

TRENDS IN THE INSURANCE-LINKED SECURITIES MARKET¹

By **Morton N. Lane** and **Roger G. Beckwith**²

INTRODUCTION

There is some debate about when the Insurance-Linked Securities (ILS) market (a.k.a. Cat Bond market) began. Was it June 1992 with the AIG-sponsored property-cat bond concept promoted by Merrill Lynch³? Was it the end of 1992 when the CBOT launched its since-aborted ISO contract? Or was it in 1995-96 with the first successful issuance of an AIG-fronted PXRE property-cat portfolio deal with additional small but successful portfolio deals from Georgetown Re and Reliance National? Perhaps it was later in 1996 when USAA closed the first \$500 million single-risk deal.

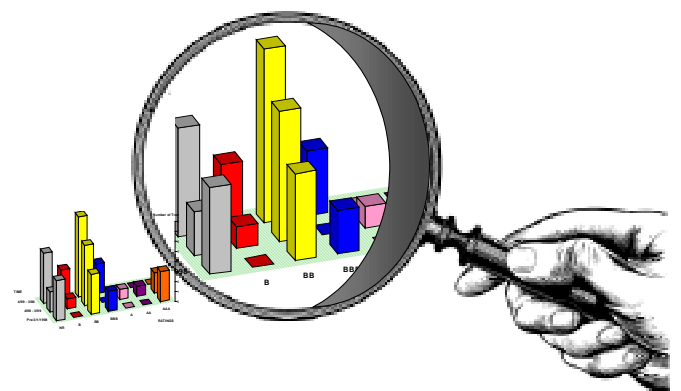
Whatever the answer, gestation of this market continues and with that gestation comes changing form. This paper reviews the ILS deals of the last twelve months (defined as 3/99 – 3/00) and puts them in the context of prior deals to discern trends.

The first CMO structures appeared in 1977. However the market did not grow at all until after 1980. Short-term interest rate futures started in 1976 but really did not take off until three shape-shifts to the Eurodollar contract occurred in 1984. Credit derivatives were first mooted in the late 1980's, but they did not become active until 1997.

The same can be said for CBO structures. It takes time (and circumstance) to develop a thriving market.

The ILS market is not yet a thriving market. However, one senses that it soon could be. It is all the more important, therefore, to examine the changes in both form and function of each new transaction. Further, it is important to assess the trends that may be emerging in successive issuances. That is the purpose of this paper.

Figure 1
DISCERNING RECENT TRENDS IN CAT BONDS



¹ This paper was presented in Boston on June 15, 2000, for the CARE Seminar on Reinsurance.

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³ Unfortunately, this deal was never consummated, presumably much to the issuers' chagrin since Hurricane Andrew hit two months later.

DISCLAIMER

This paper shall not be considered an offer to sell or the solicitation of an offer to buy securities. All information has been obtained from sources both public and private that are believed to be reliable but the authors make no representation as its ultimate accuracy. The views and opinions are those of the authors and are not intended to guarantee any level of financial performance, risk exposure or investment outcome.

THE DEALS

The (re)insurance securitizations of 1999 are listed in Table 1. Approximately \$2.0 billion of insurance risk was transferred to the capital markets in approximately a dozen transactions. The word “approximately” is used to signal the fact that full details may not be available about known deals, and not all deals may be known. (After all, the market is a *private* placement market.)

Table 1 details for each transaction (and any tranches), the Special Purpose Reinsurer (the name by which the deals are often known), the ceding company, lead underwriters, amount, ratings given, date of issue and maturity, together with various financial statistics. Certain of the financial statistics have been obtained directly from the PPM. Two statistics, “Expected Excess Return” (EER) and “Conditional Expected Loss” (CEL) are derived numbers.

In certain transactions, the term to maturity is different from the term for which the investor is on (insurance) risk. This was true of the Kelvin transaction. The senior Kelvin tranche could not go on risk until the second year of the three-year term to maturity. The noteholder was receiving coupons for all three years. In order to compare and contrast reinsurance-equivalent prices, Table 1 adjusts prices to reflect equivalent annual risk periods.

Another adjustment involved the conversion of LIBOR – by definition, based on 360-days accounting – to an actual 365-day count. This affected nearly all of the deals. The LIBOR component was also extracted from fixed coupon deals (i.e., Kelvin), to isolate the risk-price as opposed to the financing-price. (When deals are quoted on a floating rate basis [e.g., LIBOR plus a spread], that separation has already taken place.) The adjusted spread is now comparable to reinsurance quotations.

1999 was a decidedly active and experimental year. Particularly notable was the range and inventiveness of the deals brought to market. Deals covering earthquake and wind perils were repeated from the previous year (e.g., Mosaic, Residential Re) and new deals were completed that combined or extended these risks (e.g., Halyard, Domestic, Concentric, Juno, Gold Eagle, Namazu,

Atlas, Seismic). European wind and Midwest quake were added to the more familiar exposure regions. More importantly, two entirely new risk classes were securitized: weather (via Kelvin) and trade credit (via Sectrs). One company (Gerling) issued three securities – all different – making it second to USAA and Reliance who have both issued similar securities four times.

