-limits by event)	88.5	10	0	0	0	429.2	527.7	3	1	0	0	0	21	25
TOTAL	886.1	1366.9	1219.4	1126	826.9	832.2	6257.5	7	7	11	9	6	26	66

% OF ISSUES WITH A SINGLE RISK

PRE-3/98	90%	88%	55%	35%	58%	29%	57%	57%	55%	22%	50%	12%
----------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

CLASS BY INDEMNITY/INDEX

	Amount in \$ Millions						TOTAL	Number of Deals						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
INDEMNITY	629.1	1356.9	642.7	357	150	125	3260.7	3	6	6	4	1	1	21
INDEX	257	10	576.7	769	709.9	707.2	3029.8	4	1	5	6	5	24	45
TOTAL	886.1	1366.9	1219.4	1126	859.9	832.2	6290.5	7	7	11	10	6	25	66

FRACTION OF INDEMNITY DEALS

PRE-3/98	71%	99%	53%	32%	17%	15%	43%	86%	55%	40%	17%	4%
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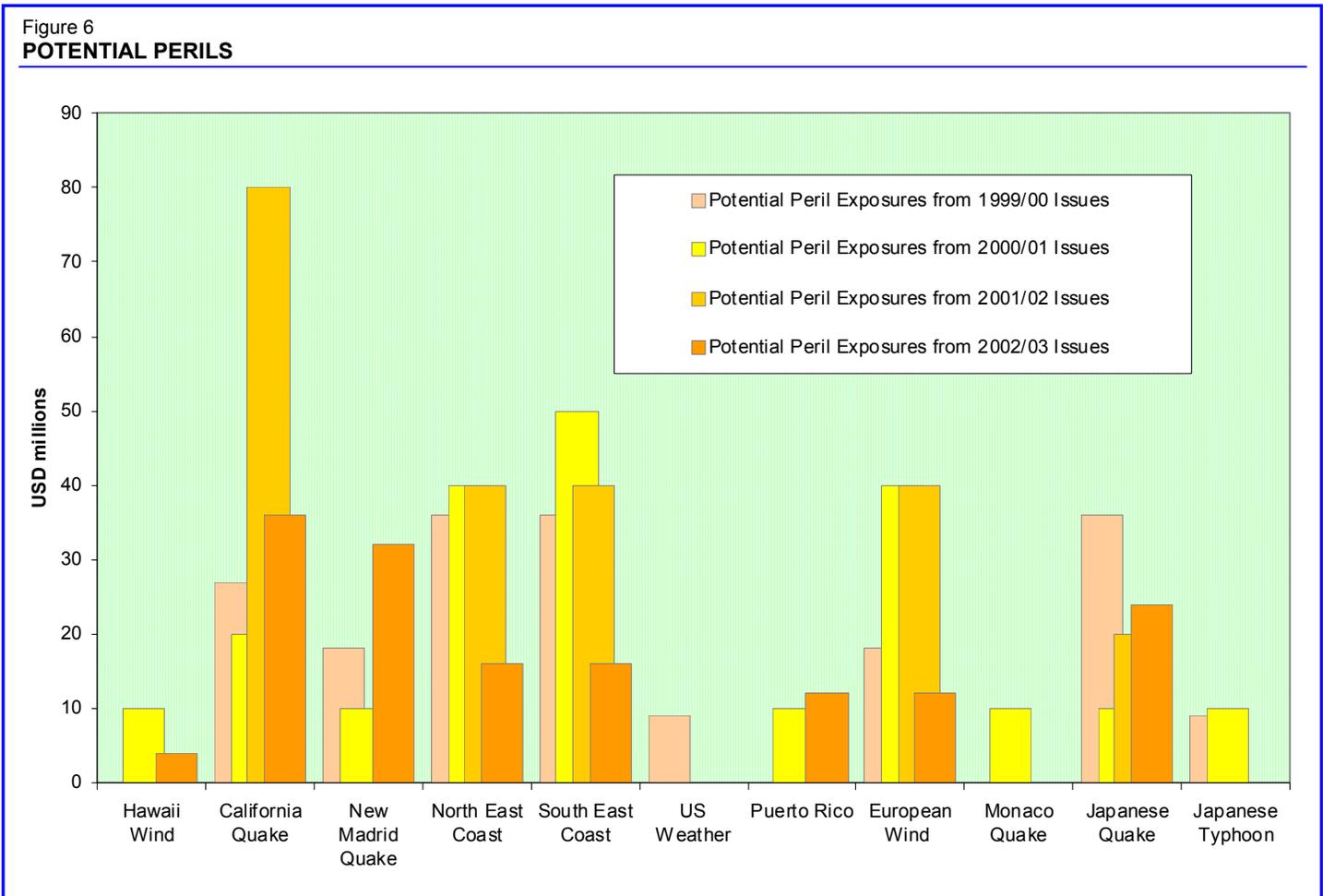
OTHER DEALS, INCLUDING CONTINGENT DEALS

	Amount in \$ Millions						TOTAL	Number of Deals						TOTAL
	PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03		PRE-3/98	4/98 - 3/99	4/99 - 3/00	4/00 - 3/01	4/01 - 3/02	4/02 - 3/03	
CONTINGENT: EQUITY (LA SALLE, HORACE MANN, RLI)	450						450	3						3
CONTINGENT: DEBT (NATIONWIDE, ARKWRIGHT)	300		175		500? CLOCS		975	2		2			3	7
CONTINGENT: REINSURANCE (RELIANCE III, ALLIANZ)		170			102		272		2				1	3
	750	170	175		602		1697	5	2	2			4	13

PERILS

It is also worth noting where demand for coverages is most prevalent. Figure 6 shows our measure of that demand. It is a specific measure that needs to be closely defined. In essence it is assumed that \$100 is equally divided among every issue available in 2002/3. The exposure to every covered peril is then measured as a percentage of the \$100. This way accumulating coverages are revealed and standardized.

