

# Calendar Year Results for Selected Reinsurers

6 months ending 6/30/2000

<b>Company</b>	<b>Premium</b>	<b>Combined Ratio</b>	<b>1998 Combined</b>	<b>1997 Combined</b>
American Re	1,500	117.0%	104.0%	104.0%
Employers Re	1,900	113.0%	111.0%	103.7%
Everest Re	588	104.0%	103.0%	103.0%
General Re	1,450	112.3%	101.1%	98.8%
Gerling Global	441	113.0%	108.7%	105.4%
SCOR Re	240	143.0%	113.6%	105.3%
St Paul Re	680	118.5%	98.6%	104.6%
Swiss Re	851	115.5%	106.2%	103.1%
Transatlantic Re	738	101.0%	101.5%	99.9%
Underwriters Re	128	134.4%	102.3%	102.1%
Zurich Re	588	102.3%	113.3%	109.2%
<b>Industry Total</b>	<b>10,600</b>	<b>112.0%</b>	<b>107.0%</b>	<b>102.1%</b>

Source:  
www.raanet.org

# Simple Loss Development Example

AY Loss	12	24	36	<i>Selections and Ultimates</i>						
1997	100	125	135							
1998	110	128		AY	Prm	Obs Loss	Sel FTU	CL Ult	Ult LR	
1999	112			1997	165	135	1.000	135	81.8%	
				1998	165	128	1.080	138	83.8%	
				1999	165	112	1.296	145	88.0%	
<i>Link Ratios</i>				<b>Projected Loss Development Triangle</b>						
AY	12 : 24	24 : 36		AY Loss	12	24	36			
1997	1.250	1.080		1997	100	125	135			
1998	1.164			1998	110	128	138			
Average	1.200	1.080		1999	112	134	145			
FTU	1.296	1.080	1.000							

# Simulated Example, Losses \$000

Cumulative	12	24	36	48	60	72	84	96	108	120
1990	1,473	3,858	8,590	9,192	9,831	9,950	10,101	12,549	12,578	12,583
1991	491	2,824	5,533	7,111	7,782	7,902	7,942	7,971	8,436	
1992	639	1,962	4,138	5,940	7,082	7,567	7,617	8,045		
1993	783	3,276	4,763	5,561	6,051	6,175	6,342			
1994	1,471	3,189	6,242	8,925	10,066	10,248				
1995	971	2,207	3,774	4,927	6,257					
1996	1,035	2,436	4,332	11,334						
1997	949	1,763	5,324							
1998	24	4,724								
1999	906									

<b>Cumulative</b>	<b>12</b>	<b>24</b>	<b>36</b>	<b>48</b>	<b>60</b>	<b>72</b>	<b>84</b>	<b>96</b>	<b>108</b>	<b>120</b>
<b>1990</b>	1,473	3,858	8,590	9,192	9,831	9,950	10,101	12,549	12,578	12,583
<b>1991</b>	491	2,824	5,533	7,111	7,782	7,902	7,942	7,971	8,436	
<b>1992</b>	639	1,962	4,138	5,940	7,082	7,567	7,617	8,045		
<b>1993</b>	783	3,276	4,763	5,561	6,051	6,175	6,342			
<b>1994</b>	1,471	3,189	6,242	8,925	10,066	10,248				
<b>1995</b>	971	2,207	3,774	4,927	6,257					
<b>1996</b>	1,035	2,436	4,332	11,334						
<b>1997</b>	949	1,763	5,324							
<b>1998</b>	24	4,724								
<b>1999</b>	906									

**Link Ratios**

<b>AY</b>	<b>12 : 24</b>	<b>24 : 36</b>	<b>36 : 48</b>	<b>48 : 60</b>	<b>60 : 72</b>	<b>72 : 84</b>	<b>84 : 96</b>	<b>96 : 108</b>	<b>108 : 120</b>
<b>1990</b>	2.619	2.227	1.070	1.070	1.012	1.015	1.242	1.002	1.000
<b>1991</b>	5.750	1.959	1.285	1.094	1.015	1.005	1.004	1.058	
<b>1992</b>	3.073	2.109	1.435	1.192	1.068	1.007	1.056		
<b>1993</b>	4.182	1.454	1.167	1.088	1.020	1.027			
<b>1994</b>	2.168	1.957	1.430	1.128	1.018				
<b>1995</b>	2.273	1.710	1.306	1.270					
<b>1996</b>	2.354	1.779	2.616						
<b>1997</b>	1.858	3.020							
<b>1998</b>	199.966								