Several structural innovations stand out.

Domestic Re presented the market with the first use of a domestic SPV (via INEX). It is said that investor acceptance was thereby expanded. Certain classes of investor were not previously able to purchase ILS because of the offshore nature of the SPV.

Kelvin also stands out structurally. Not only did this security contain a new risk class (a portfolio of weather risks from U.S. cities) but the tranching was also unique. The so-called second event tranche was activated if and only if the first event had been previously attached – even if that first event tranche was not necessarily exhausted. Furthermore, the second event cover could only be brought on-risk at certain pre-specified dates. Once on risk, it would only attach after the first event exhausted. In the end, the nature of this tranching, combined with a new risk class, may have proved to be too complicated. Originally targeted as a \$200 million issue, the offering was closed after \$54 million.

Gold Eagle was based on a portfolio of equally sized “Industry Loss Warranty”-type covers. Each individual cover exhausted in full the moment it attached. Several such individual covers needed to attach to exhaust the junior tranche. The limit of the senior tranche was, however, set equal to the size of the individual covers. By design, it exhausted immediately when it was attached (i.e., CEL = 100%).

Seismic is also worthy of comment. Lehman Re bought index cover from Seismic Re using the PCS catastrophe index for California. Lehman Re was also known to have underwritten part of the California Earthquake Authority's traditional reinsurance placement. Lehman Re thereby created a basis risk for itself. This may be a harbinger of the way the ILS market will develop in the future.

Table 1A
1999 ILS GENERAL STATISTICS

SPV	Cedent	Lead Underwriters	Amount (US \$)	S&P Rating	Moody's Rating	DCR Rating	Fitch Rating	3/99-3/00 Issue Date	Maturity	Maturity Term	Exposure Term
Analyzed Securities											
Mosaic 2A	USF&G	Goldman Sachs	24.3	--	--	BB	--	Mar-99	Feb-00	12	12
Mosaic 2B	USF&G	E.W. Blanch	20.0	--	--	B	--	Mar-99	Feb-00	12	12
Halyard Re	Sorema	Merrill Lynch	17.0	--	--	BB-	--	Apr-99	Apr-02	36	36
Domestic Re	Kemper	Aon	80.0	BB+	Ba2	--	--	Apr-99	Apr-02	37	37
Concentric Re	Oriental Land	Goldman Sachs	100.0	BB+	Ba1	BB+	--	May-99	May-04	60	60
Juno Re	Gerling	Goldman Sachs	80.0	BB	--	--	BB+	Jun-99	Jun-02	36	36
Residential Re	USAA	Goldman Sachs/ Lehman Bros./ Merrill Lynch	200.0	BB	Ba2	--	--	Jun-99	Jun-00	12	12
Kelvin 1st Event	Koch	Goldman Sachs	21.6	--	--	B-	--	Oct-99	Feb-03	39.9	36
Kelvin 2nd Event	Koch	Goldman Sachs	23.0	BB	--	BBB-	BB+	Oct-99	Feb-03	39.9	24
Gold Eagle A	Am Re	Am Re/ML	50.0	--	Baa3	--	BBB-	Oct-99	Apr-01	17	17
Gold Eagle B	Am Re	Am Re/ML	126.8	--	Ba2	--	BB	Oct-99	Apr-01	17	17
Namazur Re	Gerling	Aon	100.0	BB	--	BB	--	Nov-99	Dec-04	60	60
Atlas Re A	SCOR	Goldman Sachs/	70.0	BBB+	--	BBB	BBB	Mar-00	Apr-03	36	36
Atlas Re B	SCOR	Marsh McLennan	30.0	BBB-	--	BBB-	BBB-	Mar-00	Apr-03	36	36
Atlas Re C	SCOR	" " "	100.0	B	--	B-	B-	Mar-00	Apr-03	36	36
Seismic Ltd.	Lehman Re	Swiss Re CM/ Lehman	145.5	BB+	Ba2	--	--	Mar-00	Dec-01	22	22
Other Notable ILS Securities - Not Part of Pricing Analysis											
<i>Units:</i>											
Mosaic (Units)	USF&G	Goldman Sachs	1.4	--	--	AAA	--	Mar-99	Feb-00	12	12
Domestic Re (Shares)	Kemper	Aon	20.0	--	--	--	--	Apr-99	Apr-02	37	37
Gold Eagle (Units)	Am Re	Salomon SB	5.5	--	--	--	--	Oct-99	Apr-01	17	17
Seismic Ltd.	Lehman Re	Swiss Re CM/ Lehman	4.5	--	--	--	--	Mar-00	Dec-01	22	22
<i>Option:</i>											
Circle Maihama	Oriental Land	Goldman Sachs	100.0	A	--	A	--	May-99	May-04	60	60
CLOCS	ReAC	Swiss Re Cap Mkts	75.0	--	--	--	--	Jan-00	Dec-02	36	
<i>Credit:</i>											
SECTRS A	Gerling GKS	Goldman Sachs	245.5	AA	Aa2	AA	--	Apr-99	Apr-02	36	36
SECTRS B	Gerling GKS	Goldman Sachs	127.5	A	A2	A	--	Apr-99	Apr-02	36	36
SECTRS C	Gerling GKS	Goldman Sachs	82.0	BBB+	Baa2	BBB	--	Apr-99	Apr-02	36	36
<i>Other related ILS market transactions of note:</i>											
WINRS	Enron	Merrill Lynch	105.0					Sep-99	WITHDRAWN	60	
Surety	ResidenSea Ltd	Centre Solutions	280.0					Oct-99			
SWAP	Not Disclosed	Marsh McLennan	50.0					Sep-99			