Figure 6 shows that during 2002/3, only eight exposures were covered compared to eleven perils that have been ever been covered. California Earthquake continues to be the peril most in demand.



PRICE TRENDS FROM THE SECONDARY MARKETS

The appendix to this report contains a summary of all outstanding cat bonds as of each quarter end from 4/1/2002 to 3/31/2003 together with their secondary market price quotations. Secondary market prices are not as good as original issue prices in reflecting price trends, not least of the reasons being that the market is so small, however, important market information is contained in even these snippets. This is all the more so since the underlying reinsurance market remains opaque to outsiders.

Until two years ago dealers in Cat bonds did not make regular quotations for secondary offerings. Market participants were the losers. Prior to 2001 it was only possible to compare prices at issue, and each issue may have faced quite different market conditions. For example, the PRIME securitizations of Munich Re were brought to market at the end of 2000 in one of the worst bond markets in many a year. Its issue price suffered accordingly.

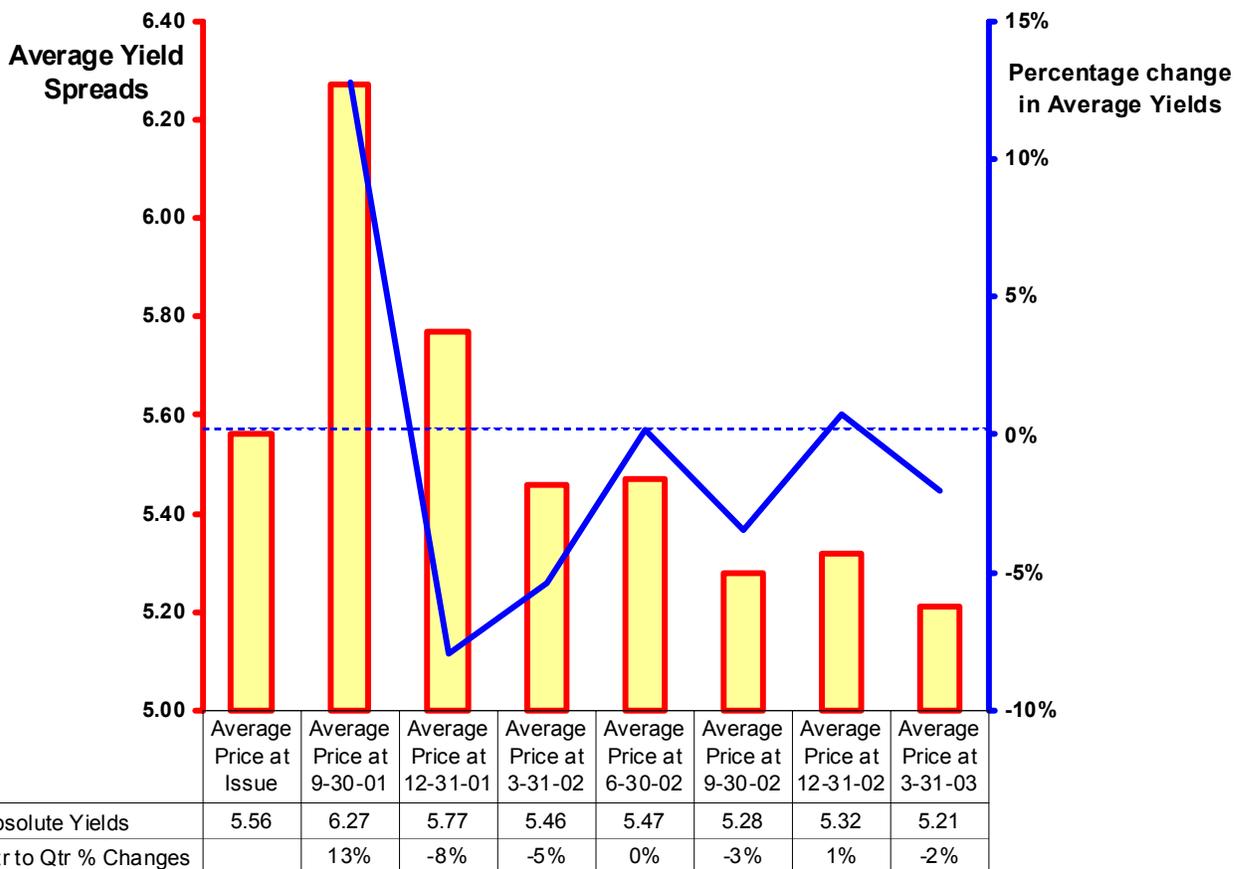
With secondary markets, all bonds can be priced in the same contemporaneous circumstances. Tables 9A, 9B, 9C, 9D shows sets of such prices. Four dealers have made their prices available, for which we are grateful. They are Goldman Sachs, Lehman, Aon and Cochran Caronia. In Table 9 the indicated quotations, or bid-ask spreads are reduced to a single number arithmetically.

