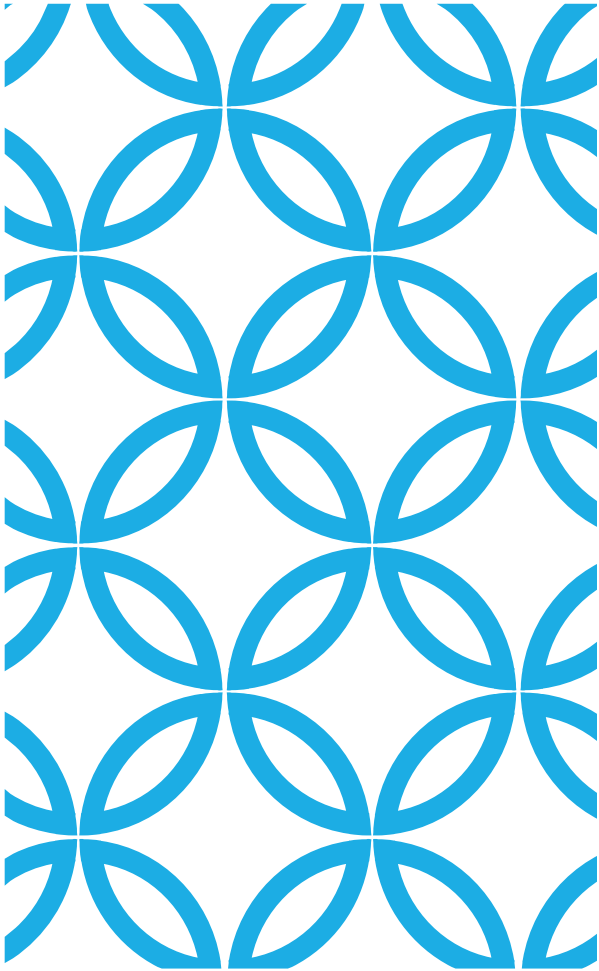


ACCOUNTING IN A WAY THE OWNER LOOKS AT THE INSURANCE BUSINESS!!!

Sharad S Ramnarayanan



**DO CURRENT FINANCIAL
STATEMENTS REALLY HELP
COMPARE COMPANIES?**

ILLUSTRATION – INCURRED CLAIMS

First step involves splitting the liability for incurred claims into year wise expected future cashflows

Assume that the claim payment pattern is as follows:

Months	12	24	36	48	60	72	84	96	108	120	Total
Payment	25%	20%	15%	10%	7.5%	7.5%	5%	5%	2.5%	2.5%	100%

PAYMENT PATTERN

Age	Incr. Payment %	Cum Payment %	Exp Unpaid %	Projected Cash Flows as a % of Undiscounted Liabilities												Total
				2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
120	2.5%	100.0%	0.0%	100.0%	--	--	--	--	--	--	--	--	--	--	--	100.0%
108	2.5%	97.5%	2.5%	100.0%	--	--	--	--	--	--	--	--	--	--	--	100.0%
96	5.0%	95.0%	5.0%	50.0%	50.0%	--	--	--	--	--	--	--	--	--	--	100.0%
84	5.0%	90.0%	10.0%	50.0%	25.0%	25.0%	--	--	--	--	--	--	--	--	--	100.0%
72	7.5%	85.0%	15.0%	33.3%	33.3%	16.7%	16.7%	--	--	--	--	--	--	--	--	100.0%
60	7.5%	77.5%	22.5%	33.3%	22.2%	22.2%	11.1%	11.1%	--	--	--	--	--	--	--	100.0%
48	10.0%	70.0%	30.0%	25.0%	25.0%	16.7%	16.7%	8.3%	8.3%	--	--	--	--	--	--	100.0%
36	15.0%	60.0%	40.0%	25.0%	18.8%	18.8%	12.5%	12.5%	6.3%	6.3%	--	--	--	--	--	100.0%
24	20.0%	45.0%	55.0%	27.3%	18.2%	13.6%	13.6%	9.1%	9.1%	4.5%	4.5%	--	--	--	--	100.0%
12	25.0%	25.0%	75.0%	26.7%	20.0%	13.3%	10.0%	10.0%	6.7%	6.7%	3.3%	3.3%	0.0%	0.0%	0.0%	100.0%