Notes to Table 1A

- The table displays securities and/or their tranches that were issued between March 1999 and March 2000.
- Upper panel shows 16 deals and/or their tranches that are analyzed in this paper. Lower panel records related transactions.
- The exposure term of the Kelvin (Koch) transaction is less than the maturity of the notes. Traded weather seasons do not cover the whole year. Accordingly, an adjustment

**Table 1B
1999 ILS FINANCIAL STATISTICS**

SPV	Cedent	Lead Underwriters	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
Analyzed Securities									
Mosaic 2A	USF&G	Goldman Sachs	400	4.08%	0.42%	0.0115	0.0042	3.64%	36.52%
Mosaic 2B	USF&G	E.W. Blanch	825	8.36%	2.84%	0.0525	0.1150	5.52%	54.10%
Halyard Re	Sorema	Merrill Lynch	450	4.56%	0.63%	0.0084	0.0045	3.93%	75.00%
Domestic Re	Kemper	Aon	369	3.74%	0.50%	0.0058	0.0044	3.24%	86.21%
Concentric Re	Oriental Land	Goldman Sachs	310	3.14%	0.42%	0.0064		2.72%	65.63%
Juno Re	Gerling	Goldman Sachs	420	4.26%	0.45%	0.0060	0.0033	3.81%	75.00%
Residential Re	USAA	Goldman Sachs/ Lehman Bros./ Merrill Lynch	366	3.71%	0.44%	0.0078	0.0026	3.27%	57.89%
Kelvin 1st Event	Koch	Goldman Sachs	1570	10.97%	4.45%	0.1210	0.0050	6.52%	36.78%
Kelvin 2nd Event	Koch	Goldman Sachs	870	4.82%	0.30%	0.0158	0.0007	4.52%	19.23%
Gold Eagle A	Am Re	Am Re/ML	295	2.99%	0.17%	0.0017	0.0017	2.82%	100.00%
Gold Eagle B	Am Re	Am Re/ML	540	5.48%	0.63%	0.0078	0.0049	4.85%	80.77%
Namazu Re	Gerling	Aon	450	4.56%	0.75%	0.0100	0.0032	3.81%	75.00%
Atlas Re A	SCOR	Goldman Sachs/	270	2.74%	0.11%	0.0019	0.0005	2.63%	57.89%
Atlas Re B	SCOR	Marsh McLennan	370	3.75%	0.23%	0.0029	0.0019	3.52%	79.31%
Atlas Re C	SCOR	" " "	1400	14.19%	3.24%	0.0547	0.0190	10.95%	59.23%
Seismic Ltd.	Lehman Re	Swiss Re CM/ Lehman	450	4.56%	0.73%	0.0113	0.0047	3.63%	64.60%
Other Notable ILS Securities - Not Part of Pricing Analysis									
<i>Units:</i>									
Mosaic (Units)	USF&G	Goldman Sachs	190		0.0060	0.0082	0.0058		0.968
Domestic Re (Shares)	Kemper	Aon			0.0017	0.0017	0.0017		1.000
Gold Eagle (Units)	Am Re	Salomon SB	850		0.0113	0.0113	0.0113		1.000
Seismic Ltd.	Lehman Re	Swiss Re CM/ Lehman							
<i>Option:</i>									
Circle Maihama CLOCS	Oriental Land ReAC		75			0.0064 0.004			
<i>Credit:</i>									
SECTRS A	Gerling GKS		E+45		NA	NA	NA		
SECTRS B	Gerling GKS		E+85		NA	NA	NA		
SECTRS C	Gerling GKS		E+170		NA	NA	NA		
<i>Other related ILS market transactions of note:</i>									
WINRS	Enron	Merrill Lynch			0.0127	0.047	0.0004		0.270
Surety	ResidenSea Ltd	Centre Solutions							
SWAP	Unknown	Marsh McLennan							

Notes to Table 1B:

- The table displays securities and/or their tranches that were issued between March 1999 and March 2000.
- Upper panel shows 16 deals and/or their tranches that are analyzed in this paper. Lower panel records related transactions.
- Shaded columns show the data that is used in that subsequent price analysis.
- All deals are converted to a 365-day year. LIBOR convention uses a 360-day year, but CAT risk is a 365-day activity. The adjusted spreads displayed are comparable to reinsurance pricing.
- The exposure term of the Kelvin (Koch) transaction is less than the maturity of the notes. Traded weather seasons do not cover the whole year. Accordingly, an adjustment is made to the spread to make it comparable to a 365-day exposure year.
- The Kelvin (Koch) transaction was issued as a fixed-income instrument. An adjustment is made to provide an equivalent floating rate basis.
- 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.