To illustrate the value of those prices consider Figure 1. It shows the prices of all outstanding deals, and the shift in price that has occurred from respective issue dates to 12/31/2002. The securities along the horizontal axis are ordered by date of issue (oldest on the left). What is obvious from the graph, was not obvious from the Table. Everything issued prior to 9/11 is trading at a premium. Secondary yields are currently lower than when-issued, so prices are higher.

There is something counter-intuitive here. For every term security issued in a soft market and currently trading in a hard market, prices ought to

Figure 7

CHANGES IN AVERAGE SECONDARY MARKET CAT BOND SPREADS (Quarter to Quarter 2001-2003)



be lower. If we assume that the market pre-9/11 is consistently softer than post-9/11, then every Cat bond issued prior to 9/11 ought to be purchasable by the original issuer at a profit. That profit represents the capitalized benefit of the multi-year deals issued prior to the hard market. Since that is not the case, another phenomenon appears to be necessary to explain prices trading at a premium. A shortage of new issues appears to be holding down yields, otherwise securities holders would sell their current holdings and replace them with newer higher-yielding hard market issues.

Trinom was the last issue immediately prior to 9/11, Atlas II was the first deal issued after 9/11. Most of the deals after 9/11 are trading at higher yields than issue, indicating lower prices, but the picture is much more mixed.

To provide a concrete example consider Parametric Re. It was issued in 1998 with a ten year term and a coupon of 430 bps. As of 12/31/2002 it was trading at 397 bps, a lowering in premium of some 33 bps. In other words, if it came to market today with the same exact risk requirements, it would be issued at an almost 10% price decrease. Swiss Re on the other hand has issued Japanese Quake coverage at 475 bps, a roughly 10% price increase. Clearly there are offsetting forces. A hard market points to higher yields, so does the higher risk in the Swiss Re deal; demand for ILS points in the other direction. Since yield on the outstanding Parametric Re deal is actually lower, the demand force seems to be stronger. Investor demand has lowered prices. Eventually this ought to lead even greater issuance. These trends in Figure 1 are even more acutely caught with the smoothed average line (in blue).

Plotting secondary markets over time can also reveal the movements in the underlying reinsurance markets. This is illustrated in Figure 7. Clearly the reinsurance market jumped after 9/11, but has softened since³. Note, however, that the final quarter of 2002, the renewal season, showed a small change in the trend direction. Prices firmed

in the final quarter. That trend was sustained in the first quarter of 2003. ❖

³ The data used in Fig 7 are the averages from Tables 9A through 9D. Certain outstanding securities are omitted due to impending maturity or undue seasonal effects. These omissions are recorded on each sheet and are based on LFC judgement.