YIELD CURVE ASSUMPTIONS

Assuming a downward shift of 0.5% in yield curve in 2022 over 2021

2021	2022
7.19%	6.69%
7.33%	6.83%
7.37%	6.87%
7.39%	6.89%
7.40%	6.90%
7.41%	6.91%
7.41%	6.91%
7.42%	6.92%
7.43%	6.93%
7.44%	6.94%
7.45%	6.95%
7.46%	6.96%
7.46%	6.96%
7.47%	6.97%
7.48%	6.98%
7.49%	6.99%

PRIOR PROJECTION (YEAR 2021)

	Undisc. Liability	12	24	36	48	60	72	84	96	108	120	Disc. Liability
2013	100	100	-	-	-	-	-	-	-	-	-	97
2014	500	250	250	-	-	-	-	-	-	-	-	466
2015	1,000	500	250	250	-	-	-	-	-	-	-	917
2016	1,800	600	600	300	300	-	-	-	-	-	-	1,604
2017	2,500	833	556	556	278	278	-	-	-	-	-	2,187
2018	3,000	750	750	500	500	250	250	-	-	-	-	2,557
2019	5,000	1,250	938	938	625	625	313	313	-	-	-	4,183
2020	6,500	1,773	1,182	886	886	591	591	295	295	-	-	5,393
2021	10,000	2,667	2,000	1,333	1,000	1,000	667	667	333	333	-	8,240
	30,400	8,723	6,525	4,763	3,589	2,744	1,820	1,275	629	333	-	25,645

CURRENT PROJECTION (YEAR 2022)

	Undisc. Liability	12	24	36	48	60	72	84	96	108	120	Disc. Liability
2013	-	-	-	-	-	-	-	-	-	-	-	-
2014	110	110	-	-	-	-	-	-	-	-	-	106
2015	550	275	275	-	-	-	-	-	-	-	-	515
2016	1,100	550	275	275	-	-	-	-	-	-	-	1,014
2017	1,980	660	660	330	330	-	-	-	-	-	-	1,778
2018	2,750	917	611	611	306	306	-	-	-	-	-	2,427
2019	3,300	825	825	550	550	275	275	-	-	-	-	2,841
2020	5,500	1,375	1,031	1,031	688	688	344	344	-	-	-	4,653
2021	7,150	1,950	1,300	975	975	650	650	325	325	-	-	6,002
2022	11,000	2,933	2,200	1,467	1,100	1,100	733	733	367	367	-	9,173
	33,440	9,595	7,177	5,239	3,948	3,018	2,002	1,402	692	367	-	28,510

ADD RISK MARGIN

2021 O/S	Undiscounted Liability	Discounted Liability	Risk Margin @10%	Best Estimate
2013	100	97	10	106
2014	500	466	47	513
2015	1,000	917	92	1,009
2016	1,800	1,604	160	1,764
2017	2,500	2,187	219	2,406
2018	3,000	2,557	256	2,813
2019	5,000	4,183	418	4,601
2020	6,500	5,393	539	5,933
2021	10,000	8,240	824	9,064
Total	30,400	25,645	2,564	28,209

2022 O/S	Undiscounted Liability	Discounted Liability	Risk Margin @10%	Best Estimate
2013	-	-	-	-
2014	110	106	11	117
2015	550	515	52	567
2016	1,100	1,014	101	1,116
2017	1,980	1,778	178	1,955
2018	2,750	2,427	243	2,669
2019	3,300	2,841	284	3,126
2020	5,500	4,653	465	5,118
2021	7,150	6,002	600	6,602
2022	11,000	9,173	917	10,090
Total	33,440	28,510	2,851	31,360

INCOME STATEMENT COMPONENTS

	Undiscounted CashFlow		Prior		Current	
Time	Prior	Current	DiscountCurve	DiscountFactor	DiscountCurve	DiscountFactor
0.5	8,723	9,595	7.19%	0.966	6.69%	0.968
1.5	6,525	7,177	7.33%	0.899	6.83%	0.906
2.5	4,763	5,239	7.37%	0.837	6.87%	0.847
3.5	3,589	3,948	7.39%	0.779	6.89%	0.792
4.5	2,744	3,018	7.40%	0.725	6.90%	0.741
5.5	1,820	2,002	7.41%	0.675	6.91%	0.692
6.5	1,275	1,402	7.41%	0.628	6.91%	0.648
7.5	629	692	7.42%	0.585	6.92%	0.605
8.5	333	367	7.43%	0.544	6.93%	0.566
9.5			7.44%	0.506	6.94%	0.529
	30,400	33,440				