Finally, by way of innovation, Concentric Re and Circle Maihama stand out. Concentric was not an issue from an insurer or reinsurer, but from the insured itself (Oriental Land). One potential consequence of insurance securitization is that the insured will bypass the insurance industry and go directly to the capital markets. This was the first concrete evidence of such disintermediation. The principle business of Oriental Land is Tokyo Disneyland. A sizeable earthquake anywhere in and around central Tokyo would affect Disneyland's business. Upon the occurrence of a specified earthquake, Concentric would immediately pay Oriental to compensate for business loss. The exact payment was based on a synthetically constructed scale (i.e., an index payment).

A sister part of Oriental Land's securitization was Circle Maihama. This was a standby facility. It allowed for Oriental Land debt issuance, and could be contingently activated if and only if Concentric was attached. The contingent debt provided Oriental Land with working capital. The debt is to be issued on prearranged terms that will not change subsequent to an earthquake.

TRENDS

The 1999 activity bears examination in the context of transactions that have taken place in the early years of this new market. This trend analysis is summarized in Tables 2 through 6 and Figures 2 and 3. Table 2 lays out the set of securities examined. Several trends are examined in turn.

AMOUNT AND TERM

Table 3 shows that the dollar amount of issuance in the reference set declined slightly from 1998 to 1999 (from \$1,367 million to \$1,219 million). (Remember, only analyzed deals are in the reference set. Inclusion of the Sectrs transaction would actually lead to a conclusion of increased issuance.) The number of deals issued increased (from 7 to 11). It follows that the average size of a deal fell (from \$195 million to \$111 million). An increasing number of deals is evidence of continued experimentation, though the lack of growth in amount of risk transferred indicates that experimentation has yet to meet acceptance.

The term to maturity of the deals has changed. Nearly 80% of the earliest deals had an exposure of 12 months or less. (The annual deal is more or less standard practice in the traditional reinsurance treaty business.) That figure has now fallen to 28% (i.e., 72% have terms longer than 12 months). There are two plausible explanations. First, the issuing cost of securities is high (higher than a traditional annual reinsurance treaty). Extending the term allows this cost to be spread over a longer time period.

The second – and perhaps more appealing reason – may be that cedents sense a bottoming out in the price cycle for reinsurance. Certainly, the retrocessional market had hardened considerably by the end of the twelve months, if not at the beginning. One benefit of securitization is that it can lock in the price of coverage several years in advance if the term to maturity of the security is extended. Sensing a turn in rates, a reinsurance buyer (i.e., the issuer) should behave like a CFO who senses a turn in interest rates and extends maturities. The statistics suggest that some of this is happening.