Figure 9A

Second Quarter 2002 (6/30/02) Secondary Market Prices From Four Dealers	Issue Date	Sponsor	Issuer	Spread at Issue	Current spread Per Cochran Caronia (6/28/02)	Current spread Per Goldman Sachs (Bid/Ask) (6/28/02)	Current spread Per Lehman Bros (Bid Ask) (6/24/02)	Current spread Per Aon (6/28/02)	GS Mid- Market	Lehman Mid- Market	Average Market Indications
		Mar-00	SCOR	Atlas Reinsurance ClassA	2.70%	2.06%	2.70% 1.24%	2.10% 1.71%	2.55%	1.97%	1.91%
	Mar-00	SCOR	Atlas Reinsurance ClassB	3.70%	2.35%	3.21% 1.26%	2.55% 2.16%	3.25%	2.24%	2.36%	2.55%
	Mar-00	SCOR	Atlas Reinsurance ClassC	14.00%	16.16%	19.21% 16.06%	16.36% 15.32%	16.00%	17.64%	15.84%	16.41%
	Dec-01	SCOR	Atlas Reinsurance II Class A	2.38%	2.06%	2.27% 2.06%	2.05% 1.84%	2.25%	2.17%	1.95%	2.11%
	Dec-01	SCOR	Atlas Reinsurance II Class B	6.75%	6.55%	6.86% 6.53%	6.53% 6.36%	6.90%	6.70%	6.45%	6.65%
	May-99	Oriental Land	Concentric	3.10%	3.05%	3.10% 2.82%	3.45% 3.10%	3.20%	2.96%	3.28%	3.12%
New Issue in Qtr.	May-02	Nissay Dowa	Fujuyama	4.00%	4.10%	4.09% 3.91%	4.00% 3.90%	4.10%	4.00%	3.95%	4.04%
	Nov-00	AGF	Mediterranean Re Class A	2.60%	2.50%	2.60% 2.29%	2.35% 2.23%	2.35%	2.45%	2.29%	2.40%
	Nov-00	AGF	Mediterranean Re Class B	5.85%	5.58%	6.02% 5.77%	5.84% 5.63%	6.05%	5.90%	5.74%	5.82%
	Nov-99	Gerling	Namazu Re	4.50%	4.25%	4.95% 4.50%	4.47% 4.25%	4.60%	4.73%	4.36%	4.48%
	Jul-00	Vesta	NeHi	4.10%	3.93%		4.15% 3.74%	3.60%		3.95%	3.83%
	Jun-98	Yasuda Fire and	IPacific Re	3.70%	3.83%	3.70% 2.58%	3.51% 3.10%	3.20%	3.14%	3.31%	3.37%
	Dec-97	Tokio Marine and	Parametric Re	4.30%	4.10%	4.52% 4.30%	4.37% 4.20%	4.45%	4.41%	4.29%	4.31%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer A	6.00%	6.00%						6.00%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer B	5.00%	5.00%						5.00%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer C	6.00%	6.00%						6.00%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer D	1.75%	1.75%						1.75%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer E	4.25%	4.25%						4.25%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer F	7.50%	7.50%						7.50%
	Dec-00	Munich Re	PRIME Capital CalQuake & Euro	7.50%	7.32%	8.21% 7.50%	8.04% 7.60%	7.80%	7.86%	7.82%	7.70%
	Dec-00	Munich Re	PRIME Capital Hurricane Ltd	6.50%	7.98%	6.85% 6.15%	7.93% 7.48%	7.10%	6.50%	7.71%	7.32%
	Dec-01	Lehman Re	Redwood Capital I	5.50%	6.10%	6.52% 5.50%	6.72% 5.74%	6.70%	6.01%	6.23%	6.26%
	Mar-02	Lehman Re	Redwood Capital II	3.00%	3.20%	3.52% 3.00%	3.42% 3.08%	3.25%	3.26%		3.24%
	Jun-01	USAA	Residential Re 2001	4.99%	5.02%	4.99% 4.44%	5.30% 5.02%	5.15%	4.72%	5.16%	5.01%
New Issue in Qtr.	May-02	USAA	Residential Re 2002	4.90%	5.02%	4.90% 4.52%	5.04% 4.84%	5.00%	4.71%	4.94%	4.92%
	May-01	Swiss Re	SR Wind Class A-1	5.25%	4.86%	5.15% 4.77%	5.10% 4.87%	5.15%	4.96%	4.99%	4.99%
	May-01	Swiss Re	SR Wind Class A-2	5.75%	5.64%	5.56% 5.17%	5.97% 5.73%	5.80%	5.37%	5.85%	5.66%
New Issue in Qtr.	Apr-02	Hiscox	St Agatha Re	6.75%	6.85%	7.06% 6.75%	7.00% 6.80%	6.90%	6.91%	6.90%	6.90%
	Jun-01	Zurich Re	Trinom Ltd Class A-1	8.00%	8.00%	8.85% 8.28%	8.82% 8.46%	8.80%	8.57%	8.64%	8.50%
	Jun-01	Zurich Re	Trinom Ltd Class A-2	4.00%	3.60%	4.00% 3.47%	3.60% 3.27%	3.90%	3.74%	3.44%	3.67%
	Jun-01	Zurich Re	Trinom Ltd Shares	10.00%				13.00%			13.00%
	Feb-01	Swiss Re	Western Capital	5.10%	6.10%	6.64% 5.10%	6.85% 5.72%	6.80%	5.87%	6.29%	6.26%
			Average	5.29%						Average	5.47%
Other Quotes			Circle Maihama			1.02% 0.75%			0.89%		
			Parametric Units			2.50% 2.06%			2.28%		
	Price		Kelvin 1ST Event								
	Price		Kelvin 2nd Event								
Issues ignored in Regression because of Maturity or Loss experience.											
	Mar-01	American Re	Gold Eagle 2001	5.50%						0.00%	0.00%
	Apr-01	Sorema	Halyard Re(2001)	5.50%							
	Jun-99	Gerling	Juno Re	4.20%			3.00% 1.25%			2.13%	2.13%

