2006 Financial Services Forum

Expanding Our Horizons

Rating life insurers

Hoa Bui

Agenda

- S&P rating
- S&P approach
- Comparison to Life Act approach

Things to note

- Looking at the S&P rating approach from a life insurance perspective.
- Covers risk writer only
- This is not a S&P presentation
- Standards and Poors rating approach is subject to change and to analyst adjustment

Insurer's financial strength rating

- An insurer's rating by Standard & Poors is an opinion of the company's ability to meet its commitment to policyholders

S&P rating for insurer

- AAA Extremely strong financial
- AA Very strong financial
- A Strong financial
- BBB Good financial characteristics

- Rating based on both qualitative and quantitative assessment
- **Capital alone is not sufficient to get good rating**

S&P's quantitative approach to capital for a life insurer

Compare

- Actual risk adjusted capital (A)

    against

- Required capital (based on the company's risk profile both in assets and liabilities) (R)

Actual / Required ratio

100 %	==	BBB
125%	==	A
150%	==	AA
175%	==	AAA

Risk adjusted capital

- Actual paid up capital
- Retained profits
- Plus a % of shareholders profit margin
- Less a % DAC net of tax (within Policy Liability)
- Less a % of goodwill
- Less a % of hybrid security

Required capital

- Asset risk
- Pricing risk
- Reserving risk
- Business risk

Asset risk

- Asset liability mismatching risk
- Asset value volatility
- Allows for default risk and credit risk of fixed interest securities
- Bond volatility charges
- Investment linked assets (including off balance sheet)
- Asset concentration risk
  - Bond investment grade > 15% total adjusted capital
  - Bond below investment grade > 10% total adjusted capital
- Subsidiaries
  - Excess of net market value over net assets for subsidiaries : 50% to 75%
- Size factor + 150% for assets up to $100M
  + 50% for assets next $100M
  -20% for assets over 200M

Size factor applies to all risk reserves above

Default risk loading

Fixed interest (default risk)	S&P	Life Act
- government bonds	0.00%	0.00%
- rated AAA or AA	0.42%	0.00%
- rated A or above	0.42%	0.25%
- rated BBB	3.26%	1.75%
- rated BB	7.52%	4.00%
- rated B	13.72%	11.00%
- rated CCC	20.18%	17.00%
- unrated	3.50%	17.00%
- in/near default	30.00%	17.00%

	S&P	Life Act	
Non-affiliated equities - backing SHF	20%	35%	if dividend yield =3.5 %
Non-affiliated equities - backing NonLinked Reserves	10%	35%	no diversification
Non-affiliated equities - backing Linked Reserves	0%	0%	
Property - backing SHF	25%	17%	yield 7%
Property - backing NonLinked Reserves	13%	17%	movement 2.5%
Property - backing Linked Reserves	0%	0%	no diversification
Affiliated/controlled equities - backing SHF	20%		
Affiliated/controlled equities - backing NonLinked Reserves	10%		
Affiliated/controlled equities - backing Linked Reserves	0%	0	
Non-affiliated preference shares	10%	35%	
Affiliated preferences shares	100%	?	
Credit risk			
Loans - public sector	1.00%	0%	
Loans - private sector	3.00%	4.5% - 14%	depending on credit rating
Loans - other	3.00%		
Loans - mortgages	0.50%		
Loans - on policies	0.00%		
Convertible notes - exposure to Interest-bearing securities ma	3.26%		
Convertible notes - exposure to Equity markets	5.00%		
Cash - held directly	0.00%		
Other	5.00%		
Bond volatility charges (			
Fixed interest backing reserves	1.00%	3.50%	no diversification
Fixed interest NOT backing reserves	1% - 5%	0	
Investment-linked assets	0.50%	0.25% - 0.5%	
Off balance sheet assets (index tracked)	0.50%	0.25% - 0.5%	
Off balance sheet assets (active)	0.50%	0	

Pricing risk

- Sum at risk * (8 bp to 20bp)
  - depending on size

Plus

- 0.5% to 25% of premium

PRICING RISK C-2

Charged on premium/sum at risk	
Investment-linked business	
Investment-linked (regular premium)	1.00%
Investment-linked (single premium)	0.50%
Non-investment-linked	
Investment account (regular premium)	2.00%
Investment account (single premium)	1.50%
Non-participating life (regular premium)	5.00%
Non-participating life (single premium)	4.00%
Participating life (regular premium)	2.50%
Participating life (single premium)	1.50%
Disability (DII & lump sum)	25.00%
Immediate annuities	2.00%
Deferred annuities	1.50%

Mortality		
	<$500 million	0.0020
	$500-5,000 million	0.0013
	$5,000-25,000 million	0.0010
	>$25,000 million	0.0008

Interest rate risk / reserving risk

- 50% resilience reserve
- Plus
- 0.25% to 3% of Policy Liability

- Double counting (?)

INTEREST RATE / RESERVING RISK C-3

LOW RISK CATEGORY	
Investment linked liabilities	0.25%
Investment account liabilities	1.00%
Participating conventional, risk, disability busin	0.25%
MEDIUM RISK CATEGORY	
Non participating conventional, risk, disability b	2.00%
Deferred annuity liabilities	2.00%
HIGH RISK CATEGORY	
Immediate annuity liabilities	3.00%
Resilience Reserve	50.00%

ADD'L CAPITAL REQ'D FOR INTEREST RATE RISKS NOT ALREADY CAPTURED

Business risk

- 0.5% * premium for UL
- 2% * premium of non unit linked products

- Note that business risk for UL products are deemed to be lower than other business per $ premium

BUSINESS RISK C-4

General business risk

Life and annuity premiums	
- non-investment-linked	2.00%
- investment-linked	0.50%
Health/disability premiums	0.50%
Other lines of business not captured above	
TOTAL REQUIRED CAPITAL FOR BUSINESS RISK (C-4)	

Data

- Published information CR 26, PR 31, Form K part 1 CTV, PR 32 (NB premium)
- Notes to financial statements
- Discussion with company to set the parameters (%) and any addition to required capital
- Outlook
- Business Plan

What the S&P appears not to consider

- Factor driven
- Not as transparent as the Capital Adequacy standard
- Reinsurance as a concentration / counter party risk (?)
- Does not fully allow for linkage between liabilities and assets except for unit linked, nor guarantees
- Some overlap (require resilience reserve as well as interest rate risk, and asset risk)
- Does not allow for minimum termination value or new business plan. Not clear how new business capital requirement are considered on model

What the Life Act CA standard appears not to consider

- Profit margin
- Benefit of diversification within each asset class
  - But see LIASB newsletter 20 April 2006

Comparison with CA standard

- Is it possible to get an A rating if a company holds capital adequacy (and no more) ?

Some scenarios

Scenario	Effect on CAR	Effect on S&P	Comment
Invest 100% of excess asset in equities	Resilience reserve increased 10 fold	S&P asset risk reserve increased 5 times	CA more sensitive
Zero profit margin within policy liability	No effect on CA requirement	S&P adjusted capital is directly affected	S & P more sensitive
Asset base 10 times larger than before	Resilience reserve increased proportionally	S & P asset risk requirement increased less than proportionally	S & P allows more benefit for diversification
Counter party risk	1% to 25% of SF assets	S&P completely insensitive to reinsurance 10% to 15% TAC	Different drivers – CA has larger range of values, potentially could be tougher on some risk, but insensitive to excess assets

Discussions