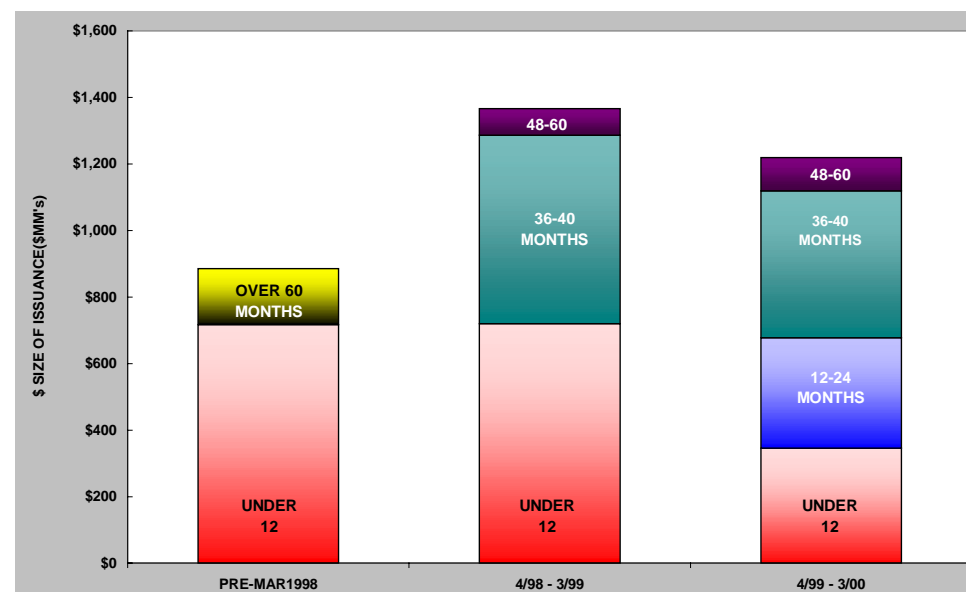
Table 2
SECURITIES REFERENCE SET

Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000
Reliance I	Reliance IV	Juno
Georgetown Re	XL Mid-Ocean	Domestic Re
Residential Re I	Residential Re II	Residential Re III
Swiss Re CA Quake	Pacific Re	Concentric Re
Parametric Re	Mosaic I	Mosaic II
Trinity I	Trinity II	Gold Eagle
Reliance II	Gramercy	Namazu
		Atlas
		Seismic
		Kelvin
		Halyard Re
Note: Other notable deals, including contingent deals, that are not part of the summary analysis:		
Winterthur	Reliance III Option	Circle Maihama
AIG	Allianz Option	Clocs
Hannover	Moderns	Sectrs

Table 3
TERM TO MATURITY (Where possible, exposure, rather than maturity)

Exposure/ Maturity	Amount in \$ Millions			Total	Number of Deals			Total
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000		Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	
12	717.6	720.6	345.7	1783.9	5	5	3	13
24	0	0	332.1	332.1	0	0	2	2
36	0	566.3	441.6	1007.9	0	1	5	6
48	0	0	0	0	0	0	0	0
60	0	80	100	180	0	1	1	2
100	168.5	0	0	168.5	2	0	0	2
Total	886.1	1366.9	1219.4	3472.4	7	7	11	25
Average Deal Size	127	195	111					
% Longer than 12 Mos.	19%	47%	72%		29%	29%	73%	

Figure 2
GROWTH AND MATURITY COMPOSITION OF INSURANCE-LINKED NOTES



CREDIT RATINGS AND TRANCHING

Another distinct trend in securitization is exemplified in Table 4 and Figure 3. There is evidence of more tranching of securities into junior and senior pieces. As importantly, the ratings of the tranches have migrated lower. Eighty-four percent of this year's tranches were rated below investment grade compared to 62% of the early transactions. Several explanations suggest themselves. Early on, it was probably necessary to persuade brave investors in this new ILS class that the deals were of high quality. Now that a constituency has been established, that is less

necessary. Alternatively, cedents may now find it more valuable to get coverage at the layers experiencing greater frequency. Figure 3 shows a notable rise in BBB and B branches together with a growing number of non-rated transactions.

Whenever credit ratings are provided, "upgrades," "down grades," and "watches" are possible. More of this activity is likely when there are a greater number of lower credit ratings. Current data on rating status are listed at the bottom of Table 3. Halyard Re, issued by Sorema and covering European wind, was placed on credit watch by Duff & Phelps after the very damaging French windstorms (Lothar and Martin) occurred at the end of December. Since taken off watch, the original alert by the rating agency was intended to signal potential investor losses. One way or another, we can

anticipate more rating agency status changes as securitization progresses.

Actual investor losses (and therefore cedent recoveries) have been experienced on just two transactions. Reliance IV experienced a French storm loss that caused investors to receive returns of LIBOR + 8.25% instead of the stated coupon of LIBOR + 13.25%. Reliance recovered 5% of the principal. From Lothar and other accumulated 1999 losses, Georgetown Re (issued in 1996) was reported to have experienced losses that wiped out all of the 1999 coupon plus a further 2.03% of principal. Investors who originally participated in

Table 4
CREDIT RATINGS (by Tranche)

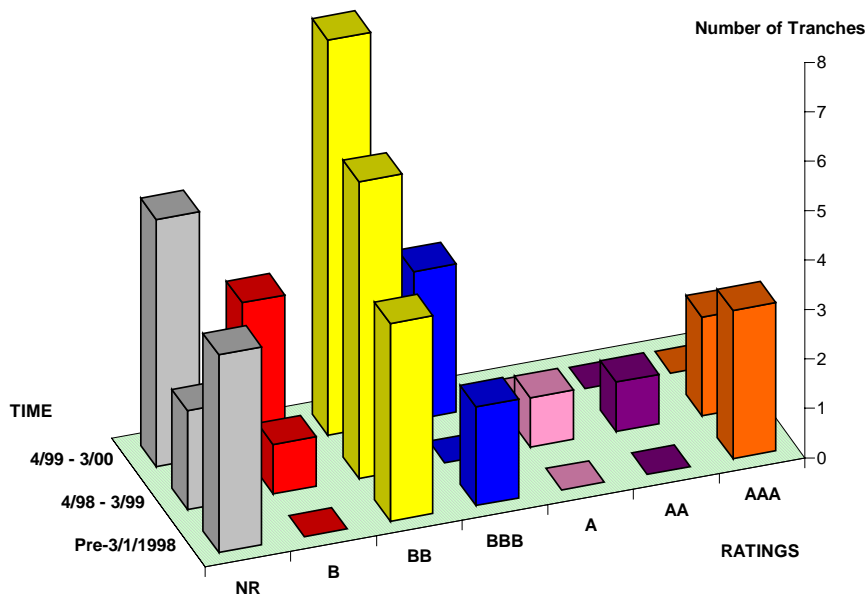
Credit Rating	Amount in \$ Millions				Number of Deals			
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total
AAA	230.3	23	0	253.3	3	2	0	5
AA	0	60.7	0	60.7	0	1	0	1
A	0	283.1	0	283.1	0	1	0	1
BBB	82	0	173	255	2	0	3	5
BB	515	869.1	773.4	2157.5	4	6	8	18
B	0	21	141.6	162.6	0	1	3	4
NR	58.7	110	131.4	300.1	4	2	5	11
Total	886.0	1366.9	1219.4	3472.3	13	13	19	45
Average Tranche Size	68.2	105.1	64.2					
% of Issues Below Investment Grade	65%	73%	86%		62%	69%	84%	
Downgrades or Watches	None	None	Halyard Re	DCR				
Losses	None	None	Reliance IV Georgetown Re	(5%, thereby reducing return to L+8.25) (All of the coupon + 2.03% Principal)				