Figure 9B

Third Quarter 2002 (9/30/02) Secondary Market Prices From Four Dealers	Issue Date	Sponsor	Issuer	Spread at Issue	Current spread Per Cochran Caronia (9/30/02)	Current spread Per Goldman Sachs (Bid/Ask) (9/27/02)	Current spread Per Lehman Bros (Bid Ask) (9/30/02)	Current spread Per Aon (9/30/02)	GS Mid-Market	Lehman Mid-Market	Average Market Indications
	Mar-00	SCOR	Atlas Reinsurance ClassA	2.70%	2.00%	2.70% 0.81%	2.10% 1.51%	2.15%	1.76%	1.81%	1.93%
	Mar-00	SCOR	Atlas Reinsurance ClassB	3.70%	2.35%	3.13% 1.24%	2.55% 1.96%	2.50%	2.19%	2.26%	2.32%
	Mar-00	SCOR	Atlas Reinsurance ClassC	14.00%	20.40%	24.00% 17.94%	18.08% 16.50%	17.00%	20.97%	17.29%	18.92%
	Dec-01	SCOR	Atlas Reinsurance II Class A	2.38%	2.00%	2.26% 2.03%	2.05% 1.82%	2.15%	2.15%	1.94%	2.06%
	Dec-01	SCOR	Atlas Reinsurance II Class B	6.75%	6.92%	6.87% 6.51%	6.51% 6.33%	6.65%	6.69%	6.42%	6.67%
	May-99	Oriental Land	Concentric	3.10%	3.15%	3.10% 2.78%	3.30% 2.90%	3.15%	2.94%	3.10%	3.09%
	May-02	Nissay Dowa	Fujuyama	4.00%	4.05%	4.10% 3.90%	4.00% 3.85%	4.00%	4.00%	3.93%	3.99%
	Nov-00	AGF	Mediterranean Re Class A	2.60%	2.50%	2.60% 2.26%	2.35% 2.22%	2.40%	2.43%	2.29%	2.40%
	Nov-00	AGF	Mediterranean Re Class B	5.85%	5.58%	6.03% 5.76%	5.67% 5.41%	5.60%	5.90%	5.54%	5.65%
	Nov-99	Gerling	Namazu Re	4.50%	4.15%	4.99% 4.50%	4.14% 3.90%	4.20%	4.75%	4.02%	4.28%
	Jul-00	Vesta	NeHi	4.10%	2.00%		1.26% 0.70%	2.50%		0.98%	1.83%
	Jun-98	Yasuda Fire and	IPacific Re	3.70%	2.00%	3.70% 2.17%	2.07% 1.51%	2.70%	2.94%	1.79%	2.36%
	Dec-97	Tokio Marine and	Parametric Re	4.30%	3.95%	4.53% 4.30%	4.17% 4.00%	4.10%	4.42%	4.09%	4.14%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer A I	6.00%	5.52%		5.65% 5.43%	5.80%			5.66%
	Jun-02	Swiss Re	Pioneer B I	5.00%	5.42%		5.44% 5.21%	5.40%			5.41%
	Jun-02	Swiss Re	Pioneer B II	5.00%	5.08%						5.08%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer C I	6.00%	6.75%		6.41% 6.10%	6.20%			6.48%
	Jun-02	Swiss Re	Pioneer C II	6.00%	6.75%						6.75%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer D I	1.75%	2.00%		1.97% 1.75%	1.90%			1.95%
	Jun-02	Swiss Re	Pioneer D II	1.75%	2.00%						2.00%
	Jun-02	Swiss Re	Pioneer E I	4.25%	5.00%		5.47% 5.00%	4.90%			4.95%
	Jun-02	Swiss Re	Pioneer F I	7.50%	7.18%		7.92% 7.60%	7.75%			7.47%
	Dec-00	Munich Re	PRIME Capital CalQuake & Euro	7.50%	7.95%	8.34% 7.50%	7.98% 7.14%	7.65%	7.92%	7.56%	7.77%
	Dec-00	Munich Re	PRIME Capital Hurricane Ltd	6.50%	5.64%	6.92% 6.09%	5.41% 4.80%	6.50%	6.51%	5.11%	5.94%
	Dec-01	Lehman Re	Redwood Capital I	5.50%	6.25%	6.51% 5.50%	8.50% 6.50%	7.00%	6.01%	7.50%	6.69%
	Mar-02	Lehman Re	Redwood Capital II	3.00%	3.15%	3.52% 3.00%	3.56% 3.15%	3.60%	3.26%		3.34%
	Jun-01	USAA	Residential Re 2001	4.99%	3.71%	5.31% 4.99%	3.81% 3.50%	4.40%	5.15%	3.66%	4.23%
	May-02	USAA	Residential Re 2002	4.90%	4.25%	5.10% 4.90%	4.08% 3.88%	4.35%	5.00%	3.98%	4.40%
	May-01	Swiss Re	SR Wind Class A-1	5.25%	5.26%	5.31% 4.90%	5.19% 4.88%	5.00%	5.11%	5.04%	5.10%
	May-01	Swiss Re	SR Wind Class A-2	5.75%	5.06%	5.75% 5.33%	4.69% 4.44%	5.00%	5.54%	4.57%	5.04%
	Apr-02	Hiscox	St Agatha Re	6.75%	6.70%	7.08% 6.75%	7.02% 6.80%	6.90%	6.92%	6.91%	6.91%
	Jun-01	Zurich Re	Trinom Ltd Class A-1	8.00%	7.15%	8.96% 8.32%	8.01% 7.54%	8.35%	8.64%	7.78%	7.98%
	Jun-01	Zurich Re	Trinom Ltd Class A-2	4.00%	3.70%	4.00% 3.39%	3.50% 3.12%	3.60%	3.70%	3.31%	3.58%
	Jun-01	Zurich Re	Trinom Ltd Shares	10.00%	9.94%			12.25%			11.10%
	Feb-01	Swiss Re	Western Capital	5.10%	6.25%	11.37% 5.10%	8.72% 6.50%	7.00%	8.24%	7.61%	7.27%
			Circle Maihama			1.07% 0.75%			0.91%		5.28%
			Parametric Units			2.52% 2.06%			2.29%		
	Price		Kelvin 1ST Event						0.00%		
	Price		Kelvin 2nd Event						0.00%		

Issues ignored in Regression because of Maturity or Loss experience.