**Link Ratios**

<b>AY</b>	<b>12 : 24</b>	<b>24 : 36</b>	<b>36 : 48</b>	<b>48 : 60</b>	<b>60 : 72</b>	<b>72 : 84</b>	<b>84 : 96</b>	<b>96 : 108</b>	<b>108 : 120</b>
<b>1990</b>	2.619	2.227	1.070	1.070	1.012	1.015	1.242	1.002	1.000
<b>1991</b>	5.750	1.959	1.285	1.094	1.015	1.005	1.004	1.058	
<b>1992</b>	3.073	2.109	1.435	1.192	1.068	1.007	1.056		
<b>1993</b>	4.182	1.454	1.167	1.088	1.020	1.027			
<b>1994</b>	2.168	1.957	1.430	1.128	1.018				
<b>1995</b>	2.273	1.710	1.306	1.270					
<b>1996</b>	2.354	1.779	2.616						
<b>1997</b>	1.858	3.020							
<b>1998</b>	199.966								

**Averages**

<b>Strt All</b>	24.916	2.027	1.473	1.140	1.027	1.014	1.101	1.030	1.000
<b>Last 5</b>	41.724	1.984	1.591	1.155	1.027	1.014	1.101	1.030	1.000
<b>Last 3</b>	68.059	2.169	1.784	1.162	1.036	1.013	1.101	1.030	1.000
<b>Wtd All</b>	3.349	1.984	1.418	1.130	1.025	1.013	1.113	1.024	1.000
<b>Wtd L5</b>	3.218	1.898	1.578	1.147	1.025	1.013	1.113	1.024	1.000
<b>Wtd L3</b>	4.446	2.096	1.755	1.153	1.034	1.012	1.113	1.024	1.000
<b>Selected</b>	3.500	2.000	1.500	1.110	1.080	1.060	1.040	1.024	1.010
<b>FTU</b>	14.353	4.101	2.050	1.367	1.231	1.140	1.076	1.034	1.010
<b>Pct Ult</b>	7.0%	24.4%	48.8%	73.2%	81.2%	87.7%	93.0%	96.7%	99.0%

# Chain Ladder Ultimate Losses

## *Selections and Ultimates View I: Premium Based Exposure*

<b>AY</b>	<b>EP</b>	<b>Obs Loss</b>	<b>Sel FTU</b>	<b>Prior LR</b>	<b>CL Ult</b>	<b>CL LR</b>
<b>1990</b>	14,757	12,583	1.000	80.0%	12,583	85.3%
<b>1991</b>	13,782	8,436	1.010	80.0%	8,520	61.8%
<b>1992</b>	11,951	8,045	1.034	80.0%	8,322	69.6%
<b>1993</b>	11,624	6,342	1.076	80.0%	6,822	58.7%
<b>1994</b>	11,277	10,248	1.140	80.0%	11,685	103.6%
<b>1995</b>	10,735	6,257	1.231	80.0%	7,705	71.8%
<b>1996</b>	10,092	11,334	1.367	80.0%	15,492	153.5%
<b>1997</b>	9,659	5,324	2.050	80.0%	10,916	113.0%
<b>1998</b>	8,305	4,724	4.101	80.0%	19,372	233.2%
<b>1999</b>	9,464	906	14.353	80.0%	13,009	137.5%

# Bornhuetter-Ferguson Ultimates

## *Selections and Ultimates View I: Premium Based Exposure*

<b>AY</b>	<b>EP</b>	<b>Obs Loss</b>	<b>Sel FTU</b>	<b>Prior LR</b>	<b>CL Ult</b>	<b>CL LR</b>	<b>BF Ult</b>	<b>BF LR</b>
<b>1990</b>	14,757	12,583	1.000	80.0%	12,583	85.3%	12,583	85.3%
<b>1991</b>	13,782	8,436	1.010	80.0%	8,520	61.8%	8,545	62.0%
<b>1992</b>	11,951	8,045	1.034	80.0%	8,322	69.6%	8,363	70.0%
<b>1993</b>	11,624	6,342	1.076	80.0%	6,822	58.7%	6,997	60.2%
<b>1994</b>	11,277	10,248	1.140	80.0%	11,685	103.6%	11,357	100.7%
<b>1995</b>	10,735	6,257	1.231	80.0%	7,705	71.8%	7,871	73.3%
<b>1996</b>	10,092	11,334	1.367	80.0%	15,492	153.5%	13,501	133.8%
<b>1997</b>	9,659	5,324	2.050	80.0%	10,916	113.0%	9,283	96.1%
<b>1998</b>	8,305	4,724	4.101	80.0%	19,372	233.2%	9,748	117.4%
<b>1999</b>	9,464	906	14.353	80.0%	13,009	137.5%	7,950	84.0%

