

A MILLIMAN GLOBAL FIRM



Milliman

Consultants and Actuaries

XXX Implications

Bob Thomas
Milliman

Background

- How Did We Get Here ?
- Current Situation
- Current Response



Term Issued by Top 100 Writers

(Amounts in Billions)

<u>Issue Year</u>	<u>Term Issued</u>
1997	\$ 674.5
1998	786.3
1999	897.4
2000	1,000.5
2001	974.0
2002	1,171.4



Source: Thomson Financial Insurance Solutions U.S. Insurance (Life) database, July 2003

Issued/Ceded Amounts

(Amounts in Billions)

<u>Issue Year</u>	<u>OL Issued¹</u>	<u>OL Ceded²</u>	<u>Percent Ceded</u>	<u>Term Issued/ OL Issued</u>
1997	\$1,217.8	\$506.7	41.6%	55.4%
1998	1,343.3	679.7	50.6%	58.5%
1999	1,455.1	810.6	55.7%	61.7%
2000	1,677.2	985.5	58.8%	59.7%
2001	1,520.4	947.2	62.3%	64.1%
2002	1,687.1	1,078.3	63.9%	69.4%

Source: ¹Thomson Financial Insurance Solutions U.S. Insurance (Life) database, July 2003, ² Munich American Reassurance Company, Life Reinsurance Surveys, 1997-2002



Reserves Ceded

(Amounts in Billions)

<u>Calendar Year</u>	<u>Term Inforce</u>	<u>OL Inforce</u>	<u>OL Reins. Inf. Ceded</u>	<u>OL Reins. Inf. Res. Ceded</u>	<u>Reserve Per \$1000 Ceded</u>
1997	\$ 4,923.5	\$ 9,835.7	\$2,852.6	\$26.3	\$9.22
1998	5,990.1	11,301.2	3,865.2	34.5	8.91
1999	7,091.6	12,621.7	4,659.8	35.5	7.62
2000	8,215.0	14,439.3	5,822.5	42.5	7.29
2001	9,620.4	15,876.0	7,186.2	50.7	7.06
2002	11,375.2	17,614.3	8,673.0	59.2	6.83

Source: Thomson Financial Insurance Solutions U.S. Insurance (Life) database, July 2003



Future Expectations

- Projected Results (1980 SCO)
- Alternative Projections
 - 2001 CSO
 - 2001 CSO with 4% Lapse Rate



Model Projected Results

(Amounts in Millions)

1980 CSO Reserves

<u>EOY</u>	<u>Existing Business Reserve</u>	<u>Existing Business Inforce</u>	<u>Res. per \$1000 Inforce</u>
2003	17,887	2,137,895	8.37
2004	27,235	1,948,314	13.98
2005	34,676	1,778,841	19.49
2006	40,463	1,632,990	24.78
2007	44,945	1,508,257	29.80
2008	48,363	1,400,965	34.52
....			
2012	54,351	843,937	64.40
....			
2016	51,536	598,430	86.12



Model Projected Results

(Amounts in Millions)

	1980 CSO Reserves		
	New	New	Res. per
	Business	Business	\$1000
<u>EOY</u>	<u>Reserve</u>	<u>Inforce</u>	<u>Inforce</u>
2003	-	-	
2004	902	790,900	1.14
2005	5,882	1,575,694	3.73
2006	14,569	2,356,299	6.18
2007	26,501	3,140,405	8.44
2008	41,377	3,937,543	10.51
....			
2012	88,306	2,800,819	31.53
....			
2016	102,806	1,788,127	57.49



Model Projected Results

(Amounts in Millions)

<u>EOY</u>	<u>Total Reserve</u>	<u>Total Inforce</u>	<u>Res. per \$1000 Inforce</u>
2003	17,887	2,137,895	8.37
2004	28,137	2,739,214	10.27
2005	40,558	3,354,535	12.09
2006	55,031	3,989,289	13.79
2007	71,446	4,648,662	15.37
2008	89,740	5,338,508	16.81
....			
2012	142,658	3,644,757	39.14
....			
2016	154,342	2,386,557	64.67



Model Projected Results

(Amounts in Millions)