Figure 9C

Fourth Quarter 2002 (12/31/02) Secondary Market Prices From Four Dealers	Issue Date	Sponsor	Issuer	Spread at Issue	Current spread Per Cochran 12/31/02)	Current spread Per Goldman Sachs (Bid/Ask) (01/06/03)	Current spread Per Lehman Bros (Bid Ask) 12/31/02)	Current spread Per Aon (12/31/02)	GS Mid-Market	Lehman Mid-Market	Average Market Indications
	Mar-00	SCOR	Atlas Reinsurance ClassA	2.70%	1.75%		2.10% 0.94%	2.15%		1.52%	1.81%
	Mar-00	SCOR	Atlas Reinsurance ClassB	3.70%	1.75%		2.55% 1.39%	2.50%		1.97%	2.07%
	Mar-00	SCOR	Atlas Reinsurance ClassC	14.00%	18.70%		17.97% 14.97%	17.00%		16.47%	17.39%
	Dec-01	SCOR	Atlas Reinsurance II Class A	2.38%	1.95%	2.25% 1.99%	2.05% 1.80%	2.10%	2.12%	1.93%	2.02%
	Dec-01	SCOR	Atlas Reinsurance II Class B	6.75%	6.45%	6.75% 6.48%	6.48% 6.28%	6.65%	6.62%	6.38%	6.52%
	May-99	Oriental Land	Concentric	3.10%	3.10%	3.10% 2.71%	3.32% 2.85%	3.15%	2.91%	3.09%	3.06%
	May-02	Nissay Dowa	Fujiyama	4.00%	3.75%	4.11% 3.89%	3.90% 3.73%	4.00%	4.00%	3.82%	3.89%
	May-02	Nissay Dowa	Fujiyama Shares	7.00%	6.75%						6.75%
	Nov-00	AGF	Mediterranean Re Class A	2.60%	2.25%	2.42% 2.05%	2.35% 2.21%	2.40%	2.24%	2.28%	2.29%
	Nov-00	AGF	Mediterranean Re Class B	5.85%	4.85%	5.95% 5.56%	5.45% 5.17%	5.60%	5.76%	5.31%	5.38%
	Jul-00	Vesta	NeHi	4.10%	1.50%		1.25% 0.99%	1.30%		1.12%	1.31%
	Jun-98	Yasuda Fire and Insurance Pacific Re		3.70%	1.50%	2.37% 1.05%	1.37% 0.66%	1.55%	1.71%	1.02%	1.44%
	Dec-97	Tokio Marine and Fire Insurance Co. of Japan	Parametric Re	4.30%	3.70%	4.30% 4.06%	4.08% 3.90%	4.00%	4.18%	3.99%	3.97%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer A I	6.00%	5.54%		5.76% 5.52%	5.55%			5.55%
	Jun-02	Swiss Re	Pioneer A III		5.55%						5.55%
	Jun-02	Swiss Re	Pioneer B I	5.00%	5.66%		5.24% 5.00%	5.45%			5.56%
	Jun-02	Swiss Re	Pioneer B II	5.00%	5.66%						5.66%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer B III		5.66%						5.66%
	Jun-02	Swiss Re	Pioneer C I	6.00%	6.30%		6.73% 6.40%	6.35%			6.33%
	Jun-02	Swiss Re	Pioneer C II	6.00%	6.30%						6.30%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer C III		6.30%						6.30%
	Jun-02	Swiss Re	Pioneer D I	1.75%	1.90%		1.98% 1.75%	1.95%			1.93%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer D II		1.90%						1.90%
	Jun-02	Swiss Re	Pioneer D III	1.75%	1.90%						1.90%
	Jun-02	Swiss Re	Pioneer E I	4.25%	4.85%		5.49% 5.00%	5.15%			5.00%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer E III		4.85%						4.85%
	Jun-02	Swiss Re	Pioneer F I	7.50%	7.62%		8.34% 8.00%	7.75%			7.69%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer F III		7.62%						7.62%
	Dec-00	Munich Re	PRIME CalQuake	7.50%	7.35%	8.56% 7.50%	7.21% 6.19%	7.65%	8.03%	6.70%	7.43%
	Dec-00	Munich Re	PRIME Calquake Shares	9.00%	8.85%						8.85%
	Dec-00	Munich Re	PRIME Hurricane	6.50%	6.23%	5.98% 5.46%	5.88% 5.12%	5.25%	5.72%	5.50%	5.68%
	Dec-00	Munich Re	PRIME Hurricane Shares	8.00%	7.71%						7.71%
	Mar-02	Lehman Re	Redwood Capital II	3.00%	3.60%	3.52% 3.00%	3.66% 3.15%	3.60%	3.26%		3.49%
	Mar-02	Lehman Re	Redwood Capital II Shares	4.50%	4.75%						4.75%
	Jun-01	USAA	Residential Re 2001	4.99%	3.59%	4.24% 3.87%	3.93% 3.57%	3.65%	4.06%	3.75%	3.76%
	May-02	USAA	Residential Re 2002	4.90%	3.95%	4.45% 4.23%	4.18% 3.96%	3.90%	4.34%	4.07%	4.07%
	May-01	Swiss Re	SR Wind Class A-1	5.25%	4.59%	5.25% 4.79%	4.93% 4.60%	5.15%	5.02%	4.77%	4.88%
	May-01	Swiss Re	SR Wind Class A-1 Shares	6.75%	6.23%						6.23%
	May-01	Swiss Re	SR Wind Class A-2	5.75%	4.34%	5.75% 5.29%	4.84% 4.57%	4.65%	5.52%	4.71%	4.80%
	May-01	Swiss Re	SR Wind Class A-2 Shares	7.25%	5.59%						5.59%
New Issue in Qtr.	Apr-02	Hiscox	St Agatha Re	6.75%	6.50%	7.00% 6.75%	7.05% 6.81%	6.75%	6.88%	6.93%	6.76%
New Issue in Qtr.	Dec-02	Vivendi	Studio Re	5.10%	5.10%	4.94%		5.02%			5.02%
	Dec-02	Vivendi	Studio Re Shares	8.00%	8.00%	7.83%		7.92%			7.92%
	Jun-01	Zurich Re	Trinom Ltd Class A-1	8.00%	7.53%	8.94% 8.19%	7.82% 7.28%	7.70%	8.57%	7.55%	7.84%
	Jun-01	Zurich Re	Trinom Ltd Class A-2	4.00%	3.30%	4.00% 3.28%	3.50% 3.06%	3.25%	3.64%	3.28%	3.37%
	Jun-01	Zurich Re	Trinom Ltd Shares	10.00%	9.56%			12.00%			10.78%
			Circle Maihama Parametric Units			1.13% 0.75%			0.94%		5.32%
	Price		Kelvin 1ST Event			2.54% 2.06%			2.30%		
	Price		Kelvin 2nd Event						0.00%		
									0.00%		
Issues ignored in Regression because of Maturity or Loss experience.											
	Mar-00	SCOR	Atlas Reinsurance ClassA	2.70%							
	Mar-00	SCOR	Atlas Reinsurance ClassB	3.70%							
	Mar-00	SCOR	Atlas Reinsurance ClassC	14.00%							
	Jul-00	Vesta	NeHi	4.10%							
	Jun-98	Yasuda Fire and Insurance Pacific Re		3.70%							
	Dec-97	Tokio Marine and Fire Insurance Co. of Japan	Parametric Re	4.30%							