upgraded after the end of a benign hurricane season. Residential Re comes to mind. A more current example is the weather securitization, Kelvin. The weather season for the winter of 1999/2000 was warmer than expected. Kelvin was exposed to colder than expected winters. Its price has risen but it has yet to be “upgraded”.

MARKET CONTROL

A perennial question concerning insurance securitization is, “Who will command this market – intermediaries or investment bankers?” Table 5 exposes “deal arranger” statistics by the amount of issuance and the number of deals. The table lays out the number of citations as co-manager for all reference-set securitizations. By a clear margin, Goldman Sachs ranks as the market leader. This is in terms of dollar issuance and number of deals. As Figures 4A and 4B clearly demonstrate, Lehman and Merrill also rank in the top four. Only

Figure 3
RATINGS CHANGES OVER TIME (by Number of Rated Tranches)



Georgetown Re ILS have previously received positive coupons, therefore, the net internal rate of return is reduced, but positive lifetime returns are not yet impaired. Both of these partial losses lend faith to the idea of “expected losses”. Both were close to expected levels of loss. In the future, losses more dramatic than expected losses are likely to occur. Fortunately, this has not been the case thus far.

As time goes on, we should also expect certain securities to go on the “upgrade” list. Obviously, securities built around Florida wind should be

Aon from the reinsurance market sector appears alongside these investment bankers. The answer to the command question, therefore, appears to be – investment bankers win! They certainly lead, but before victory is declared, more complicated trends need to be examined. Reinsurers have set up broker-dealers, and investment bankers have set up intermediaries. Is Lehman truly representative of Lehman Re or Lehman Brothers?

The lower part of Table 5 attempts to identify the heritage of listed co-managers as either investment

Table 5
CO-MANAGERS (as listed on PPM – there may be multiple co-managers per issue)
Ranked by \$ Amount of Issue

Co-Manager	Amount in \$ Millions			Total	Number of Citations as Co-Manager			Total
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000		Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	
Goldman Sachs	729.1	1176.9	1052.4	2958.4	4	4	9	17
Lehman	477	500	450	1427	1	1	3	5
Merrill Lynch	477	500	217	1194	1	1	2	4
Aon*	0	80	317	397	0	1	4	5
Marsh*	0	0	300	300	0	0	2	2
Swiss Re*	237	0	0	237	2	0	0	2
Am Re*	0.0	0	182.1	182.1	0	0	1	1
Chase	83.6	56.6	0	140.2	1	1	0	2
Centre Re*	83.6	56.6	0	140.2	1	1	0	2
DLJ	83.6	56.6	0	140.2	1	1	0	2
Zurich*	83.6	56.6	0	140.2	1	1	0	2
CSFB	137	0	0	137	1	0	0	1
Blanch*	0	54	45.7	99.7	0	1	1	2
Lane Financial*	20	10	0	30	2	1	0	3
Soc Gen	0	0	0	0	0	0	0	0
	2411.5	2547.3	2564.2	7523	15	13	22	50
Goldman Sachs' Share	30%	46%	41%		27%	31%	41%	
*Reinsurers and Intermediaries	18%	10%	33%		40%	38%	36%	
Investment Bankers	82%	90%	67%		60%	62%	64%	

banker or intermediary – an exercise a bit like trying to identify NFL football teams as either from the AFC or NFC. The result shows an interesting countertrend to the main results. The share of citations of insurance participants is increasing (from 18% to 33%) in terms of issuance dollar size while holding their own in terms of deal numbers. Why are the bankers letting the new guys into the bigger deals? Knowing how these bankers usually behave, the conclusion to which one is drawn is, “Because they have to.” Conventional wisdom is that bankers have the distribution capabilities, and intermediaries have the origination capabilities. The statistics appear to support the notion that in order to get access to securitizable risk (the origination), the bankers have had to cooperate with the insurers and intermediaries just to get the deals done.