	2001 CSO Reserves		
	New	New	Res. per
	Business	Business	\$1000
<u>EOY</u>	<u>Reserve</u>	<u>Inforce</u>	<u>Inforce</u>
2003	-	-	
2004	538	790,900	0.68
2005	4,583	1,575,694	2.91
2006	11,624	2,356,299	4.93
2007	21,307	3,140,405	6.78
2008	33,401	3,937,543	8.48
....			
2012	70,877	2,800,819	25.31
....			
2016	76,512	1,788,127	42.79



Model Projected Results

(Amounts in Millions)

<u>EOY</u>	<u>Total Reserve</u>	<u>Total Inforce</u>	<u>Res. per \$1000 Inforce</u>
2003	17,887	2,137,895	8.37
2004	27,773	2,739,214	10.14
2005	39,258	3,354,535	11.70
2006	52,086	3,989,289	13.06
2007	66,252	4,648,662	14.25
2008	81,763	5,338,508	15.32
....			
2012	125,228	3,644,757	34.36
....			
2016	128,048	2,386,557	53.65



Projected Reserves Existing Business (Amounts in Millions)

	1980 CSO Reserves		2001 CSO Reserves	
<u>EOY</u>	<u>Existing Business Reserve</u>	<u>Res. per \$1000 Inforce</u>	<u>Existing Business Reserve</u>	<u>Res. per \$1000 Inforce</u>
2003	17,887	8.37	14,374	6.72
2004	27,235	13.98	22,156	11.37
2005	34,676	19.49	28,195	15.85
2006	40,463	24.78	32,840	20.11
2007	44,945	29.80	36,293	24.06
2008	48,363	34.52	38,671	27.60
....				
2012	54,351	64.40	39,874	47.25
....				
2016	51,536	86.12	34,372	57.44



Projected Reserves

(Amounts in Millions)

2001 CSO Reserve with 4%
Lapse Rate

<u>EOY</u>	<u>Existing Business Reserve</u>	<u>Reserve per \$1000 Inforce</u>
2003	12,033	5.63
2004	18,489	9.49
2005	23,641	13.29
2006	27,745	16.99
2007	30,927	20.50
2008	33,236	23.72
....		
2012	35,342	41.88
....		
2016	31,578	52.77



Projected Reserves

(Amounts in Millions)

2001 CSO Reserve with 4%
Lapse Rate

<u>EOY</u>	<u>New Business Reserve</u>	<u>Reserve per \$1000 Inforce</u>
2003	-	
2004	534	0.68
2005	3,911	2.48
2006	9,760	4.14
2007	17,836	5.68
2008	27,993	7.11
....		
2012	60,660	21.66
....		
2016	67,541	37.77



Projected Reserves

(Amounts in Millions)

2001 CSO Reserve with 4%
Lapse Rate

<u>EOY</u>	<u>Total Reserve</u>	<u>Reserve per \$1000 Inforce</u>
2003	12,033	5.63
2004	19,023	6.94
2005	27,552	8.21
2006	37,505	9.40
2007	48,763	10.49
2008	61,229	11.47
....		
2012	96,002	26.34
....		
2016	99,119	41.53



Potential Consequences

- LOC Availability/Cost
- Rating Downgrades
- Statutory Insolvency
- Black Eye for Industry



Possible Solutions

- Reserve Theory
 - How Much Conservatism
 - Law of Unintended Consequences
 - Formula Driven vs. Sufficiency Tested
- Underwriting Class/Mortality Assumption Mismatch
- Regulatory Revision
 - Reasonable Conservatism
- Securitization



Regulation A XXX

- Comparison with XXX
- UL with Secondary Guarantees
- Reserve Issue or Pricing Issue

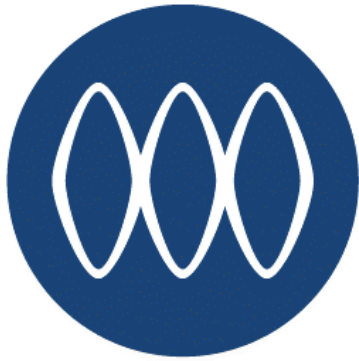


Conclusions

- Serious Problem
- Senior Management Issue
- Effect on Reinsurers
- Work with Regulators
- Start Now



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