Figure 9D

First Quarter 2003 (3/31/03) Secondary Market Prices From Four Dealers	Issue Date	Sponsor	Issuer	Spread at Issue	Current spread Per Cochran Caronia 3/31/02)	Current spread Per Goldman Sachs (Bid/Ask) (3/28/03)	Current spread Per Lehman Bros (Bid Ask) 3/31/03)	Current spread Per Aon (3/31/03)	GS Mid-Market	Lehman Mid-Market	Average Market Indications
	Mar-00	SCOR	Atlas Reinsurance ClassA	2.70%	1.50%		2.10% 1.21%	1.90%		1.66%	1.69%
	Mar-00	SCOR	Atlas Reinsurance ClassB	3.70%	1.50%		2.55% 1.66%	2.25%		2.11%	1.95%
	Mar-00	SCOR	Atlas Reinsurance ClassC	14.00%	7.08%		13.62% 11.88%	16.00%		12.75%	11.94%
	Dec-01	SCOR	Atlas Reinsurance II Class A	2.38%	1.80%	2.23% 1.94%	2.05% 1.76%	2.00%	2.09%	1.91%	1.95%
	Dec-01	SCOR	Atlas Reinsurance II Class B	6.75%	6.15%	6.75% 6.45%	6.45% 6.22%	6.50%	6.60%	6.34%	6.40%
	May-99	Oriental Land	Concentric	3.10%	3.20%	3.56% 3.10%	3.42% 2.85%	3.30%	3.33%	3.14%	3.24%
	May-02	Nissay Dowa	Fujiyama	4.00%	3.90%	4.12% 3.88%	3.90% 3.72%	3.80%	4.00%	3.81%	3.88%
	May-02	Nissay Dowa	Fujiyama Shares	7.00%	7.50%						7.50%
	Nov-00	AGF	Mediteranean Re Class A	2.60%	2.15%	2.40% 2.01%	2.20% 2.00%	2.25%	2.21%	2.10%	2.18%
	Nov-00	AGF	Mediteranean Re Class B	5.85%	4.32%	5.85% 5.43%	4.82% 4.62%	5.00%	5.64%	4.72%	4.92%
	Jul-00	Vesta	NeHi	4.10%	1.50%		1.25% 0.97%	1.00%		1.11%	1.20%
	Jun-98	Yasuda Fire and I Pacific Re		3.70%	1.50%		1.38% 0.98%	1.00%	0.00%	1.18%	0.92%
	Dec-97	Tokio Marine and Parametric Re		4.30%	3.80%	4.30% 4.05%	3.93% 3.75%	4.00%	4.18%	3.84%	3.95%
	Jun-02	Swiss Re	Pioneer A I	6.00%	5.91%		6.12% 5.86%	6.05%			5.98%
		Swiss Re	Pioneer A III		5.91%						5.91%
		Swiss Re	Pioneer A IV	5.50%	5.91%						5.91%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer B I	5.00%	5.03%		5.04% 4.79%	5.25%			5.14%
	Jun-02	Swiss Re	Pioneer B II	5.00%	5.03%						5.03%
		Swiss Re	Pioneer B III		5.03%						5.03%
New Issue in Qtr.		Swiss Re	Pioneer B IV	4.75%	5.03%						5.03%
	Jun-02	Swiss Re	Pioneer C I	6.00%	6.25%		6.76% 6.40%	6.50%			6.38%
	Jun-02	Swiss Re	Pioneer C II	6.00%	6.25%						6.25%
		Swiss Re	Pioneer C III	6.00%	6.25%						6.25%
New Issue in Qtr.		Swiss Re	Pioneer C IV	6.00%	6.25%						6.25%
	Jun-02	Swiss Re	Pioneer D I	1.75%	1.90%		2.00% 1.75%	2.00%			1.95%
		Swiss Re	Pioneer D II	1.75%	1.90%						1.90%
	Jun-02	Swiss Re	Pioneer D III	1.75%	1.90%						1.90%