INCOME STATEMENT COMPONENTS

	PriorCashflows @Prior Yield Curve	PriorCashflows @Prior Yield Curve RollForward	PriorCashflows @Current Yield Curve	CurrentCashflow s@Current Rate	Unwinding of Discount	Impact of change in discount rate	Change in CF Assumption	Actual Payment	Change in Risk Adjstment	Insurance Service Expense	Insurance Finance Expense
2022	8,425	8,723	8,723	-	298	-	(8,723)	9,595	(843)	30	298
2023	5,868	6,302	6,317	9,289	434	15	2,972	-	342	3,314	449
2024	3,987	4,283	4,313	6,500	296	30	2,187	-	251	2,438	326
2025	2,797	3,005	3,040	4,437	208	35	1,397	-	164	1,561	243
2026	1,990	2,138	2,173	3,127	148	35	954	-	114	1,068	183
2027	1,228	1,320	1,348	2,235	92	28	887	-	101	988	120
2028	801	860	883	1,386	59	22	504	-	59	562	82
2029	368	395	407	908	28	12	501	-	54	555	40
2030	181	195	202	419	14	7	217	-	24	241	21
2031	-	-	-	207	-	-	207	-	21	228	-
	25,645	27,221	27,406	28,510	1,576	185	1,104	9,595	286	10,985	1,761

DISCLOSURES

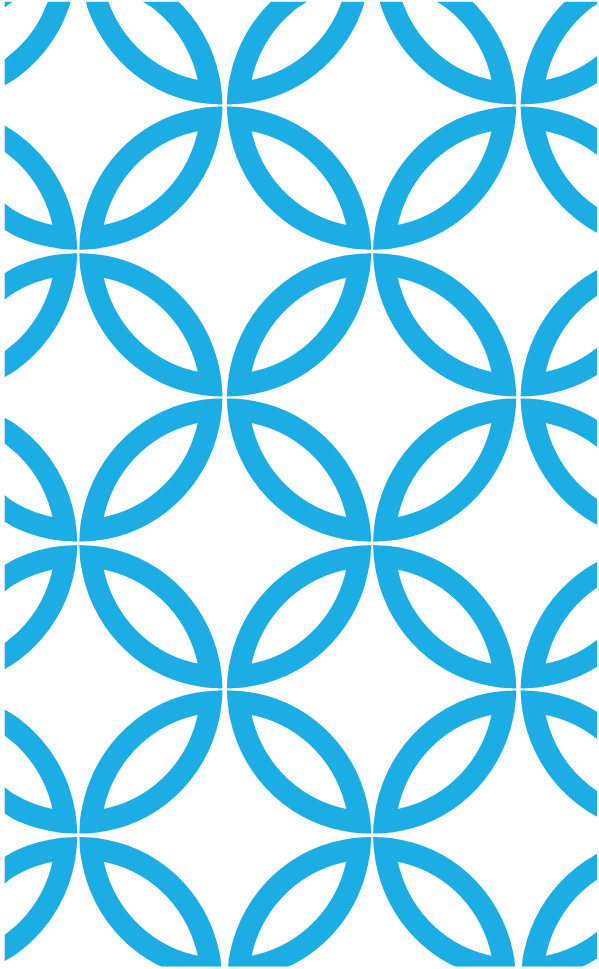
	2022	2021
Undiscounted future Cashflows	33,440	30,400
Discounting	-4,930	-4,755
Risk Margin	2,851	2,564
Liability Estimate	31,360	28,209

Insurance Service Expense	
Change in CF	10,699
Change in Risk Margin	286
Total insurance service expense	10,985

Insurance Finance Expense	
Impact of unwinding	1,576
Impact of change in yield curve	185
Total insurance finance expense	1,761

$$\begin{aligned}
 & \text{Insurance service expense} + \text{Insurance} \\
 & \text{Finance expense} = \\
 & 10,985 + 1,761 = 12,746
 \end{aligned}$$

Reconciliation	2022
Paid Claim	9,595
O/S Start	28,209
O/S End	31,360
Incurred Claim	12,746



THANK YOU