# Exposure Adjustment

## *Selections and Ultimates View II: Unit Based Exposure*

<b>AY</b>	<b>Units</b>	<b>Obs Loss</b>	<b>Sel FTU</b>	<b>Prem/ Unit</b>	<b>CL Ult</b>	<b>CL LR</b>	<b>BF Ult</b>	<b>BF LR</b>
<b>1990</b>	123	12,583	1.000	120	12,583	85.3%	12,583	85.3%
<b>1991</b>	125	8,436	1.010	110	8,520	61.8%	8,572	62.2%
<b>1992</b>	120	8,045	1.034	100	8,322	69.6%	8,442	70.6%
<b>1993</b>	122	6,342	1.076	95	6,822	58.7%	7,160	61.6%
<b>1994</b>	125	10,248	1.140	90	11,685	103.6%	11,635	103.2%
<b>1995</b>	126	6,257	1.231	85	7,705	71.8%	8,275	77.1%
<b>1996</b>	126	11,334	1.367	80	15,492	153.5%	14,043	139.1%
<b>1997</b>	129	5,324	2.050	75	10,916	113.0%	10,272	106.3%
<b>1998</b>	128	4,724	4.101	65	19,372	233.2%	11,004	132.5%
<b>1999</b>	126	906	14.353	75	13,009	137.5%	9,711	102.6%



# Alternative Estimate of Unpaid Loss

Incremental	12	24	36	48	60	72	84	96	108	120
<b>1990</b>	1,473	2,385	4,732	602	639	119	152	2,447	29	6
<b>1991</b>	491	2,333	2,709	1,578	671	120	41	28	465	
<b>1992</b>	639	1,324	2,176	1,802	1,143	485	50	429		
<b>1993</b>	783	2,493	1,487	797	491	124	167			
<b>1994</b>	1,471	1,718	3,053	2,682	1,142	182				
<b>1995</b>	971	1,236	1,567	1,153	1,330					
<b>1996</b>	1,035	1,401	1,896	7,001						
<b>1997</b>	949	814	3,561							
<b>1998</b>	24	4,700								
<b>1999</b>	906									
<b>Average</b>	874	2,045	2,648	2,231	902	206	102	968	247	6
<b>Est IBNR</b>	10,229	9,355	7,310	4,662	2,431	1,529	1,323	1,221	253	6
<b>True IBNR</b>	10,000	9,000	7,054	4,135	2,189	1,216	730	341	146	49

# Additive Method

## *Selections and Ultimates View III: Additive Method and Actuals*

<b>AY</b>	<b>Obs Loss</b>	<b>Est IBNR</b>	<b>Est Ult</b>	<b>Est Ult LR</b>	<b>Actual IBNR</b>	<b>Actual Ult</b>	<b>Actual Ult LR</b>	<b>Expected LR</b>
<b>1990</b>	12,583	0	12,583	85.3%	0	12,583	85.3%	66.7%
<b>1991</b>	8,436	6	8,442	61.2%	49	8,484	61.6%	72.7%
<b>1992</b>	8,045	253	8,298	69.4%	146	8,191	68.5%	80.0%
<b>1993</b>	6,342	1,221	7,563	65.1%	341	6,683	57.5%	84.2%
<b>1994</b>	10,248	1,323	11,571	102.6%	730	10,978	97.3%	88.9%
<b>1995</b>	6,257	1,529	7,786	72.5%	1,216	7,473	69.6%	94.1%
<b>1996</b>	11,334	2,431	13,765	136.4%	2,189	13,523	134.0%	100.0%
<b>1997</b>	5,324	4,662	9,986	103.4%	4,135	9,459	97.9%	106.7%
<b>1998</b>	4,724	7,310	12,034	144.9%	7,054	11,778	141.8%	123.1%
<b>1999</b>	906	9,355	10,261	108.4%	9,000	9,906	104.7%	106.7%

# Summary of Methods

## Comparison of Methods

AY	CL	BF	BF (units)	Est IBNR	Actual IBNR	Exp LR	Hi	Low
1990	85.3%	85.3%	85.3%	85.3%	85.3%	66.7%	85.3%	66.7%
1991	61.8%	62.0%	62.2%	61.2%	61.6%	<b>72.7%</b>	72.7%	61.2%
1992	69.6%	70.0%	70.6%	69.4%	68.5%	<b>80.0%</b>	80.0%	68.5%
1993	58.7%	60.2%	61.6%	65.1%	57.5%	<b>84.2%</b>	84.2%	57.5%
1994	<b>103.6%</b>	100.7%	103.2%	102.6%	97.3%	88.9%	103.6%	88.9%
1995	71.8%	73.3%	77.1%	72.5%	69.6%	<b>94.1%</b>	94.1%	69.6%
1996	<b>153.5%</b>	133.8%	139.1%	136.4%	134.0%	100.0%	153.5%	100.0%
1997	<b>113.0%</b>	96.1%	106.3%	103.4%	97.9%	106.7%	113.0%	96.1%
1998	<b>233.2%</b>	117.4%	132.5%	144.9%	141.8%	123.1%	233.2%	117.4%
1999	<b>137.5%</b>	84.0%	102.6%	108.4%	104.7%	106.7%	137.5%	84.0%

# Distribution of FTU, 24 months:Ultimate