New Issue in Qtr.	Jun-02	Swiss Re	Pioneer D IV	1.75%	1.90%						1.90%
	Jun-02	Swiss Re	Pioneer E I	4.25%	5.00%		5.52% 5.00%	5.20%			5.10%
		Swiss Re	Pioneer E III	4.75%	5.00%						5.00%
New Issue in Qtr.		Swiss Re	Pioneer E IV	4.75%	5.00%						5.00%
	Jun-02	Swiss Re	Pioneer F I	7.50%	7.72%		8.26% 7.90%	8.00%			7.86%
		Swiss Re	Pioneer F III	7.50%	7.72%						7.72%
New Issue in Qtr.		Swiss Re	Pioneer F IV	7.50%	7.72%						7.72%
	Dec-00	Munich Re	PRIME CalQuake	7.50%	5.50%	8.86% 7.50%	6.60% 5.94%	6.90%	8.18%	6.27%	6.71%
	Dec-00	Munich Re	PRIME Calquake Shares	9.00%	7.81%						7.81%
	Dec-00	Munich Re	PRIME Hurricane	6.50%	8.06%	5.83% 5.17%	7.94% 6.93%	6.45%	5.50%	7.44%	6.86%
	Dec-00	Munich Re	PRIME Hurricane Shares	8.00%	9.35%						9.35%
	Mar-02	Lehman Re	Redwood Capital II	3.00%	3.20%	3.68% 3.00%	3.46% 2.80%	3.40%	3.34%		3.31%
	Mar-02	Lehman Re	Redwood Capital II Shares	4.50%	4.60%						4.60%
	Jun-01	USAA	Residential Re 2001	4.99%	4.22%	4.11% 3.67%	4.54% 4.11%	4.20%	3.89%	4.33%	4.16%
	May-02	USAA	Residential Re 2002	4.90%	4.44%	4.41% 4.17%	4.49% 4.25%	4.40%	4.29%	4.37%	4.38%
	May-01	Swiss Re	SR Wind Class A-1	5.25%	4.31%	5.25% 4.74%	4.46% 4.10%	4.60%	5.00%	4.28%	4.55%
	May-01	Swiss Re	SR Wind Class A-1 Shares	6.75%	5.75%						5.75%
	May-01	Swiss Re	SR Wind Class A-2	5.75%	4.90%	5.75% 5.24%	5.24% 4.94%	4.75%	5.50%	5.09%	5.06%
	May-01	Swiss Re	SR Wind Class A-2 Shares	7.25%	6.22%						6.22%
	Apr-02	Hiscox	St Agatha Re	6.75%	6.25%	7.02% 6.75%	6.75% 6.49%	6.65%	6.89%	6.62%	6.60%
	Dec-02	Vivendi	Studio Re	5.10%	4.75%	5.10% 4.93%	4.85% 4.68%	4.90%	5.02%		4.89%
	Dec-02	Vivendi	Studio Re Shares	8.00%	7.75%	8.00% 7.82%			7.91%		7.83%
	Jun-01	Zurich Re	Trinom Ltd Class A-1	8.00%	7.48%	9.10% 8.22%	7.97% 7.33%	7.70%	8.66%	7.65%	7.87%
	Jun-01	Zurich Re	Trinom Ltd Class A-2	4.00%	3.10%	4.00% 3.16%	3.40% 2.88%	3.30%	3.58%	3.14%	3.28%
	Jun-01	Zurich Re	Trinom Ltd Shares	10.00%	9.82%			12.00%			10.91%
			Circle Maihama			1.20% 0.75%		0.98%			5.21%
			Parametric Units			2.56% 2.06%		2.31%			
	Price		Kelvin 1ST Event								
	Price		Kelvin 2nd Event								
Issues ignored in Regression because of Maturity or Loss experience.											
	Mar-00	SCOR	Atlas Reinsurance ClassA	2.70%							
	Mar-00	SCOR	Atlas Reinsurance ClassB	3.70%							
	Mar-00	SCOR	Atlas Reinsurance ClassC	14.00%							
	Jul-00	Vesta	NeHi	4.10%							
	Jun-98	Yasuda Fire and I Pacific Re		3.70%							