Figure 4A
CO-MANAGER LISTINGS (Ranked by Amount) Thru March 2000

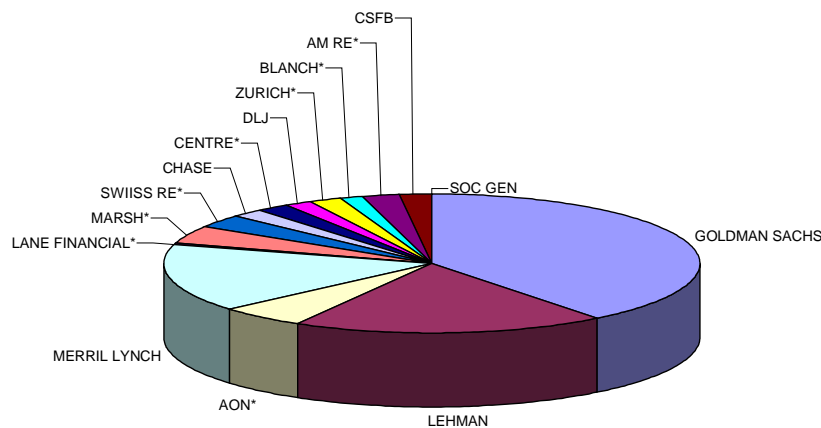
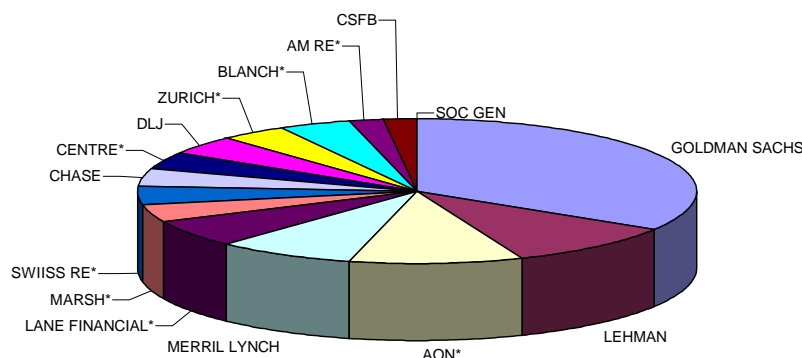


Figure 4B
CO-MANAGER LISTINGS (Ranked by # of Deals) Thru March 2000



OTHER TRENDS

Table 6 concludes our overview of 1999 by summarizing certain other trends.

MOST SENIOR vs MOST JUNIOR PIECES

First (in Table 6A), there is evidence of the disappearance of “capital protected” tranches as part of a deal. The “capital protected” tranches were packages of risk pieces combined with zero coupon instruments in order to get “AAA as to principal” ratings.

Table 6

Table 6A
CLASS BY STRUCTURE

Structure	Amount in \$ Millions				Number of Deals			
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total
Capital Protected	267.8	18	0	285.8	4	1	0	5
Single Tranche*	206	590	722.5	1518.5	5	3	7	15
Multiple Tranches	388.2	758.9	465.5	1612.6	2	4	4	10
"Equity" Pieces	24	0	31.4	55.4	1	0	4	5
Total	886	1366.9	1219.4	3473.3	12	8	15	35

* may be combined with a capital protected tranche.

Table 6B
CLASS BY UNDERLYING RISK

Underlying Risk	Amount in \$ Millions				Number of Deals			
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total
Single	797.6	1220.3	667	2664.9	4	4	6	14
Portfolio	0	0	45.7	45.7	0	0	1	1
Portfolio (with sub limits by line)	88.5	10	0	98.5	3	1	0	4
Portfolio (with sub limits by event)	0	156.6	506.7	663.3	0	2	4	6
Total	886.1	1366.9	1219.4	3472.4	7	7	11	25
% of issues with a single risk	90%	88%	55%		57%	57%	55%	

Table 6C
CLASS BY INDEMNITY/INDEX

Indemnity/Index	Amount in \$ Millions				Number of Deals			
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total
Indemnity	629.1	1356.9	642.7	2628.7	3	6	6	15
Index	257	10	576.7	843.7	4	1	5	10
Total	886.1	1366.9	1219.4	3472.4	7	7	11	25
Fraction of Indemnity Deals	71%	99%	53%		43%	86%	55%	

Table 6D
OTHER DEALS (Including Contingent Deals)

Indemnity/Index	Amount in \$ Millions				Number of Deals			
	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total	Pre-March 1998	April 1998 - March 1999	April 1999 - March 2000	Total
Contingent: Equity <i>(La Salle, Horace Mann, RLI)</i>	450			450	3			3
Contingent: Debt <i>(Nationwide, Arkwright)</i>	300		175 <i>(Maihama, ReAC)</i>	475	2		2	4
Contingent: Reinsurance <i>(Reliance III, Allianz)</i>		170		170		2		2
	750	170	175	1095	5	2	2	9

Apparently, there is no longer an appetite or necessity to promote such contrived packaging. Countering this trend, "equity" pieces have begun to appear more frequently. These pieces are "preferred" shares in the SPV instituted to fall on the right side of a rather draconian accounting interpretation of ETIF 96-20 and FASB 125. The interpretation says that one test of separateness of an SPV and one which prevents consolidation on

the cedents balance sheet is that there be more than 3% equity risk by third parties. New deals have constructed "equity" pieces to be in conformance with the accounting requirement. Table 6A also shows that while the number of multiple tranche deals is increasing, single tranche transactions still dominate.

PORTFOLIO vs SINGLE RISK

From the earliest days of securitization, there has been a question about whether a portfolio of risks would be most easily securitized versus a single risk underlying each security. The earliest deals were of portfolios of risk (AIG, Georgetown, Reliance I), but the largest, most successful subsequent deals were single risk (USAA). That appears to be changing. Table 6B suggests that “portfolio” deals are growing in size relative to single risk deals. In fact, the single-risk deals’ share of the market has fallen from 90% to 55%.

INDEX vs INDEMNITY

Another unsettled question for insurance-linked securities is, “Should the securitizations be indemnity or index based?” It appears there will always be room for both types of deals. However, Table 6C supports the notion that as more cedents become comfortable with the securitization process, more index deals will be generated. Certainly that has been the case recently in amounts issued, if not in numbers of deals.

OPTIONABLE DEALS

Table 6D records contingent deals. In principle, the securitization of insurance risk should lead not only to more securities, but also to more derivatives thereon. In particular, we would expect to see more options – whether in the form of pure options, standby facilities, or other contingent arrangements. Table 6D displays the record so far. It is spotty. Contingent deals can lead to the issuance in the future of equity (Cat-E-Put is one example), debt (Circle Maihama), or reinsurance cover (Reliance III and Allianz). The contingent deals are too few to reveal trends. Nevertheless, it is encouraging to see cedents utilizing these possibilities to improve their capitalization through the use of standby facilities for both hard (equity) and soft (reinsurance) capital.

The great virtue of optional arrangements is not only that capital, debt, or reinsurance is standing by to be activated when necessary, but that the terms of such arrangements are fixed. Those terms thus provide a “cap” on the price of capital, debt, or reinsurance. If in the future, after prescribed events have happened, and if the then prevailing market prices are higher, the cedent will exercise its option. If not, and if capital and coverage is still

needed, the cedent can issue in the primary market. This cap is of considerable value. As of this writing, Allianz and Reliance have such valuable features available to them. (ReAC’s liquidators also have a valuable option.)

CONCLUDING REMARKS

There is one other trend that merits comment but is beyond the scope of this paper. That involves the pricing of ILS securities. (We address this in a related paper, “Pricing Risk Transfer Transactions”.) It has been argued by many that ILS prices were cheap (have a higher spread) than equivalently rated corporate bonds. This is generally true.

Nonetheless, our analysis suggests that different results apply to different ratings. As senior tranches (rated A and above) have become better appreciated, the spread differential has narrowed on them. It is on the newly emerging junior tranches (below BBB) that cheapness shows itself. However, this might only be manifested due to their being the area of greatest new supply.

Many questions involving pricing have yet to be answered – not the least being whether ILS prices will decline as corporate spreads widen at the end of this particular economic cycle. Do widening corporate spreads betoken revised default probability estimates or shifting risk preferences? If the latter, does it not imply that ILS spreads should also widen?

These questions are rich with potential implications for ILS issuers and investors alike. Their pertinence will only be important however, if the market grows significantly. Given the trends discussed in this paper, the ILS market continues to prepare for take-off. It surely will as time and circumstances unfold.

PAPERS AVAILABLE FROM LANE FINANCIAL, LLC

ANNUAL INSURANCE SECURITIZATION OVERVIEWS

- ♦ 1999 – **Pricing Risk Transfer Transactions**, June 9, 2000.
- ♦ 1999 – **Trends in the Insurance-Linked Securities Market**, May 31, 2000.
- ♦ 1998 – **Risk Cubes or Price, Risk and Ratings (Part II)**, March 15, 1999. Also published in *The Journal of Risk Finance*, Vol. 1, No. 1, Fall 1999.
- ♦ 1997 – **Price, Risk and Ratings for Insurance-Linked Notes: Evaluating Their Position in Your Portfolio**, May 5, 1998. Based on a presentation made before the conference, “Rethinking Insurance Regulation 1998” sponsored by the Competitive Enterprise Institute in Washington, DC on April 13, 1998. Also published in the proceedings of this conference featured in *Derivatives Quarterly*.
- ♦ 1996 – **A Year of Structuring Furiously: Promises, Promises**, January 31, 1997. Also published in *Energy Insurance Review*, Spring 1997.

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- ♦ **Is this an arbitrage I see before me?** April 30, 1998. Also published in *The Risk Financier*, June 1998.
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